Nevada Connections Academy

2019 Application for the Renewal of a Charter School Contract

Submitted by:
Chris McBride, Superintendent
Phone: (775) 826-4200
Email: cmcbride@nca.connectionsacademy.org

October 15, 2019

G

Table of Contents

1. Executive Summary

Mission Statement for the Next Charter Term

Nevada Connections Academy (NCA) is a full-time virtual school currently providing 3,600 Nevada students with an innovative and highly sought-after virtual curriculum in partnership with Connections Education LLC (Connections),[1] and hereby seeks renewal of its charter for grades 6-12. NCA's mission is to help each student maximize his or her potential and meet the highest performance standards through a uniquely individualized learning program with a focus on increasing graduation and promotion rates; math proficiency and a schoolwide focus on social and emotional learning to improve support for our student population.

Since its inception in 2007, NCA has fulfilled a glaring need in the Nevada community[2] by serving a diverse population of Nevada families and students for whom a full-time distance education program provides the best educational fit for their unique needs. NCA is dedicated to providing a high-quality, full-time virtual option to children of all backgrounds. NCA provides an asynchronous model that uses synchronous support. Some students thrive with one-on-one attention while others crave the space to work through problems independently at their own pace. Offering a combination of the two learning approaches allows NCA to create a more personalized learning experience that supports different learning styles. A notable indicator of NCA's success—according to the Authority's identified priorities for the school in 2017—is its consistent and significant improvement of its high school graduation rate, having increased 18.7% in one school year, jumping from 45.04% in 2016-2017 to 63.77% in 2017-2018.[3] (See Figure 1.) In 2017, the Authority insisted the high school graduation rate be the primary measure for the school's performance and also that the school's failure or success in meeting the identified benchmarks for the graduation rate increase would be a "material" consideration in the school's renewal application.[4]

NCA meets the needs of families across the state who choose the school for a wide variety of reasons. Those who thrive using NCA's individualized learning model include students who work at a different pace than their peers, students who were bullied at a previous school, families requiring a great deal of travel during the year, students or parents with medical issues requiring prolonged hospital care or frequent doctor's visits, students with accommodations that make it

---

[1] Connections is a leading national course provider approved by the Nevada Department of Education. Connections Education LLC is the approved course provider's legal name. In 2011, Connections Education LLC was acquired by Pearson, which is gradually revising the brand name "Connections Education" to better reflect its position within Pearson. Connections Education LLC may therefore appear using the names Connections Education, Connections Education LLC dba Pearson Online & Blended Learning K-12 USA, Pearson Online & Blended Learning, or simply Pearson OBL. These are all names for the same entity.

[2] For the 2019-2020 school year, NCA has an enrollment cap of 3,571 and had about 1,000 additional students at various stages in the enrollment process. NCA's historic wait list is evidence of the demand for this school option.

[3] Source: http://nevadareportcard.nv.gov; *See also* Figure 1: NCA's Four-Year Graduation Rate Demonstrating Positive Growth.

[4] See Exhibit 3, Charter Contract Section 8.1.5.1.

difficult to succeed in a traditional classroom, and families simply looking for a different option other than their zoned public school.

Given these distinguishing reasons families choose NCA, the population of students that NCA serves is highly mobile. For example, many students enroll with NCA for a short period of time to address a short-term issue or challenge (academically, socially, or personally) and return to their previous school once they have navigated the issue; other students find NCA the perfect fit and remain enrolled. NCA's student mobility rate is more than twice the state average: 55.9% v. 21.5% in the 2018 – 2019 school year.[5]

Extensive research exists on the adverse effects of students moving from one school to another; negative effects from mobility can be seen for multiple years.[6] What is missing is how this mobility rate can impact student achievement. NCA has taken the student mobility research and incorporated strategies for curriculum and capabilities positioned to support the growth and performance of students with mobility.[7]

NCA's enrollment numbers, along with its ever-increasing waitlist of students, over the years demonstrate the overwhelming demand[8] from Nevada families in need of the full-time virtual school option that utilizes the proven effective Connections school model. (See Figure 2.) While NCA's enrollment was capped under its 2017 charter contract, demand for this school has been high, as this school year, the wait list has typically been between 160 and 180 students who have completed all enrollment materials and another 1,000 students who are at some stage of the NCA enrollment process

NCA was formed by parents who have utilized the Connections school model and by education experts who are familiar with the high-quality reputation and services Connections offers as a virtual school provider.

Offering far more than just virtual courses, NCA provides a full-time school experience with a virtual learning community that connects students, teachers, and families through unique technology tools as well as face-to-face interaction. For example, NCA students participate in electives, in-person community activities, and group field trips as part of a comprehensive learning experience. NCA is uniquely equipped to offer its students academic, behavioral, emotional, and college and career support, such as career fairs several times a year; science experiments to explore the curriculum with a hands-on approach; and career-centered field trips on a weekly basis. The recent Nevada School Climate/Social Emotional Learning (NV-SCSEL) Survey[9] revealed positive results for NCA's elementary school, middle school, and high school – just one indicator the efficacy of NCA's well-rounded approach to learning (see Section 6 for details).

---

[5] Source: http://nevadareportcard.nv.gov
[6] *See* Exhibit 7, Letter from Matt Wicks re: Mobility Research, August 2018.
[7] *See* Exhibit 12, Matt Wicks' presentation to Authority, October 4, 2019.
[8] Source: Enrollment for Nevada Public Schools, http://www.doe.nv.gov/DataCenter/Enrollment/; *See also* Figure 2, NCA's Enrollment Reflecting Demand.
[9] *See* Exhibits 1 and 2.

Key Design Elements of NCA

An individualized and supported educational program facilitates the development of self-direction and personal responsibility among its students. NCA strives to develop students who are self-motivated, competent, lifelong learners. To achieve these goals, NCA implements the Connections instructional model as a key design element. This model incorporates the following key facets: 1) the Learning Triad, 2) Family Connections Coordinators and Counselors, and 3) Student Motivation.

1. **The Learning Triad.** (See Figure 3.) NCA's instructional model relies on the support of a) experienced and trained teachers, b) supportive Learning Coaches, and c) a high-quality, standards-aligned curriculum. The Learning Triad, consisting of these three elements, is illustrated in Figure 3 and described in detail below. Each student has access to a staff of experts, including Nevada-certified teachers, working together to leverage the school's myriad resources — technological, instructional, and interpersonal — for success. Learning Coaches are also encouraged to, and typically function as, an integral part of the student's learning team.

   a. *Experienced, Specially Trained Teachers.* NCA Students benefit from committed educators who provide a well-rounded system of support. Each student has a certified teacher by the state of Nevada and teachers are specially trained in teaching in a virtual environment, the Connections curriculum, and specific instructional methods. In each of the middle grade levels or high school core subjects, students are taught by a trained, experienced, and certified teacher with expertise in the applicable grade level or content area. Teachers work closely with each student on a one-on-one basis using innovative technology tools. The teacher is responsible for teaching, evaluating assignments and work products, providing instructional assistance, assigning and scoring assessment activities, and providing feedback on the student's performance. Teachers guide their individualized instruction for a student based upon the student's demonstrated mastery of essential skills and concepts aligned with state standards. Teachers implement scaffolding, differentiated instruction, and Response to Intervention (RTI) interventions to support students at all levels of skill development including advanced skill development, proficient skill development, and developing skill development.

   Depending on the needs of the individual learner, teacher direct contact — via telephone, LiveLesson session, and WebMail — with the student and the student's Learning Coach may be as frequent as several times a day, and at minimum twice per week. Teachers view the student's attendance, participation, and performance on a daily basis via the online teacher's home page. Teachers do not wait to be contacted; they are proactive participants in their students' learning plans. In NCA's recent 2018-19 internal spring staff engagement survey conducted by Culture Amp, 93% of the school's teachers indicated they believe the school is making a positive difference in the lives of their students.

   b. *Supportive Learning Coaches.* Each student has a Learning Coach (a parent, guardian, extended family member, or trusted adult designated by the parent/guardian) who is encouraged to work in-person with the student to complement and reinforce the support of

the experienced teaching staff. Typically, a Learning Coach helps keep students motivated and on track and regularly communicates with the students' Nevada-certified teachers.

At the high school level, the Learning Coach is a vital component of the learning triad whose primary responsibility is to supervise a student's progress in the program. Learning Coaches are encouraged to maintain consistent contact with their student's teachers to ensure that the student is working toward earning a high school diploma. Learning coaches are required to record accurate daily attendance for their high school student based upon the student's participation in their course work.

c. *A High-Quality, Standards-Aligned Curriculum.* The Connections core language arts and math curriculum is aligned to the Nevada Academic Content Standards. The developmentally appropriate curriculum increases its integration of technology as students advance through the grades.

2. **Counselors:** Middle school counselors focus their support on preparing 6th-8th grade students for the demands of high school. This includes both academic support and social emotional learning support. High school counselors focus on preparing students for college and career readiness. Through the Individualized Graduation Plan that takes place during course placement call each year, students are placed on a specified pathway that best meets their individual needs. Pathways include: dual enrollment, advanced diploma, Every Student Succeeds Academy, and Career Technical Education program.

3. **Student Motivation:** Teachers engage students using innovative approaches in virtual education instruction that focus on providing high quality instruction using best practices of differentiated instruction, scaffolding, and RTI to engage, facilitate, and support student learning.

NCA employs a multitiered instruction model so that every student has access to the resources they need to be successful: Tier I Core Curriculum with Differentiation, Tier II Supplemental Instructional Supports (two to three times per week), and Tier III Supplemental Instructional Supports (four to five times per week). Student Support and Individualized Education Program (IEP) teams meet regularly to develop an intervention plan and strategies for improvement for students who are struggling.

Proposed Changes for the Next Charter Term[10] and Rationale

In support of NCA's mission and in accordance with Nevada Revised Statute 389.160, NCA will offer eligible high school students the opportunity to participate in a Dual Credit Program in partnership

---

[10] The Authority accepted NCA's May 2016 Graduation Rate Improvement Plan (Exhibit 5) and incorporated the terms into the school's 2017 Charter Contract (Exhibit 3). NCA will continue to abide by the terms of its May 2016 Graduation Rate Improvement Plan during the renewal term. To the extent there is a conflict between this application and the terms of the Graduation Rate Improvement Plan, NCA acknowledges that the terms of the Graduation Rate Improvement Plan govern.

with Truckee Meadows Community College (TMCC) of Reno, Nevada. In March 2019, the School Leader and Governing Board of NCA submitted to the State Public Charter School Authority (SPCSA or the Authority) a Charter School Amendment Request to offer dual credit programming in partnership with a community college, which was approved by the Authority for the 2019-2020 school year.

It should be noted that during Nevada's 2019 Legislative session, the Legislature acknowledged that virtual schools are different as evidenced by the passage of SB 441, a bill which recognizes virtual public charter schools as a valuable educational option with some of the highest transiency rates in Nevada, and for which a different policy framework is needed. The Legislature recognized that measuring outcomes in virtual schools and brick-and-mortar schools are quite different, especially as NCA has a high mobility rate for its students. Pursuant to SB 441, the Nevada Department of Education (NDE) will begin the rulemaking process for virtual schools to ensure that students and families can have the best opportunities for a successful K-12 education, and NCA looks forward to engaging in this process with NDE. According to the Authority, the process of developing a virtual school framework is expected to conclude before the next school year. As NCA approaches its 2019 renewal, the new framework for virtual schools has not yet been enacted; we believe the Authority should consider the legislative mandate behind SB 441[11] and the recognized transiency in virtual schools like NCA in considering NCA's renewal application.

As NCA's elementary school received its third 1-star rating within the past five rating periods, the NCA Board has decided to seek renewal for only NCA's grades 6 through 12 at this time. Pursuant to direction from the Authority regarding the format of this Application and representations from the Authority's counsel confirming that it would not enforce NAC 388A.415(4) such that separate amendment would be required, this Renewal Application should be read to seek renewal of NCA's grades 6-12 and foregoing its ability to seek renewal of K-5 at this time. However, going forward, NCA intends to annually consider the option of seeking a charter amendment to reopen its elementary program. While NCA has reservations about closing a school that has demonstrated to be of vital importance to the Nevada community and operating under an Authority-approved school improvement plan,[12] in light of the Authority's prior indication that it would recommend termination proceedings regarding the elementary school due to its star rating history, NCA's board made the decision to not seek renewal for the elementary school at this time. Accordingly, NCA has closed enrollment for grades K-4 as of the date of this Application. NCA has communicated this closure to NCA students and families through a variety of means, including sending emails to parents regarding the NCA board's decision to seek renewal for grades 6-12 only, holding two town halls for families, and posting a message on its website.

---

[11] SB 441 mandates the Department adopt regulations "establishing the different requirements for operation or regulation of or any other matter that requires different treatment of charter schools for distance education."
[12] *See* Exhibit 6, documents related to NCA's Elementary School Improvement Plan.

2. Renewal Application

A. Application Form

2019 WRITTEN APPLICATION FOR RENEWAL OF CHARTER

School Name & Contact Info	**Name:** Nevada Connections Academy **Address:** 555 Double Eagle Court, Suite 2000, Reno, NV 89521 **Phone:** 775-826-4200 **Website:** https://www.connectionsacademy.com/nevada-virtual-school	
School Leader Name & Contact Info	**Name:** Chris McBride **Title:** Superintendent **Contact info:** Office Phone: 775-826-4200 Email: cmcbride@nca.connectionsacademy.org	
Governing Board Names & Contact Info *Add rows/names as may be necessary*	**Chair/President**	**Name:** Scott Harrington **Email:** ScottHarrington@nca.connectionsacademy.org **Phone:** (775) 560-0135
	Vice Chair/Vice President	**Name:** Morgan Jackson **Email:** MorganJackson@nca.connectionsacademy.org
	Treasurer	**Name:** Kelly McGlynn **Email:** KellyMcGlynn@nca.connectionsacademy.org
	Secretary	**Name:** Naima Benjelloun **Email:** NaimaBenjelloun@nca.connectionsacademy.org
	Member	**Name:** Kevin Arnold **Email:** KevinArnold@nca.connectionsacademy.org
	Member	**Name:** Dr. Amelia Cook **Email:** AmeliaCook@nca.connectionsacademy.org
	Member	**Name:** Tom Prutzman **Email:** TomPrutzman@nca.connectionsacademy.org
	Member	**Name:** N/A **Email:**

ACADEMIC PERFORMANCE [13], [14]

	Campus 1 (Elementary)	Campus 2 (Middle School)	Campus 3 (High School)
2019 NSPF Rating *Complete campus boxes as may be applicable*	1 star	2 stars	1 star
	Campus 4 (name)	Campus 5 (name)	Campus 6 (name)
	N/A	N/A	N/A
2018 NSPF Rating *Complete campus boxes as may be applicable*	Campus 1 (Elementary)	Campus 2 (Middle School)	Campus 3 (High School)
	1 star	1 star	1 star
	Campus 4 (name)	Campus 5 (name)	Campus 6 (name)
	N/A	N/A	N/A
2017 NSPF Rating	Elementary School Rating	Middle School Rating	High School Rating
	1 star	3 star	N/A
2015 NSPF Rating (Frozen from 2014)	Elementary: 2 Star Middle: 4 Star High School: 2 Star		
2018 Rising Star Status	Identified as Rising Star by NDE		
2017 Rising Star Status	Elementary: Identified as Rising Star by NDE Middle School: Not identified High School: Identified as Rising Star by NDE		

	2014-15	2015-16	2016-17	2017-18
NDE-Validated Four-Year Graduation Rate	36%	40%	45%	64%
NCA's Charter Contract Graduation Rate Benchmark[15]				49%

---

[13] For schools applying for a third charter term, NAC 388A.415 provides that the State Public Charter School Authority will give the academic performance of pupils a greater weight than that assigned to it on the first renewal. SPCSA staff will include academic performance data for any previous charter term for the Authority's consideration.

[14] In addition to these statutory considerations, the current Charter School Contract for NCA provides that achieving or failing to achieve graduation rate benchmarks "will be a material factor for consideration relevant in any renewal proceedings." *See* Exhibit 3, NCA's Charter Contract and Exhibit 5 to Charter Contract.

[15] *See* Exhibit 3, NCA's Charter Contract and Exhibit 5 to Charter Contract.

OPERATIONAL OVERVIEW

CURRENT YEAR ENROLLMENT & DEMOGRAPHIC DETAILS							
Total Student Enrollment [as of first day of school 2019] = 3051							
Gender		Ethnicity / Race					
Female	Male	White	Black	Hispanic/Latino	Asian	Mixed Race	Other
1548	1503	1342	395	813	83	354	64
Special Populations				Students on Waitlist			
Students w/disabilities (number)	ELLs (number)	Homeless Students (number)	Free/Reduced Lunch Eligibility (number)	Number of Students on Waitlist		Percentage of Waitlist Students w/Preference Status	
350	32	7	1580	10		60% (6 out of 10)	
Staff Retention				Discipline Data			
Number of Instructional Staff	Total Number of Staff	Percentage returning staff 2018-19	Percentage returning staff 2019-20	Number of out of school suspensions		Number of expulsions	
106	123	92.1%	92.4%	0		0	

OPERATIONAL OVERVIEW *(continued)*

Year-to-Year Mobility [Student Retention from Oct. 1 to Oct.1] [16]				
2014 – 2015	2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019
1,071 students from 2014 returned in 2015 out of 2,423 eligible students* = 44%	1,145 students from 2015 returned in 2016 out of 2,637 eligible students* = 43%	1,324 students from 2016 returned in 2017 out of 2,920 eligible students* = 45%	1,388 students from 2017 returned in 2018 out of 2,930 eligible students* = 47%	1,451 students from 2018 returned in 2019 out of 3,332 eligible students*=44%

*Students eligible to return excludes 12th graders because they would be graduating.

ACADEMIC PERFORMANCE

SPCSA Authority Academic Programmatic Audit Findings	
2019	Not Applicable/Not Rated*
2018	Not Applicable/Not Rated*
2017	Not Applicable/Not Rated*
2016	Not Applicable/Not Rated*
2015	Not Applicable/Not Rated*

*Note: The last year that NCA received a rating under SPCSA's Charter School Performance Framework was 2014.

FINANCIAL PERFORMANCE

SPCSA Authority Financial Programmatic Audit Findings	
2019	Good Standing
2018	Good Standing
2017	Good Standing
2016	Good Standing
2015	Good Standing

ORGANIZATIONAL PERFORMANCE

SPCSA Authority Organizational Programmatic Audit Findings	
2019	Good Standing
2018	Good Standing
2017	Good Standing
2016	Good Standing
2015	Good Standing

[16] To calculate student mobility, subtract the number of students from year 2 returning from year 1, and divide this result by the total number of students in year 1. For example, if there were 5 students in year 1, and 4 of these same students returned in year 2, the calculation would be: (5-4)/5, or 20%.

NEXT CHARTER TERM

Projected Enrollment & Grade Spans for next charter term *(pending any subsequent expansion or contraction amendment that requires Authority Board approval)*						
	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
Planned Enrollment*	2,008	2,111	2,218	2,330	2,447	2,569
Planned Grade Spans	6-12	6-12	6-12	6-12	6-12	6-12

Note: NCA's enrollment projections take into consideration the current enrollment caps and are based on projections as of 9/30 each year.

●

Assurance Statement

I certify that the governing body of this charter school has voted that the school and its staff will adhere to the renewal process expectations outlined in the Renewal Guidelines. The information provided in this charter renewal application is true and correct. I also certify that the governing body of this charter school understands that any academic, financial, or organizational performance data collected during the period of the current charter term which is analyzed and reported following a renewal vote may be considered by the Authority in making performance and accountability decisions in the subsequent charter term.

Signature of Head of School:

Date: 10/13/19

Signature of President/Chair of Governing Body: *Ph.D. BCBA-D*

Date Governing Body voted to approve application for renewal: 10/9/19

B. Written Narrative

Enrollment

NCA is open to all eligible students and does not discriminate in its admission policies or practices. NCA's student population is representative of the diverse population of the state of Nevada, and NCA works to ensure nondiscriminatory preference or practices. Through community outreach and full disclosure about the school's program, NCA attracts those students and families who are most committed to student success in a distance education setting. As part of that process, NCA provides parents with a clear and accurate picture of the virtual learning experience so they can make the most appropriate choices for their students. This is accomplished through personal telephone conversations, mailed/emailed communications, and online and/or in-person information sessions. NCA strongly encourage families to attend an information session prior to enrollment, explaining the benefits and importance of attending a session.

Retention

NCA understands that parent satisfaction and retention rates are strongly tied to how prepared the family feels for the first day of school. As such, NCA leverages significant resources to create a comprehensive onboarding program that facilitates the transition to distance education and prepares the family for success at the school.

The onboarding process begins when a family first expresses interest in the school, continues through the first few months of being enrolled, and is supplemented by ongoing support throughout the school year. The goal is to ensure everyone in the family understands their role in a virtual school environment, they set up appropriate routines, and are aware of resources available to assist them further. The onboarding program is a combination of proactive communications (welcome phone call from teachers, email series, welcome kit) as well as resources that can be accessed any time (orientation courses, in-person and virtual orientation sessions, dedicated website). The onboarding program starts with the essentials a family needs to know, and increases the amount of information incrementally, to ensure the families are not overwhelmed and their chances of success in a virtual school are maximized. NCA ensures that every student who enrolls, along with his or her parent or legal guardian, is provided with a parent-student orientation.

In order to counteract the negative effects of students enrolling late, NCA implements several onboarding and engagement activities for students and families, including:

- Completing early welcome calls to families to acclimate them to the virtual learning environment. During this welcome call, teachers talk to the student and parent or guardian and prepare them for the first day of school.
- Assigning the Getting Started virtual course to students quickly. NCA assigns this course to students who enroll even one day late. This course was designed to acclimate the students to the virtual learning environment. It allows students a day or two to practice on a single course that helps them navigate the online education management system (EMS). If a student does not complete the Getting Started course in a timely fashion, teachers quickly intervene.

An administrator arranges a conference with the parent and student if needed.

- Assigning orientation courses to both students and parents/guardians. Data shows that if parents and students complete these orientations, the students are more successful in a distance education environment. Teachers closely monitor completion of the courses.
- •F Offering back-to-school LiveLesson (synchronous online) sessions. These sessions provide a chance for teachers to introduce themselves and explain the expectations of their class to the students and parents. These sessions are recorded and posted to message boards for students who enroll late.

It is important to note that NCA's transiency rates are more than double those of the State.[17] As previously described, the Nevada Legislature recently recognized the high mobility of students in virtual schools and created a virtual framework to measure school and student success that the NDE will implement through rulemaking in the near future. Extensive research exists on the adverse effects of students moving from one school to another, with negative effects sometimes lasting for multiple years.[18] NCA is continuing to grapple with the effects this has on its ratings under the NSPF, particularly the growth metrics, which account for 55% of the total score. NCA is optimistic that the new virtual school framework, once adopted, will fairly and accurately measure student success; and combined with the continued professional development of its staff, tailoring of the improvement plans for maximum effectiveness, and close monitoring by the NCA Board, NCA's performance will continue to improve.

Attendance

In order to maximize student learning, regular attendance at NCA is imperative. Because NCA provides distance education, students have a great deal of flexibility with their schedules. Due to this flexibility, NCA has zero tolerance for truancy and its attendance rate has been over 90% for the past five years, reaching 96.5% in the 2018 – 2019 school year.[19] (See Figure 4 for NCA's attendance rate.) Parents/guardians are held legally responsible for ensuring that their students are fully participating in school, even if another individual is designated as the student's Learning Coach.

In order to avoid truancy, the parent/guardian must ensure the following activities are taking place:

- The student completes all assigned lessons and assessments.
- •F The student participates in educational activities for an appropriate number of hours, and the parent/guardian or Learning Coach records these attendance hours in the EMS on a daily basis.
- The student is available for regularly scheduled telephone calls with teachers.
- The student attends all assigned LiveLesson sessions.
- The student is able to demonstrate that he/she is doing his/her own schoolwork.
- •F The student attends mandatory state testing.

---

[17] Source: Transiency Report downloaded from http://nevadareportcard.nv.gov/di/

[18] Source: *See, e.g.*, Moving Matters: The Causal Effect of Moving Schools on Student Performance, https://files.eric.ed.gov/fulltext/ED556782.pdf

[19] Source: http://nevadareportcard.nv.gov; *See also,* Figure 4: NCA's Consistently High Attendance Rate.

•F The parent/guardian or Learning Coach has communicated with the homeroom teacher in advance if he or she needs to deviate from the regular school calendar (for example, switching a vacation and school day).

In turn, the school ensures the following actions are completed:

- Review Attendance Records – Teachers monitor and review attendance records on a weekly basis. They remind Learning Coaches to enter hours of schooling for all days of the week.
- Monitor Attendance Issues – The school's Attendance Coordinator monitors student attendance. They contact families with low attendance rates and work to help them stay in compliance. Attendance Coordinators also identify and record excused absences and can alter Learning Coaches' attendance records with proper documentation, if necessary.
- •F Maintaining the Integrity of the Attendance Data – After the weekly records are reviewed by the teacher, NCA locks the system to prohibit further editing. Any requests for adjustments to the previously verified records must be submitted in writing to the school for review, approval, and adjustment.
- •F Official Attendance Record – The attendance system in the EMS is the record of Learning Coach–documented attendance. It is, however, only one of many sources used to determine if a student is meeting the required minimum instructional hours. In certain cases, where it has been determined that a student has not completed enough work or that certain other program requirements have not been fulfilled, the Attendance Coordinator may invalidate the Learning Coach record resulting in sanctions up to and including withdrawal.

Students must meet all regulatory requirements for attending public school in the state of Nevada.

Discipline

All students enrolled in NCA are expected to conduct themselves in accordance with the rules for the school, and parents and Learning Coaches are expected to cooperate with the school staff in helping students to maintain this conduct.   or school years 2017-18 and 2018-19, NCA had zero students receive a suspension or expulsion and zero incidents of bullying or cyber bullying reported.[20]

The student code of conduct is included in the student handbook and is made available to all students and families. In the 2019 Nevada Legislative session, several new laws were enacted to address student discipline, and NCA will comply as NDE posts requirements on collection and reporting of data on the discipline of students and methods for restorative discipline practices.

There are three levels of disciplinary measures currently utilized by the school: 1) Warning, 2) Suspension, and 3) Expulsion. Each level has associated conduct breach definitions and corresponding disciplinary actions that may occur.

Warning: Students that receive warnings from the school have a conference (via phone or in person) with their parent(s) and the school administrator(s), and the incident is formally documented in writing and becomes part of the student's permanent record. The student does not

---

[20] Source: http://nevadareportcard.nv.gov

have a disruption in schooling and is not removed from the class (the EMS). Warnings are issued when a student demonstrates a breach of expected conduct, but not as serious as those warranting the suspension and/or expulsion categories in the school handbook.

Suspension: When a student is suspended, he or she is temporarily removed from the EMS or a school-sponsored program or activity. The length of a suspension is determined by the School Leader (up to 10 days at a time). A suspension is documented in writing and becomes part of a student's permanent record. During a period of suspension as defined by the School Leader, a student's permission to log on to and/or use parts of the EMS is restricted. Student access to WebMail, the message boards, virtual clubs/activities, and/or all of the EMS may be revoked. In such cases where the student's access is completely revoked, the Learning Coach is responsible for logging on to the EMS and obtaining the student's assignments, responding to WebMail, and recording assessment responses for the student. The student should continue with his or her schoolwork during a suspension.

Expulsion: When a student is expelled, he or she is separated from the school for an extended period of time, or permanently, for disciplinary reasons. An expulsion will be documented in writing and will become part of a student's permanent record. Violations that may lead to expulsion include, but are not limited to, any behavior that indicates that a student is a serious threat to the safety of others, possession of firearms, dangerous weapons, bombs, or explosives, criminal behavior, arson, under the influence of or possession of, or sale of controlled substances or paraphernalia. Suspensions or expulsions for children designated as exceptional follow all appropriate state and federal policies, regulations, and laws.

NCA does not discipline students protected under Section 504 of the Rehabilitation Act of 1973, the Individuals with Disabilities in Education Act (IDEA), or the American with Disabilities Act (ADA) unless the school complies with the requirements of those acts. Reflected in the school handbook is a careful protection of the rights of disabled students through the fair application of due process. The handbook includes practices the school uses to promote effective discipline, a list of offenses that may result in suspension or expulsion, an explanation of the rights of students with disabilities, and policies and procedure for due process.

NCA's suspension and expulsion policies are distributed in the school handbook. NCA's discipline, suspension, and expulsion policies are in accordance with student's rights and with applicable law. Since students learn by example, NCA administrators, faculty, staff, and volunteers strive to demonstrate appropriate behavior, treat others with civility and respect, and refuse to tolerate bullying or harassment, which is strictly prohibited.

Faculty/Staff Retention

NCA prioritizes staff retention and currently has two staff members serving on the Advocates of Culture and Engagement Committee spearheaded by Connections Education whose primary focus

is staff satisfaction. Using best practices, NCA leadership focuses on fostering a positive culture and working environment.

The principles of equal employment opportunity are vital to the school's success and extend to all aspects of employment, including recruiting, hiring, assigning, training, compensating, promoting, transferring, and terminating staff. In addition, NCA ensures that its benefits, educational assistance, and social/recreational programs are competitive in the industry to retain its teaching staff. NCA is committed to creating and fostering a work environment free from unlawful discrimination and harassment and one in which decisions and terms of employment are not based in any way on race, color, creed, religion, national origin, sex, marital status, status with regard to public assistance, familial status, membership or activity in a local human rights commission, disability, sexual orientation, age or genetic information, or other protected category.

NCA's Faculty and staff retention rate has risen steadily over the last five years, with the rates for 2017-18 and 2018-19 above 92%, having risen from 72.1% in 2014-15, 78.4% in 2015-16 and 86.9% in 2016-17.[21] (See Figure 5.)

The quality of teachers is very important to the NCA Board. Professional development is provided to NCA's teachers to equip them with the necessary skills and pedagogy to teach virtually and maximize their skill set. The professional development of teachers in a virtual environment is essential. Teachers never stop learning, so they can continue to excel at teaching. High-quality, Nevada-certified teachers paired with superior professional development opportunities creates a school where teachers stay, and students thrive.

Other Relevant Information

The NCA Board, teachers, and staff are all committed to improving our rankings. For example, NCA did not meet the 95% participation threshold for testing in 2017-18 school year but did meet the same in the 2018-19 school year. With NCA being a virtual school, state testing is administered in 23 locations in the state, locations that must be within 50 miles of each student's location. Some NCA teachers drove up to five hours to ensure NCA students were tested to help achieve the 95% testing participation rate in 2018-2019. The high school program's performance ratings for the 2018-2019 school year will not reflect the high school's graduation rate for that year as the graduation rate used is on a one-year lag; instead, the 2018-19 school performance ratings reflect the graduation rate for the 2017-18 school year. The 2018-19 graduation rate data will not be available until December 2019, but instead will reflect the graduation rate for the previous 2017-2018 school year. NCA's graduation rate has improved almost 20% in one year, from 45% to 64%;[22] this was an outstanding climb in one year, and one that exceeded the 49% academic benchmark in the Charter School Contract for that year by 15 percentage points.[23]

---

[21] Source: Nevada Connections Academy; *See also* Figure 5: NCA's Steadily Rising Staff Retention Rate.
[22] Source: http://nevadareportcard.nv.gov
[23] *See* Exhibit 3.

C. Required Supporting Documentation

Proposed Calendar for the First Year of the New Charter Term (Student Calendar)

DRAFT- NCA School Calendar

Event	School Status	Date
First Day of School	School in Session	August 10, 2020
Labor Day	School Closed	September 7, 2020
Nevada Day	No School in Session	October 30, 2020
Veterans' Day	No School in Session	November 11, 2020
Thanksgiving Break	School Closed	November 23-27, 2020
Winter Break	School Closed	December 23, 2020-January 1, 2021
	No School in Session	January 4-5, 2021
First Semester End Date	NA	December 18, 2020
Second Semester Start Date	NA	January 6, 2021
Martin Luther King, Jr. Day	School Closed	January 18, 2021
Presidents' Day	No School in Session	February 15, 2021
Spring Break	No School in Session	April 5-9, 2021
Last Day of School	School in Session	May 21, 2021
School Closed - Additional Administrator/12 Month Employee Days: November 23-25,2020 & December 23-24, 2020		

School Status Legend:
No School in Session = Students and Teachers are NOT in school but Administrators ARE
School Closed = Students, Teachers, and Administrators are NOT in school
School In Session = Students, Teachers, and Administrators ARE in school
Staff Professional Development Day = Students are NOT in school but Teachers and Administrators ARE
Staff Work Day = Students are NOT in school but Teachers and Administrators ARE

Please note this is a DRAFT of the calendar and has not yet been approved by the Board

Proposed Calendar for the First Year of the New Charter Term (Teacher Calendar)

DRAFT- NCA Teacher Calendar

Event	School Status	Date
First Day of School (New Teachers)	Staff Work Day	July 30, 2020
First Day of School (Returning Teachers)	Staff Work Day	July 30, 2020
First Day of School (Students)	School in Session	August 10, 2020
Labor Day	School Closed	September 7, 2020
Nevada Day	No School in Session	October 30, 2020
Veterans' Day	No School in Session	November 11, 2020
Thanksgiving Break	School Closed	November 23-27, 2020
Winter Break	School Closed	December 23, 2020-January 1, 2021
	No School in Session	January 4-5, 2021
First Semester End Date	NA	December 18, 2020
First Semester Sections Close	NA	December 21, 2020
Second Semester Start Date	NA	January 6, 2021
Second Semester Sections Open	NA	January 6, 2021
Martin Luther King, Jr. Day	School Closed	January 18, 2021
Presidents' Day	No School in Session	February 15, 2021
Spring Break	No School in Session	April 5-9, 2021
Last Day of School (Students)	School in Session	May 21, 2021
Memorial Day	School Closed	May 31, 2021
Last Day of School (Teachers)	Staff Work Day	June 3, 2021

School Closed - Additional Administrator/12 Month Employee Days: November 23-25,2020 & December 23-24, 2020

School Status Legend:

No School in Session = Students and Teachers are NOT in school but Administrators ARE

School Closed = Students, Teachers, and Administrators are NOT in school

School In Session = Students, Teachers, and Administrators ARE in school

Staff Professional Development Day = Students are NOT in school but Teachers and Administrators ARE

Staff Work Day = Students are NOT in school but Teachers and Administrators ARE

Please note this is a DRAFT of the calendar and has not yet been approved by the Board

Daily Schedules for All Grade Levels

The time commitment required by students in a virtual school program is comparable to that of a traditional school day. Since learners do not face the distractions and interruptions of a typical school setting (from lining up in the hallway to waiting out the teacher's handling of disruptive peers), they are able to use their learning time more efficiently. The in-depth application of concepts that is often relegated to homework in a conventional school setting is an integral part of the learning day; the application of discrete skills, extended projects, and remedial and enrichment activities is part of the daily routine for students and their Learning Coaches. The program provides for and offers more than the legally mandated minimum instructional minutes for every grade.

Students in grades 6–8 spend about 50–75% of the school day on interactive online courses. Students in grades 9–12 have a more fixed schedule to match the schedules of their peers. If students start late or have other needs, they may work with teachers to create modified schedules. About 75+% of the school day is centered on interactive online courses, while the hours of instruction per week vary based on the pacing option chosen.

 igur e 6 represents an example of a daily schedule for a middle school student, and Figure 7 represents an example of a daily schedule for a high school student. Activities vary based upon student needs, coursework, and personal schedules. Learning is integrated within individual activities as well as LiveLesson® sessions and phone calls with teachers. Learning can occur when students learn best and not just between typical school hours. Daily checklists in the EMS help to keep students on-task.

The daily routine may include checking WebMail messages, looking at the To Do List in the EMS, reviewing the student's Planner, attending scheduled synchronous sessions, and completing lessons and assessments. Students easily see which lessons are due as they are in bolded text. As lessons are completed, they change from bold to regular text. Students can access the lessons directly from the Planner in the EMS. In addition, students can access any notes or tips provided by the teacher and view important course-related information like LiveLesson session schedules, recordings, and supplemental materials. Students can track their progress and grades at any time in the Grade Book.

Figure 1. Daily Schedule of a Middle School Student

SAMPLE MIDDLE SCHOOL STUDENT "DAY IN THE LIFE"	
Morning	Student logs on, reads and responds to messages from teachers, reviews graded assignments and upcoming lessons.
	Student logs in to participate in a math LiveLesson session and then begins work on today's math lesson.
	Student goes to the math message board to check for the unit test study guide the teacher posted after the LiveLesson session.
	Student completes a Language Arts lesson, including reading, writing, and discussing the lesson activities and text. Student completes the Language Arts lesson by taking a quiz online.
	Student takes a break from lessons after making progress on morning To Do list.
Afternoon	Student makes sandwich for lunch, and then goes for a walk outside as part of the Physical Education course.
	Student completes a science lesson and finishes working on the portfolio for Social Studies that is due tomorrow.
	Student spends time on the phone with their Spanish teacher discussing the student's most recent quiz.
	Student heads to soccer practice and then to the local library to find a new book to read.
	Learning Coach confirms lessons completed and records attendance.
	Learning Coach and student review next day's schedule and prepares accordingly.

Figure 2. Daily Schedule of a High School Student

SAMPLE HIGH SCHOOL STUDENT "DAY IN THE LIFE"	
Morning	Student logs on, reads and responds to messages from teachers, reviews graded assignments and upcoming lessons.
	Student logs in to participate in a Government LiveLesson session. Student collaborates with teacher and classmates and participates in class discussion on current events topic of the week.
	Student works on an Algebra lesson but has some trouble with a question. For help, the student accesses yesterday's recorded Algebra LiveLesson session from the teacher's message board and is able to finish the lesson successfully.
	Student completes an English lesson, including reading, writing, and discussing the lesson activities and text. Student posts on the discussion board thread as part of today's assignment.
	Student takes a break from lessons after making progress on morning To Do list.
Afternoon	Student makes plans for lunch in between scheduled LiveLesson sessions.
	Student returns from lunch and logs into their Biology LiveLesson session to review for upcoming test.
	Student heads to part-time job and then to the local library to find a new book to read.
	Student returns home and checks English discussion board for classmate posts that they can reply to for discussion assignment completion.
	Caretaker (or student over 18 with a Learning Coach account) records attendance.
	Student reviews next day's schedule and prepares accordingly.

3. Academic Plans for the Proposed Charter Term

A. Written Narrative

Academic Vision & Plans

or the n ext charter term, both administrators and teachers will focus on helping students master grade-level academic content as designed by the standards and closing achievement gaps between relevant student subgroups. The data available in the EMS will support this focus and provide a variety of data points to assess progress. Teachers and administrators will track many metrics, some of which are content-based (how successful is the student in class) and others that are formative assessment-based (what conclusions can a teacher draw from the analysis of a student's assessments or state test results). When considering all of the data, the teacher will provide support via targeted LiveLesson sessions where more individualized instructional support can be given based on the student's performance and particular achievement gaps.

In addition, at both the section and individual student levels, the school will generate Student Performance Reports, displaying not only the essential skills and standards for a course, but also exactly where in the curriculum each is assessed. The Student Performance Reporting provides real-time student performance data on assessments. The reports identify the student score and the performance against each item. For some courses, objective level performance data is also provided. Teachers can use this data to determine which students need more help with a particular concept. They may then participate in individual or small group tutoring virtually with these students targeting specific skills.

This method accomplishes the following: enhances the multitiered instruction model; identifies essential skills and standards by subject/grade level; identifies how and where these essential skills and standards are assessed within the program; adheres to the Response to Intervention (RTI) model; provides access to and analysis of real-time data to determine mastery/proficiency; incorporates data-driven decisions throughout instruction; maximizes use of the instructional support programs, resources, and data; identifies the need for tiered interventions for non-mastered/proficient skills and standards; and identifies students' responses to the implemented interventions.

Key Design Elements

The centerpiece of instruction will continue to be the Personalized Learning Plan (PLP), which provides for individualized instruction tailored to the learning needs of each student. The PLP is an extensive document that is developed at the beginning of the school year by the Nevada-credentialed teacher in consultation with the student and the student's Learning Coach (usually the parents/guardians). The PLP is built from a combination of baseline assessments of both academic skills/knowledge and learning modalities, information gathered from the Learning Coach, and input directly from the student. Learning needs that go beyond the purely academic (such as study habits

and interpersonal skills) are addressed in the PLP as well. The PLP then guides the student's pathway through the Connections curriculum aligned to the Nevada Academic Content Standards.

NCA will continue to deliver instruction primarily through distance education learning strategies providing students with choice over time, place, path and modality of learning. NCA's instructional methods, educational philosophy, and program will include unique elements from Connections. Connections will provide specific educational products and services, always with the oversight and approval of the NCA School Board. The following descriptions of the unique core model elements explain how the needs of the students and families will be met through this value-added program.

Student Performance Reporting: Reports provide real-time student performance data on assessments. The reports identify the student score and the performance against each item. For some courses, objective level performance data is also provided. Teachers can use this data to determine which students need more help with a particular concept. They may then participate in individual or small group tutoring virtually with these students targeting specific skills.

Collaboration: Using Adobe® Connect™ for LiveLesson sessions, teachers group students in break-out rooms to allow collaboration. Teachers then "visit" each room to observe student collaboration, redirect, etc. This audio/video web conferencing tool allows teachers the flexibility to group students, conduct small group instruction, utilize a whiteboard for illustration, and allows students to work together in a collaborative space. Sessions are recorded for later viewing and review.

Curriculum-Based Assessments: Teachers use curriculum-based assessments, via telephone conversation or in one-on-one LiveLesson sessions, as a quick and effective way to gather information on students' understanding of concepts. Diagnostic curriculum-based assessments pinpoint strengths and weaknesses in student mastery of concepts. Verification curriculum-based assessments gauge authentic student learning of concepts previously graded as successfully completed with scores of a "B" or higher.

Education Management System (EMS): The EMS is the platform for organizing and supporting NCA's entire educational environment. The EMS used by NCA is a proprietary, web-based software that delivers assignments and tracks activities (whether conducted virtually or offline) while monitoring the completion of individual lessons as well as mastery of discrete skills and knowledge, all under the watchful eye of administrators, teachers, and Learning Coaches. The EMS operates within a secure, robust technology infrastructure protecting data from loss and intrusion while maintaining a safe environment. Students, teachers, administrators, and Learning Coaches access the EMS to organize, document, and interact, ensuring an unprecedented level of engagement.

Intervention Indicators: Intervention Indicators are data-driven codes that assist teachers in making decisions using the multitiered instruction model. They are displayed on the Teacher Home Page in the EMS to facilitate teachers' ability to identify which of their students may be in need of an instructional intervention and ensure that all students have access to high-quality instruction. The Intervention Indicators change in relation to a student's performance on formative assessments taken throughout the school year or previous year's test scores.

Learning Coach: A parent, extended family member, or similarly qualified adult designated by the parent/guardian is able to have direct daily involvement in the student's learning through the Learning Coach role. The Learning Coach and student interact with the teacher via telephone, WebMail message, LiveLesson sessions, and in-person meetings. NCA provides a unique log in and ongoing training, support, and resources to help the Learning Coach carry out this important role.

Multitiered Instruction: NCA employs a multitiered instruction framework based upon the Response to Intervention (RTI) model that deeply links curriculum, standards, assessments, and interventions that have a direct impact on student mastery and resulting standardized test performance. The RTI model targets essential skills/standards by subject/grade level, uses specified assessments within the curriculum to measure student mastery of these skills and standards, provides tiered interventions for non-mastered skills and standards, and then tracks students' responses to the implemented interventions by skill/standard.

Progression Plan: Within the EMS, there is a Progression Plan tool that assists teachers, administrators, and school counselors with implementing a plan for high school students that defines and tracks requirements to keep high school students on target for graduation, meeting their college and career goals.

State Testing: As a public school, students will participate in required state testing, including summative assessments as well as general assessments.

Student Status/Escalation Process: NCA will continue to track and report ongoing student progress based on the objective quantitative data generated by the EMS. Staff members will analyze attendance, participation, performance, assessment submissions, and teacher contact. The student status is displayed on the home page for instant identification of potential problem areas. The Escalation Process goes into effect when students are in statuses other than "On-Track" in order to ensure students continue to gain the full benefits of this educational option.

Synchronous Contact: In a virtual school setting, synchronous contact is defined as a real time interaction between teachers and students. This type of communication helps to build a relationship between teachers and students. Teachers will schedule LiveLesson sessions, in addition to other synchronous interaction (e.g., phone calls) for students. Teachers will document all synchronous contact with a student within the student's Log in the EMS. NCA will meet the requirements of a virtual provider to maintain synchronous contact with students.

Teachers: NCA will continue to be comprised of experienced, Nevada-credentialed teachers, as required by law, who are also specially trained in virtual delivery and personalized instruction. Teachers will work from either a school office location and/or work remotely to deliver instruction to a virtual classroom of students and work one-on-one with students through highly interactive, technology-facilitated communication tools and quality timely feedback on assignments. Teachers will maintain a one-on-one relationship with each student.

Teachlet® Tutorials: Teachlet tutorials are proprietary, interactive, asynchronous graphic/video/audio tutorials, incorporated into lessons to provide students a dynamic, fun, and engaging way to learn the concepts they need to master learning objectives and standards.

WebMail System: This proprietary email system is securely located within the EMS. Students, Learning Coaches, and teachers use it to communicate with each other, protecting them from spam, contact from those outside of the EMS, and other mainstream email issues.

Programs, Structures & Principles

NCA will continue to use Connections' high-quality proprietary curriculum that integrates textbooks, instructional activities, and other content from a variety of leading publishers as well as technology-based content. The school will use a variety of multimedia and interactive practices to reinforce standards for language arts and math at each grade level. The proprietary and highly effective online animated Teachlet tutorials, which introduce challenging topics and provide interactive practice, are also included along with proprietary interactive online tools and simulations, including a virtual rock and mineral kit, pan balance, geoboard, and interactive math practice activities. LiveLesson sessions allow teachers and students to interact with one another in real time in the virtual classroom. At the high school level, NCA will provide four levels of academic coursework aligned to Nevada State Content Standards: Foundations, Standard, Honors, and Advanced Placement® (AP). While all levels are designed to meet standards and provide students a rigorous curriculum, each enable differentiation based on student needs and college and career goals. Students will work with an academic placement advisor or their school counselor to determine appropriate course level placement.

Academic Improvements Undertaken or Planned

NCA has improved its Response to Intervention (RTI) process to better identify specific needs of students so they receive the support necessary to enable them to maximize their academic proficiency. As part of the plan, teachers have received more robust professional development on the curriculum and resources available so that student learning is maximized. Moreover, the NCA Board requires monthly updates on students in "alarm" and "approaching alarm" status, specifying the percent and discrete number of students that are falling behind. For students with these designations, NCA increases the number of contacts to the family to get the students caught up.

NCA provides a systematic approach to professional learning for all teachers and each year, teachers are required to participate in ten professional development days and complete assigned professional learning activities. Professional development activities include presenters with various backgrounds and areas of content expertise conducting live tutorial sessions on a rotating basis throughout the school year. Among the most significant recent professional learning opportunities for NCA's teachers have been sessions on both trauma and poverty-informed teaching. These learning opportunities have been critical in developing NCA's staff to best support the social-emotional and academic needs of its students. NCA will continue to dive even deeper into both trauma and poverty-informed teaching in the 2019-2020 school year, as these populations continue to increase at NCA.

While NCA has been using multiple strategies to provide struggling students with effective and timely interventions for quite some time, NCA retrained all teachers on the multi-tiered instructional approach in the 2018-2019 school year to make sure that all teachers are up to date on all strategies and available resources for students. All students in the school receive Tier I supports, and if more are required, the supports are more targeted and specific to the students' needs (Tier II). If data indicate this more intense support is not effective, the students are referred to Tier III, or intensive supports/contracts provided through a Positive Behavior Support Plan overseen by a Board-Certified Behavior Analyst. NCA retrained all teachers in the Response to Intervention (RTI) program and their role in helping students. Teachers also received training on interpreting data to make instructional decisions, documenting their work with students as part of the Personal Learning Plan (PLP), implementing strategies for differentiating instruction, identifying the most appropriate supplemental instructional programs (SISPs) for students, and supporting students who are not progressing or not engaged in the instructional program. Teachers work closely with Learning Coaches to discuss the needs of their students, the RTI process, and any SISPs that might be assigned. NCA will continue to refine and improve the RTI process in the 2019-2020 school year.

NCA Initiatives to Positively Impact Student Outcomes

NCA has a number of initiatives in place to positively impact student outcomes. A by-product of these programmatic inputs will be to increase NCA's ratings under the NSPF. A summary of these ongoing efforts to increase student achievement and school performance are in Exhibits 8 and 10. The initiatives underway at the high school and the NSPF framework indicator they correlate to are detailed below.[24]

<u>College and Career Readiness</u>:

       Advanced Diploma Path, Dual Enrollment

NCA strives to meet the needs of students who wish to advance in their studies and better prepare for college. To achieve this goal, certified counseling staff identify students on their caseload who meet the advanced diploma requirements of having a 3.25 GPA or higher. These students are then placed on the advanced diploma pathway that will earn them 24 credits by graduation with an emphasis on successfully earning four credits in their Math coursework, with at least Algebra II or higher as the fourth year Math course. To best prepare university bound students, NCA offers dual enrollment with a community college partner school, TMCC. To hold students to high academic achievement standards, NCA requires that students enrolled in the dual enrollment program must maintain a 3.0 or better   PA and be on track to earning their high school diploma on cohort. These initiatives are particularly important in light of the student population NCA serves, as students who may not aspire to college will have the foundation to be successful in their post-high school careers. Additionally, it is understood that all efforts towards Career and College Readiness can influence

---

[24] *See* Exhibits 9 and 11, NCA NSPF Framework Analysis.

graduation rate, as students who develop the foundation to succeed in their chosen career path will be more likely to progress on track towards graduation.

CTE Progression Plans, Building Graduation Resumes

Students who are college and/or career ready are a priority at NCA. In order to ensure that students are career ready, NCA is working on expanding the development of their CTE program by having the Nevada State Department of Education approve their CTE course progression plans for students who wish to enter the workforce after high school graduation. Upon entering high school, students meet with their counselor to declare their high school pathway: university, community college, vocational education, or workforce. Students who choose workforce will be advised on the CTE pathways and will declare the pathway that best meets their individual needs and interests. Students who are unsure will be placed upon the Business pathway until they decide to declare a different pathway once they've had the opportunity to explore the various pathways offered as the Business pathway is applicable to various professions students may wish to pursue. All students will have the opportunity to change pathways as they meet with their counselor throughout the school year during required check in phone calls. A student who declares the workforce pathway initially may easily change their pathway to any of the other pathway options (university, community college, vocational education) and their Individualized Graduation Plan will be updated to best fit their coursework needs. Likewise, a student who declares the university pathway initially may easily change their pathway to any of the other pathway options at any time. Coursework will be updated as soon as a student declares a new pathway. Students who enter NCA's high school program from another high school will receive a full transcript review and will discuss with their counselor the best pathway option based upon credits earned and coursework completed.

Students who enter NCA as Freshmen will have the additional benefit of being a part of the Freshman Academy whose primary focus is on providing additional supports that are shown to be effective in supporting the developmental age of Freshmen students. Freshmen students will be oriented to the success pathway options during Freshman Orientation prior to the start of the school year and will have focused LiveLesson sessions that encourage the importance of being college and/or career ready upon graduation.

During Senior year, students work with their counselors to build their graduation resumes. The goal of these resumes is to help students be better prepared to enter the workforce upon graduation. To help build student resumes, NCA will offer certification programs such as CPR and technical certifications. Additionally, NCA offers workforce tours where students are able to gain hands on experience in places such as Tesla and Nevada Builders Alliance as well as bringing career professionals together for NCA's Career Fair and "Day in a Life of" LiveLesson sessions focused on exposing students to a variety of career professionals, their experiences, and the skills required for various different types of careers.

Per IDEA, students are to be provided support through a transition plan for graduating students. The TOR (teacher of record) creates a plan with the family and student including where they are headed, providing resources within the community, even meeting with the schools (with the

student) to talk about services provided and accommodations and modifications needed to help the student be successful in their new environment. The teacher talks in depth with the student about opportunities and choices within the community.

Academic Achievement:

ACT Test Prep, Freshman Academy, Truancy

To increase academic achievement and student engagement, NCA has initiated the use of USA Test Prep for the 2019-2020 school year to help bridge academic gaps in preparation for the ACT exam administered Junior year. Many students come to NCA credit deficient with significant learning gaps. To help increase foundational skills, NCA teachers believe that adding the additional resource of USA Test Prep, in addition to their instruction that is based upon best teaching practices, the program will help teachers more easily identify and focus on students' GAN (Greatest Area of Need) and provide tailored support that will decrease the achievement gap.

The Freshman Academy program is designed to engage Freshmen students using developmentally appropriate engagement techniques. NCA recognizes the importance of ensuring that Freshmen students understand the value of earning a high school diploma; students who fail courses their Freshmen year are significantly less likely to earn a high school diploma. The reshman Academy offers a Freshman Orientation prior to the start of the school year to introduce students to the importance of high school and to help students identify the pathway that best meets their individual needs and interests. Declaring a specified pathway allows students to focus on meeting the requirements of that pathway and adjust their pathway as they grow and explore the variety of options NCA has for them. The Freshman Academy is comprised of a team of teachers who meet frequently and consistently to disaggregate Freshmen data and discuss the needs of the Freshmen students making adjustments to their teaching and supports based upon live data tracking. Freshman who struggle to participate in the program and complete the coursework necessary to earn a high school diploma are placed into the Every Student Succeeds Academy to be monitored at minimum twice per month by a Success Coach. If needed, students who continue to not show progress or success are referred to high school administration to be placed upon academic probation to ensure that administrators hold the learning coach responsible for student attendance to prevent educational neglect.

All high school students may be placed on academic probation monitored by high school administration if they are not attending school by logging into the EMS platform and/or are considered a participation truant who logs into the EMS system but does not successfully complete lessons to earn credit for their coursework.

To better help students transition into the different developmental stages of high school, all Freshman students are enrolled in a Freshman Success course to help students transition and acclimate to the expectations of high school. All Senior students are enrolled in a Senior Success course that focuses on transitioning students out of high school and the skills required to be successful post-graduation.

Graduation Rate:

Every Student Succeeds Academy, Rainbow List

As a part of NCA's initiatives to increase graduation rate, students who enter NCA high school off-cohort and credit deficient are placed into the Every Student Succeeds Academy. As recommended by the National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences (ICS) Dropout Practice Guide, students in the ES2 Academy are assigned a Success Coach as their academic advisor and mentor (an adult advocate - state-licensed teacher - Nevada Connections Academy staff member - to serve students at-risk of dropping out). These students receive minimum twice monthly phone contact from their Success Coach as well as tailored LiveLesson support that focuses on strategies to increase student success such as study skills, tutoring opportunities, and motivational strategies to earn a high school diploma. Students who do not show progress or success in the ES2 Academy are referred to high school administration to be placed on academic probation monitored by administration. Additionally, students in the Every Student Succeeds academy are placed in the GradPoint Credit Recovery program with courses designed for students to show mastery of key essential skills and concepts aligned to state standards with the support of teachers who implement best practices of engaging students who have shown signs of lack of engagement previously.

To ensure Senior success, students are monitored using the Rainbow List, a culled list of ALL Senior-level students who are either on-track, slightly credit deficient, or not on track to graduate by the end of the school year. Students who are identified as "Green" are currently on track in credits toward earning a high school diploma by the end of their Senior year with no additional coursework needed. These students are monitored by a general education homeroom teacher. Students who are identified as "Yellow" are slightly credit deficient; however, they are currently enrolled in all the additional coursework needed to earn a high school diploma by the end of their Senior year. These students are monitored by a Success Coach. Students who are identified as "Red" are currently not on track to earning a high school diploma and cannot realistically complete the course work required to earning a high school diploma by the end of their Senior year. These students are monitored by high school administration and are placed on academic probation if they are not participating in their coursework.

Foundation for All Metrics:

Social Emotional Mentors, Ruby Payne Training, Trauma Informed Schools Training, Leadership Coaching Training

The main reason stated by families when they enroll with NCA as to why they have sought out an alternative form of education for their child is severe bullying. Many students who attend NCA as a result of severe bullying have diagnosed mental health illnesses such as severe anxiety, depression, and even issues of suicide caused by the bullying they were subjected to in the bricks and mortar environment. These students sought out NCA in order to ensure a safe learning environment; however, even though they are learning from the safety of their own home, they still require a

significant level of social emotional support from NCA staff in order to help heal their emotional wounds before significant learning can take place. According to Aha Process, an organization focused on supporting under-resourced youth, no significant learning can take place until a child has connected with at least one adult in his or her school. To ensure that NCA staff members are qualified to offer social emotional support, all NCA staff members have been training in the strategies offered by the Aha Process to support under-resourced youth as well as participated in Trauma Informed Schools training to learn strategies to implement specifically focusing on students who have experienced severe trauma. NCA currently has one staff member that has been certified as a trainer for the Aha Process Framework for Understanding Poverty as well as certified as a Certified Trauma Practitioner. NCA is working to have more staff certified in addressing the social emotional needs of students as the population of students who have been impacted by trauma continues to increase. NCA has taken the initiative to have staff certified to work with trauma impacted students so that staff professional development focuses on addressing social emotional needs can be continuous and consistent throughout each school year. Staff will continue to implement best practices when supporting trauma impacted students because of the trauma certified staff members who receive the most up-to-date information regarding best teaching strategies for trauma impacted students.

NCA also employs a team of counselors trained to address social emotional needs of students as well. Counselors monitor all students placed on Child Welfare Issue Aware tickets and work to develop plans to address a student's well-being based upon the initial child welfare wellness check call. Wellness Plans can include but are not limited to more frequent counseling calls from the school counselor, recommendations to attend counselor led LiveLesson support group sessions, seeking additional counseling resources that reach beyond the scope of a school counselor, etc. as determined by need by the counselor, student, and family of student when applicable.

Additionally, NCA has implemented Social Emotional Mentors for the 2019-20 school year to help foster building solid relationships with at least one staff member for students who have been identified as needing additional social emotional support prior to being able to engage and focus on their core academic instruction. Social emotional mentors are required to call their mentee on a weekly basis to offer social emotional support. Staff will be trained in social emotional strategies on a minimum monthly basis throughout the school year to support these on-going phone calls. It is the goal of NCA staff that students who are receiving the care they need to support their social emotional needs, will be able to more quickly engage in their core academic instruction by having their social emotional needs met.

Lastly, the leadership team participated in Leadership Coaching Training (Results Coaching lobal) and received certificates to implement best practices in coaching teachers to perform at high levels of achievement. The training integrated professional coaching at the leadership level to enable a school to transform by providing coaching opportunities and strategies for school leaders and managers with the intention of supporting teachers' and staff needs, and ultimately affecting student outcomes and learning.

4. Organizational Viability and Plans for the Proposed Charter Term

A. Written Narrative

Current Governing Board's Capacity, Skills, and Qualifications

NCA's Board Members are parents, educators, and business and community leaders who are committed to providing innovative distance education to students. NCA's current members have a broad range of unique skills and qualifications in education, technology, internal controls, and financial analysis. As shown in the biographies that follow, the NCA Board includes representation from parents, educators, and business leaders, all with deep roots in Nevada communities. These qualifications help ensure the success of NCA in serving its students and the effective representation of key stakeholders.

Dr. Scott W. Harrington, Board Chair & President

Dr. Scott W. Harrington is currently the Behavior Specialist for Churchill County School District. He has been working with people with disabilities since 1990, when he earned his bachelor's degree in psychology at CSU Long Beach. He earned his master's degree in psychology (behavior analysis) at the University of the Pacific in Stockton, CA, and his doctorate degree psychology (behavior analysis) at the University of Nevada, Reno (UNR). Dr. Harrington has written and directed multiple projects to help individuals with disabilities live more independent lives. He is a founder of the first elementary charter school in Nevada, Sierra Nevada Academy Charter School, and is a former middle school mathematics teacher. He has presented over 40 papers on data-based interventions to assist persons with disabilities, released several publications across multiple areas, and taught at UNR in the College of Education. His research interests include inclusion, integrated employment, transition, intrinsic motivation, attitudes about disabilities, and interagency collaboration. Dr. Harrington is a Board-Certified Behavior Analyst, a Licensed Behavior Analyst, and a member of the Association for Behavior Analysis. In addition, he serves on several advisory boards.

Morgan Jackson, Board Vice President

Ms. Morgan Jackson earned a bachelor's degree in English from UNR and a master's degree in teaching from Sierra Nevada College. She is currently an English teacher at Bishop Gorman High School, where she has taught for the past five years. Prior to that she spent seven years teaching English at a Title I middle school in the Clark County School District. In both of these settings, Ms. Jackson labored to increase student interest and ownership of their learning. She is currently working toward her National Board Certification in Adolescence and Young Adulthood/English Language Arts.

Naima Benjelloun, Board Secretary

Ms. Naima Benjelloun earned a bachelor's degree in business marketing from Leiden University in the Netherlands in 1996. She moved to the United States with her husband the year after, and since then she has been an active business entrepreneur.

She has owned and flipped several restaurants and stores across the country, such as co-founding Multi-Target in South Carolina, which employs over 500 people across the state. Ms. Benjelloun and her family have been part of Connections Academy programs since 2006. She is the mother of six children, all of whom have gone through Connections Academy programs. Her oldest four children have already graduated from NCA high school and moved on to college. Ms. Benjelloun highly prioritizes education and has always been actively involved in her children's education. She believes in Connections Academy's system of education and champions their "work at your own pace" mantra. As a member of the NCA school board, she plans to continue sharing the opportunities that NCA provides to other parents, while doing all that she can to support the school's current parents, children, and teachers.

Kelly McGlynn, Board Treasurer

Ms. Kelly McGlynn graduated from UNR in 1998, with a bachelor's degree in business administration. She is a Certified Public Accountant (CPA) with more than 14 years of experience in public accounting. Ms. McGlynn is currently president of her own company specializing in tax preparation and bookkeeping services. She is a member of the American Institute of Certified Public Accountants and a member of the Nevada Society of Certified Public Accountants. Ms. Mc lynn bec ame involved with NCA in 2011 while searching for an alternative to public school for her then eight-year-old daughter. She feels that education is extremely important and that children learn in different ways. This belief motivated her to serve on this board, beginning in 2013, to support a school that provides children with education alternatives to brick-and-mortar schools.

Kevin Arnold, Board Member

Mr. Kevin Arnold is currently a 7th- and 8th-grade social studies teacher at Dilworth STEM Academy in Sparks, NV. He graduated in 2012 with a bachelor's degree in history and secondary education. He earned his master's degree in educational leadership at UNR in 2018. Mr. Arnold started his career in Jacksonville, FL as an AmeriCorps City Year member where he served as a near-peer mentor and tutor to at-risk youth. During that experience, he cultivated a strong connection to the community and took a job as an 8th-grade teacher of humanities at KIPP Impact Middle School. KIPP is a national network of charter schools that provides a high-quality educational experience to at-risk youth in dozens of cities across the country. In that year, he realized charter schools have the ability to individualize a student's educational experience and provide them with opportunities for which traditional public schools do not have the resources. Mr. Arnold continues to serve his community as a teacher in a brick-and-mortar public school, while supporting the NCA board and the decisions of students and families to select the school that best fits each individual's needs. As an NCA board member, he hopes to provide critical insight into best teaching practices and administrative policies in order to give students the best educational experience possible.

Dr. Amelia Cook, Board Member

Dr. Amelia Cook earned a doctorate degree in educational leadership, a master's degree in secondary education (mathematics) from the University of Phoenix, and a bachelor's degree in business management from Hawaii Pacific University. Currently she serves as a mathematics teacher at Somerset Academy, Sky Pointe campus. Dr. Cook's experience spans over 15 years in education. She has served as a department chairperson and a school improvement specialist in mathematics. Some highlights from her profession in the field of education include experiences in technology integration, STEM education, and teacher mentoring. Dr. Cook has worked closely with the Upward Bound/TRIO program at the University of Hawaii and was an adjunct faculty member at the University of Phoenix, Hawaii Campus. Dr. Cook is a nationally certified trainer with the Center of Teacher Effectiveness in the area of classroom management and with DimensionU in the area of gaming implementation in education.

Mr. Thomas Prutzman, Board Member

Mr. Thomas Prutzman is a seasoned financial professional with almost 25 years of experience in the financial services industry. Born and raised in Reno, Nevada, Mr. Prutzman left northern Nevada for the East Coast to attend the School of Hotel Administration at Cornell University where he graduated in three and a half years. While at Cornell University, he gained a broad education in finance and business management, as well as honed a particular skill for operating in high pressure environments. After receiving his bachelor's degree in 1995, he moved to San Francisco to work with Morgan Stanley and begin his career in the financial services, investment, and brokerage industries. Mr. Prutzman enjoyed eight successful years with Morgan Stanley where he quickly rose to the level of Associate Vice President before moving to Los Angeles to begin a new phase in his career. In 2004, he founded Prutzman Wealth Management (PWM), which he continues to run today. PWM is an independent, 401(k) fiduciary advisor with over 115 company retirement plans and is committed to helping clients develop customized financial planning and investment solutions for their personal, retirement, and charitable goals. Now based in Reno, Nevada, PWM's mission is to simplify investing for its clients, guiding them to the financial freedom they desire and helping them reach their lifelong goals and aspirations. Mr. Prutzman is excited to be a new NCA board member and apply his skill in strategy to help navigate the future for this successful learning platform.

Growth Plan for Adding/Replacing Board Members

The NCA Board is comprised of individuals with a desire to bring quality distance education to Nevada families. The NCA Board consists of seven voting members serving staggered terms of one, two, or three years, with three-year renewal terms. The method for staggering terms serving in three classes is described in the NCA Board Bylaws.

Additional members will be recruited as necessary to form a diverse and well-balanced board. Any member of the greater Nevada community may seek appointment to the Board, with the exception of employees of NCA and Connections or any person who has been convicted of a felony or is unable

to successfully pass the NCA Board-approved background check clearance process. The NCA Board works to maintain a parent of an enrolled student on the board.

NCA Board members attend any state-required governance trainings to ensure that they have ongoing knowledge about governance, oversight requirements, department rules, policies, and procedures.

Additional training may also be conducted by a reputable third-party vendor to ensure smooth operations and effective board practices. Other trainings may include Effective Board Governance of Public Charter Schools online training module series as well as specific training provided in person, via the Internet, and in print. Training topics may include charter school basics, responsibilities, conflict of interest, effective meeting management, quality board leadership and policy development. In addition, NCA Board members will have the opportunity to participate in various regional and national conferences to network with other charter board members and further their development as effective board members.

Any Organizational Improvements Undertaken or Planned

Regarding changes to the School Board structure, Board Member Ms. Kelly McGlynn plans to step down at the end of this school year, but she will not do so until another Parent Representative has been appointed. Another change that has occurred is the position change for the role of Vice President in August 2019 from Dr. Amelia Cook to Ms. Morgan Jackson. The Board will also undertake strategic planning after the NCA renewal to align its work in support of NCA and our students' success.

B. Supporting Documentation

Current Resumes for All Governing Board Members

Please see Appendix C for the current resumes of all Governing Board Members.

Board Member Information Sheet and Assurances & Board Member Template

Per guidance from the SPSCA, we have completed the Board Member Information Sheet and the Board Member Template; please see Section 2. Renewal Application, A. Application Form of this document. Signatures for the Assurance Statement are also included in Section 2.

5. Fiscal Soundness and Plans for the Proposed Charter Term

A. Written Narrative

Current Fiscal State of NCA

NCA has met financial compliance requirements, as evidenced by the acknowledgment in the Authority Staff's 2019 renewal report for NCA that NCA has not received any financial notices. The NCA Board uses sound budgeting and forecasting policies and procedures to monitor revenue and authorize expenditures according to any restrictions placed on such revenue.

The development of the annual budget is an interactive process that incorporates input from key stakeholders. A preliminary budget based on initial assumptions is presented to the NCA Board each year. It is then approved by the NCA Board before the start of the school year. Once the beginning enrollment and updated per pupil funding figures are known, a revised budget is prepared for the NCA Board's consideration. This budget is then compared to actual and forecasted results on a monthly basis.

NCA uses an industry-accepted and widely-adopted accounting software that is compatible with the State's reporting requirements. The accounting software also includes strong controls, data integrity and backup, and data security.

NCA implements rigorous internal financial controls as follows.

- •F **Segregation of Duties:** NCA develops and maintains simple check request and purchase order forms to document the authorization of non-payroll expenditures. All proposed expenditures must be approved by the School Leader, who reviews the proposed expenditure to determine whether it is consistent with the NCA Board-adopted budget and sign the check request form. All approved check requests and purchase orders are provided to the NCA Board designee and are signed by an NCA Board member or a designee who has been approved as a signatory on the school's checking account to initiate payment. All transactions are posted on an electronic general ledger.

- •F **Authorization and Processing of Disbursements:** To ensure fiscal responsibility and compliance, the NCA Board meets regularly to review the operations and financial performance of the school. Supporting documentation for all expenditures is provided in advance of these meetings. The school does not authorize any payment until it has reviewed such support. The NCA Board has established fiscal policies covering school expenditures. It also designates specific check signing authority.

- •F **Safeguard Assets:** All state, federal, and other monies received by NCA are deposited in its accounts within 24 hours or one banking day of receipt per federal and state regulations.

•F **Banking Arrangements/Reconciliation:** NCA maintains its accounts at a federally insured financial institution, Nevada State Bank. Funds are deposited in non-speculative accounts including federally-insured savings or checking accounts or invested in non-speculative federally-backed instruments. For all funds, the NCA Board appoints and approves all individuals authorized to sign checks in accordance with these policies. All bank accounts require multiple signatures on checks or other forms of disbursement. Bank statements from private banking institutions are sent directly to the school's finance committee, who submits a copy for reconciliation. This reconciliation is provided to the committee for review monthly.

•F **Policies and Procedures:** Policies and procedures to safeguard payroll and employee information are implemented by the NCA Board.

Plans for the Upcoming Charter Term to Ensure NCA Remains Financially Viable

The NCA Board will continue to monitor its financial performance by engaging in regular discussion with school leadership over significant financial matters. The NCA Board reviews a monthly re-forecasted revenue and expense statement and compares it with the approved budget at its regularly scheduled meetings. Through this process, the NCA Board is made aware of anticipated results and takes appropriate measures to minimize the impact of any negative developments.

The NCA Board will also continue to monitor its financial position and has demonstrated its ability to use its resources in a manner that preserves the school's financial viability while maximizing the resources devoted to instruction and instructional support activities. NCA will pursue further opportunities to identify efficiencies with its use of existing resources to provide an excellent educational experience for students.

Under NCA's arrangement with Connections, most current obligations are initially paid for by Connections and are reimbursed only when funds become available to the school. This allows the school to direct more of its resources to the educational program while minimizing any concern that current obligations will not be met. Additionally, at the end of each fiscal year, Connections reviews its fees with NCA and provides service credits by an amount that allows NCA to consistently end each fiscal year with a positive net asset balance. Through the unique arrangement between NCA and Connections, the school will maintain financial stability. The NCA Board anticipates continuing its partnership with Connections to provide instructional products and services to the school.

Any Financial Improvements Undertaken or Planned

A financial audit is conducted annually by an approved independent auditor and presented to the NCA Board. The audit results are reviewed carefully by the NCA Board to determine areas of improvement and to make determinations as to financial management. The NCA Board negotiates and oversees contracts for services such as financial accounting, legal services, and other services.

Supporting Documentation: Budget for the Current and Upcoming Fiscal Years (FY20 and FY21)

Nevada Connections Academy
3 Year Revenue and Expense Statement
Grades 6-12 Enrollment

	2019-2020 Budget	2020-2021 Projected	2021-2022 Projected
9/30 Enrollment*	3,400	2,008	2,111
Average Enrollment*	3,293	1,945	2,045
Funded Enrollment*	3,227	1,906	2,004
Total Enrolled*	5,252	3,005	3,159
Revenue			
State Aid	23,857,628	14,372,459	15,411,885
Special Education Funding	884,493	532,842	571,377
Federal Funding - Title I	400,000	239,000	253,000
Federal Funding - Title I - SIG	188,000	112,000	119,000
Federal Funding - Title II-A	111,000	66,000	70,000
Federal Funding - IDEA	350,000	210,000	223,000
Federal Funding - Title IV	62,000	37,000	40,000
Other Categorical State	156,000	140,000	144,000
E-Rate	3,000	3,000	3,000
Total Revenue	**26,012,121**	**15,712,300**	**16,835,262**
Expenses			
Salaries			
Administration	1,195,000	850,120	875,624
Teachers	5,251,218	3,066,728	3,315,984
Benefits/Pension/Taxes			
Administration	467,946	332,895	342,882
Teachers	2,360,422	1,378,494	1,490,535
Total Compensation	**9,274,586**	**5,628,238**	**6,025,025**
Enrollment/Unit Based Fees			
Educational Resource	414,900	245,046	257,615
Connexus Annual License (EMS)	1,975,714	1,166,884	1,226,739
Technical Support and Repairs	164,643	97,240	102,228
Direct Course Instruction Support	0	0	0
Short Term Sub Teaching Services	0	0	0
Hardware/ Software- Employees	71,059	43,146	44,959
Voice Over IP Services	42,635	25,888	26,976
School Curriculum Supplies	50,216	29,955	31,466
Student Technology Assistance- Laptops	1,767,000	997,200	1,048,400
ISP Processing Fee	103,392	59,150	62,185
Curriculum Postage	173,326	99,160	104,246
Tangible/ Intangible Instr. Materials	5,414,343	3,230,206	3,395,898
Community Outreach	566,500	566,500	566,500

* Explanations of the different enrollment figures are provided immediately following the budgets.

Total Enrollment/Unit Based Fees	**10,743,728**	**6,560,376**	**6,867,213**
Revenue Based Fees			
Special Education Direct Services	1,234,493	742,842	794,377
Special Education Oversight	616,741	371,461	401,022
School Administration	3,083,704	1,857,307	2,005,111
Total Revenue Based Fees	**4,934,937**	**2,971,610**	**3,200,510**
Pass - Through Expenses			
Office Supplies	10,000	5,900	6,200
Copiers/ Reproduction	20,000	11,800	12,400
Office Postage	22,000	13,000	13,700
ISP Payment Reimbursement	190,000	112,200	118,000
Student Testing & Assessment	326,000	192,500	202,400
Staff Recruiting/Background Checks	20,000	11,800	12,400
Staff Training/Prof. Dvlpmt	125,000	73,800	77,600
Contract School Staff	20,000	11,800	12,400
Travel and Conferences	67,000	39,600	41,600
Team Building	10,000	5,900	6,200
Maintenance & Repairs	14,000	8,300	8,700
Internet	10,000	5,900	6,200
Telephone	15,000	8,900	9,300
Office Rent	148,320	152,000	155,800
Expense Equipment	7,000	4,100	4,300
Total Pass-Through Expenses	**1,004,320**	**657,500**	**687,200**
Other School Expenses			
Accounting Services	30,000	30,000	30,000
Dues	12,000	12,000	12,000
Insurance Expenses	3,000	3,000	3,000
Legal Services	250,000	150,000	100,000
Board-Related Expenses	14,000	14,000	14,000
LiveSpeech Case Management	23,000	15,000	15,000
Summer School	37,000	37,000	37,000
Graduation Expense	45,000	25,000	25,000
Student Activities	25,000	20,000	20,000
Sponsor Fees	357,864	215,587	231,178
Accreditation	1,000	1,000	1,000
Other Curriculum	48,000	48,000	48,000
Other School Expense	5,000	5,000	5,000
Total Other School Expenses	**850,864**	**575,587**	**541,178**
Adjustments and Credits			
Contractual Service Credit	-	-	-
Total Adjustments and Credits			
Total Program Expenses Before Depreciation	**26,808,435**	**16,393,311**	**17,321,127**
Depreciation Expense	**5,500**	**5,500**	**5,500**
Total Program Expenses Including Depreciation	**26,813,935**	**16,398,811**	**17,326,627**
Net	**(801,814)**	**(686,511)**	**(491,364)**
Beginning fund balance	**2,233,325**	**1,431,511**	**745,000**
Ending fund balance	**1,431,511**	**745,000**	**253,636**

Explanation of Enrollment Projections

Every school, whether it is a virtual charter school or a traditional brick-and-mortar school, experiences fluctuations in their enrollment numbers over the course of the year. For planning purposes, we calculate four separate enrollment projections, each of which inform different aspects of school planning and budgeting.

Enrollment Metric	What It Represents	Why It Is Important for Planning
9/30 Enrollment	The number of students projected to be actively enrolled in the school as of this milestone date.	This is the number of students the school must be prepared to support at the beginning of the academic year.
Average Enrollment	The number of students projected to be enrolled in the school, on average, on a given day during the academic year.	This is the number of students, on average, the school will be supporting throughout the academic year. Understanding the average enrollment projection helps school leaders ensure they are resourced appropriately.
Funded Enrollment	A projection of the number of full-time equivalent enrollments for which the school will receive full funding for the academic year.	This substantially determines the school's revenues for the academic year and thus informs the available budget.
Total Enrollment	The number of discrete (unique) students projected to be enrolled in the school at any point over the course of the academic year. This number is inclusive of students who may subsequently withdraw from the program.	This is the number of students the school will ultimately touch during the year. This number is critical for projecting staffing/support for enrollment, student orientation/onboarding, etc.

When preparing these projections, we begin with the 9/30 enrollment projection. This projection serves as a baseline for our enrollment forecasting. A conversion factor, derived from historical school enrollment trends, is then applied to this 9/30 enrollment projection in order to calculate the remaining three enrollment projections.

6. Additional Information from the Governing Board Supporting Renewal

Supporting Data and Relevant Information

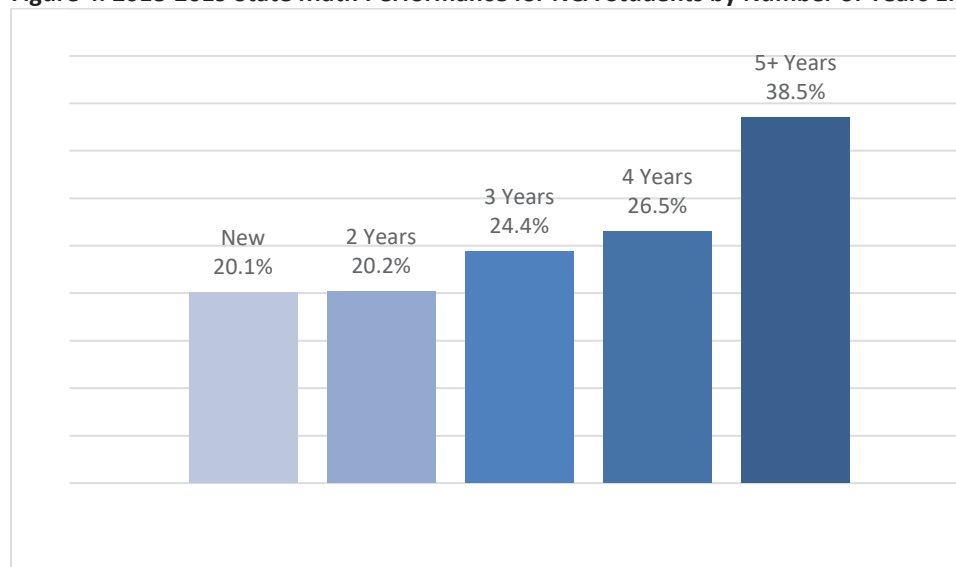### State Test Performance Trends for 2018-19

When we focus on the lowest performing students at NCA — those scoring at Below Basic on state tests in 2017-2018 — 10.9% showed improvement by moving up a level in math, and 26% showed improvement by moving up a level in English Language Arts (ELA).

Figure 3. NCA Student Improvement in Math and ELA[25]

2018-19	% Moved from Below Basic to Higher Level
Math	10.9%
ELA	26.4%

Equally important is understanding how NCA students perform when they enroll beyond the first year. With consecutive years of enrollment, NCA student performance is considerably higher, as demonstrated in Figure 9. This reality demonstrates the impact NCA's high mobility rate has on NCA's student performance measures—the more time NCA has to positively impact its students, the better the school performs on state assessment.

**Figure 4. 2018-2019 State Math Performance for NCA Students by Number of Years Enrolled[26]**

---

[25] Source: http://nevadareportcard.com/di/main/assessment
[26] Source: Nevada Connections Academy EMS Data

In ELA in 2018-19, NCA middle school students met or exceeded the state performance level at all middle school grade levels.

Figure 5. NCA ELA State Test Performance by Grade Level in 2018-2019 Relative to the State[27]

Nevada Connections Academy - ELA Test Performance

	6th Grade	7th Grade	8th Grade
NCA	47.0%	46.7%	44.8%
State	45.8%	49.9%	47.5%
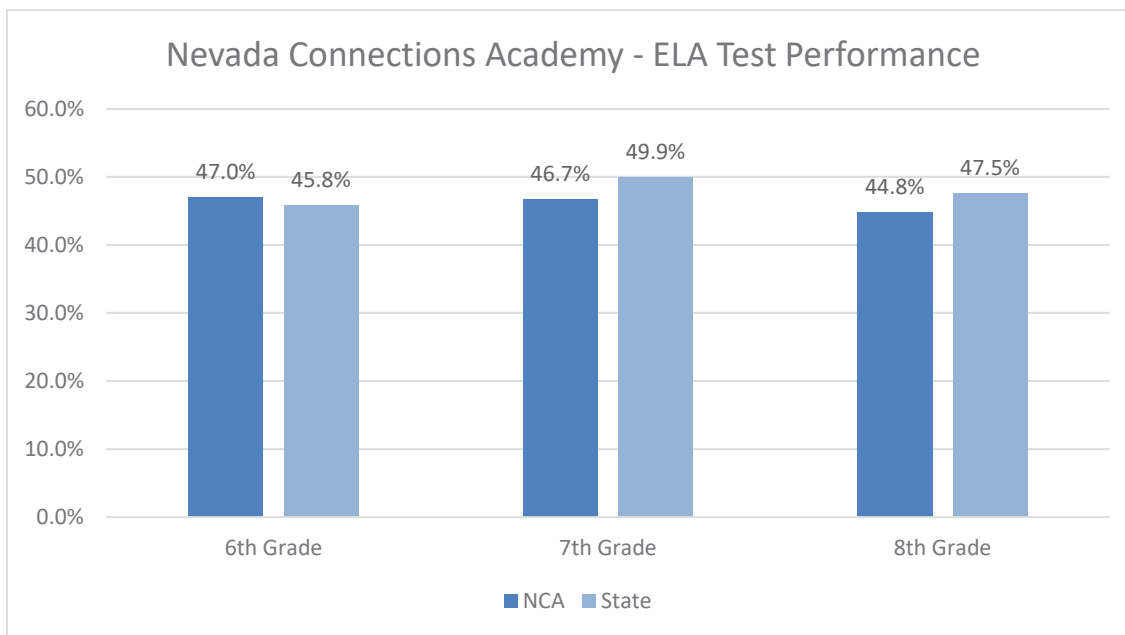
ACT Participation in 2017-18

With regard to career and college readiness, the percent of full academic year 11th and 12th graders who took the ACT **increased from 44.6% in 2016-17 to 98.1% in 2018-19**.[28]

Social Emotional Learning Survey Results for NCA

An extensive body of research has demonstrated the impact of Social and Emotional Learning (SEL) on academic achievement, positive social interactions, and college and career readiness (such as Casel.org and Zins et al., 2007). SEL helps students develop important competencies that last a lifetime, and these effects are often especially pronounced among students with complex needs such as those who enroll in virtual schools with, for example, health concerns, bullying and safety concerns, a desire to be challenged or catch up, or a need for flexibility (Pearson Efficacy Report; TransformingEducation.org; PromotePrevent.org). This evidence is compelling and has prompted a national movement toward integrating SEL into educational systems.

---

[27] Source: http://nevadareportcard.com/di/main/assessment
[28] Source: Nevada Connections Academy EMS Data

The recently released Nevada School Climate/Social Emotional Learning (NV-SCSEL) Survey shows that NCA students had consistently more positive results than the state average on social emotional learning competencies, as well as in student perceptions of engagement and safety.

NCA students also showed positive results in their perceptions of their own social and emotional competencies. Beginning in 2019-2020, the SEL skills based on the CASEL framework are being integrated into the curriculum, and the school is also working to develop and integrate interventions, teacher training, and more broadly, trauma-informed practices. The combination of SEL and academic performance measures will allow us to understand, monitor, study, and support students using the "whole student approach"[29] in a virtual setting, as well as significantly refine our ability to develop and assess the overall efficacy of our programs and services.

Exhibits 1 and 2 contain the reports for NCA middle and high school, with scores summarized in the charts that follow.

NCA Middle School

Figure 6. Nevada School Climate/Social Emotional Learning Survey Results for NCA Middle School[30]
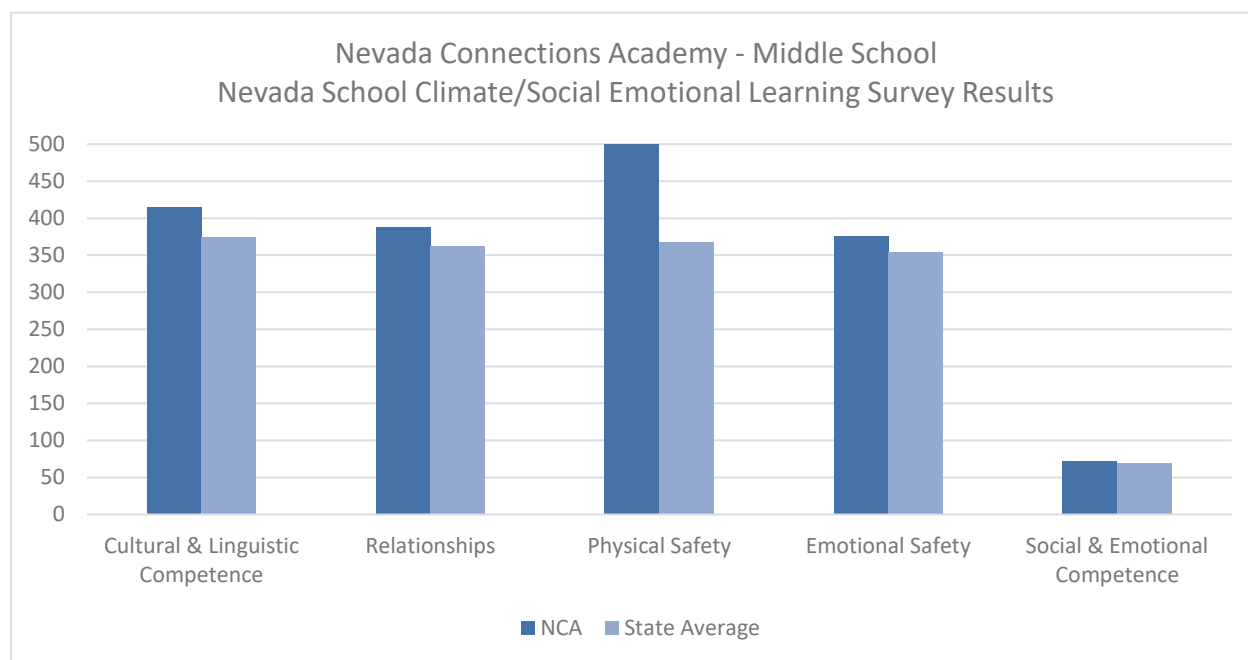
or NCA's M iddle School, NSPF points earned increased from 26.11 in 2017-18 to 40.00 in 2018-19 and increased from a one-star rating to a two-star rating.[31] Over 99% of middle school students had Academic Learning Plans[32] (one of the elements in the middle school NSP ratings). This increase is especially noteworthy given that it is exceedingly difficult for a school which serves a highly mobile

---

[29] A "whole student approach" ensures that each student is healthy, safe, engaged, supported, and challenged, sets the standard for comprehensive, sustainable school improvement and provides for long-term student success.
[30] Source: The Nevada School Climate/Social Emotional Learning Survey
[31] Source: http://nevadareportcard.com/di/main/assessment.
[32] Source: Nevada Connections Academy EMS Data

and traditionally under-served population of students to attain higher star ratings in both the middle and high schools under the existing NDE star rating framework.

For example, the population NCA serves is on a whole less likely to have matriculation and college aspirations, making heavily weighted factors related to college and career readiness difficult to satisfy. NCA attaches to this application Exhibits 9 and 11 which analyzes the requirements NCA must achieve to attain the various star ratings – better illustrating this difficulty for the Authority.[33]

NCA High School

Figure 7. Nevada School Climate/Social Emotional Learning Survey Results for NCA High School[34]
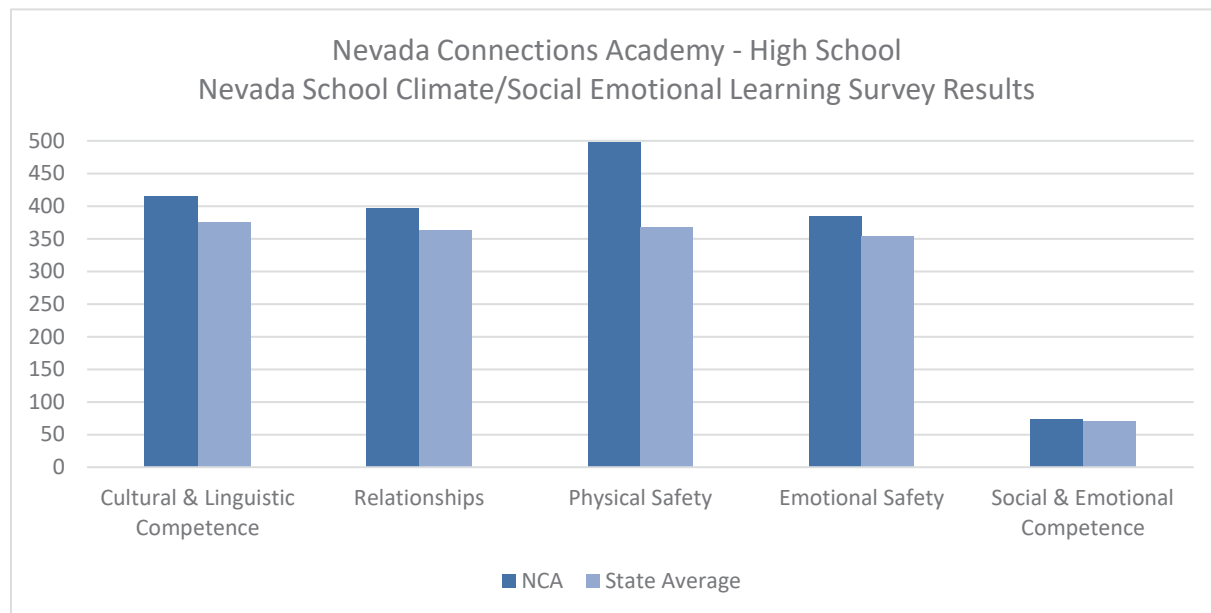
For NCA's High School, NSPF points earned increased from 12.78 in 2017-18 to 13.89 in 2018-19. The graduation rate increased by nearly 19 percentage points in 2017-18 from 45.04% to 63.77%.[35] NCA anticipates another increase in its graduation rate for the Class of 2019, but official data will not be available until December 2019. NCA would be happy to provide the Authority with the forthcoming graduation rate once it is available. With the 63.77% graduation rate for 2017-18, and the graduation rate that NCA anticipates for 2018-19, NCA will easily exceed the graduation rate benchmarks imposed by the Authority in the Charter School Contract, 49% for 2017-18 and 60% for 2018-19.[36] As mandated in the Charter School Contract, achieving these benchmarks "will be a material factor for consideration relevant in any renewal proceedings."[37]

---

[33] *See* Exhibit 9, NCA NSPF High School Framework Analysis and Exhibit 11, NCA NSPF Middle School Framework Analysis.

[34] Source: The Nevada School Climate/Social Emotional Learning Survey

[35] Source: http://nevadareportcard.com

[36] *See* Exhibit 3, NCA's Charter Contract and Exhibit 5 to Charter Contract.

[37] *See* Exhibit 3, Charter Contract Section 8.1.5.1.

All NCA grade bands made a significant improvement (in other words, experiencing a decrease) in their chronic absenteeism rate.[38] Some of this is a result of the change in the rules from 2018-19, but the improvements go beyond the rule changes; the chart below shows what the 2017-18 rates were, our estimate of what the 2017-18 rates would have been under the 2018-19 rules, and the 2018-19 rates. As you can see, the 2018-19 rates, especially at the middle school and high school levels reflect improvements beyond the changes in rules.

Figure 8. Improvements in Absenteeism Rate[39]

Grade Band	2017-18 Rate	2017-18 Rate under 2018-19 Rules	2018-19 Rate
Elementary	20.4%	10.96%	10.1%
Middle	29.7%	21.18%	11.7%
High	32.5%	24.17%	13.9%

The test participation rate was over 95% at all grade spans, both for all students and all sub-groups.[40] While test participation had not been an issue at the high school in the past, it had been a significant issue at the elementary and middle school levels, and the school invested significant resources to address this issue.

Please see Exhibits 1 and 2 in Appendix B for the full reports of the survey results.

Agenda and Draft Minutes of the Board Meeting

As required in page 6 of the template for the 2019 Application for the Renewal of a Written Charter, prior to filing this renewal application, we submitted in Epicenter the agenda and draft minutes for the meeting where the governing body voted to approve the submission of the renewal application.

---

[38] Source: http://nevadareportcard.com
[39] Source: http://nevadareportcard.com/di/main/assessment and Nevada Connections Academy EMS Data
[40] Source: http://nevadareportcard.com/di/main/assessment and Nevada Connections Academy EMS Data

Appendix A: Appendix of Figures

Contents

Figure 1. NCA's Four-Year Graduation Rate Demonstrating Positive Growth[1]

NDE-Validated Four-Year Graduation Rate
Nevada Connections Academy

- 2014-15: 36%
- 2015-16: 40%
- 2016-17: 45%
- 2017-18: 64%

% GRADUATION RATE

SCHOOL YEAR

Figure 2. NCA's Enrollment Reflecting Demand[2]

Student Enrollment
Nevada Connections Academy

- 2014-15: 2,624
- 2015-16: 2,851
- 2016-17: 3,091
- 2017-18: 3,199
- 2018-19: 3,247
- 2019-20*: 3,571

OF STUDENTS ENROLLED

SCHOOL YEAR
*AS OF SEPTEMBER 2019

[1] Source: State Public Charter School Authority 2019 Renewal Report for Nevada Connections Academy
[2] Source: Enrollment for Nevada Public Schools, http://www.doe.nv.gov/DataCenter/Enrollment/

Figure 3. The Learning Triad

OUR LEARNING TRIAD

TEACHERS
personalize lessons, evaluate student progress, provide feedback and assistance, and encourage students. Periodically, teachers facilitate real-time virtual sessions to provide targeted support based on student learning.

CURRICULUM
delivers engaging, interactive content; multimedia tools; and superb resources. It also provides teachers with continuous information on student progress.

conneXus®
is the technology that makes online learning possible. Students and Learning Coaches use the platform to connect with teachers, curriculum, and a wide range of resources.

LEARNING COACHES
typically support and motivate students and monitor schedules. Parents/Learning Coaches are also encouraged to communicate and collaborate with teachers.

STUDENTS
explore, create, and learn from home, accessing curriculum and resources via the internet. Students can contact teachers for assistance by WebMail or phone.
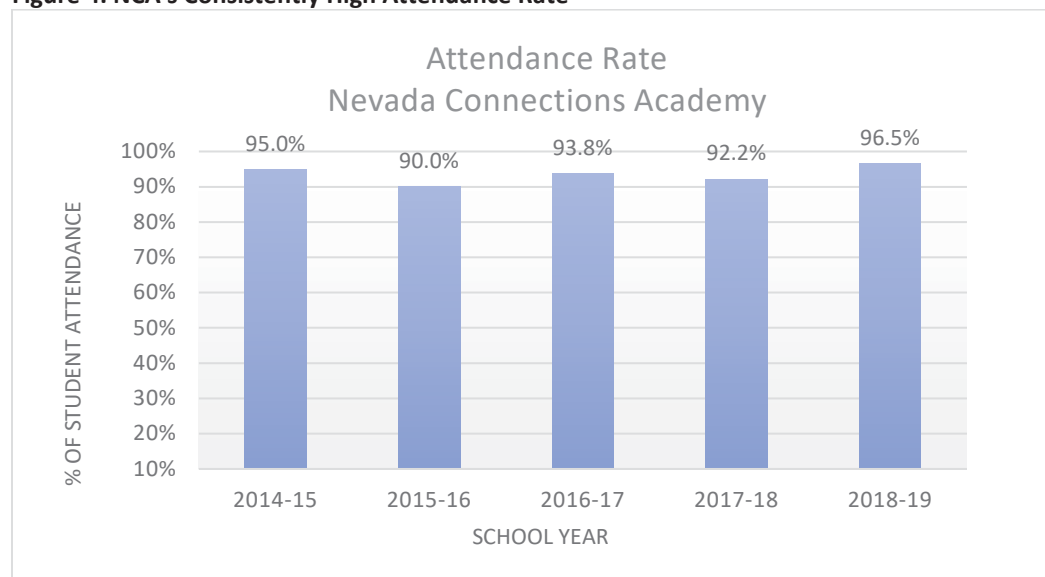
Figure 4. NCA's Consistently High Attendance Rate[3]

Attendance Rate
Nevada Connections Academy

% OF STUDENT ATTENDANCE

School Year	Rate
2014-15	95.0%
2015-16	90.0%
2016-17	93.8%
2017-18	92.2%
2018-19	96.5%

SCHOOL YEAR

Figure 5. NCA's Steadily Rising Staff Retention Rate[4]

Faculty & Staff Retention
Nevada Connections Academy

% OF RETURNING FACULTY AND STAFF

School Year	Rate
2014-15	74.2%
2015-16	77.9%
2016-17	87.3%
2017-18	87.8%
2018-19	88.1%

SCHOOL YEAR

---
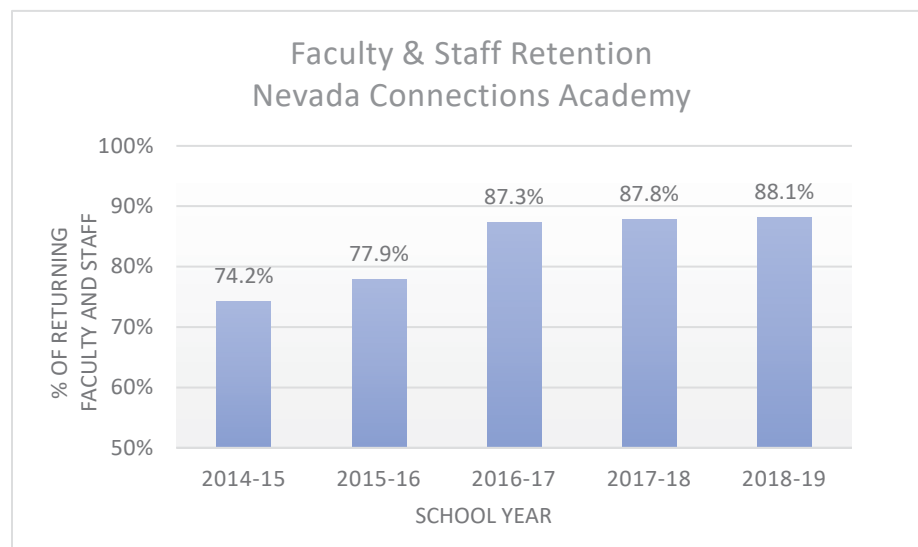
[3] Source: Nevada Connections Academy
[4] Source: Nevada Connections Academy

Figure 6. Daily Schedule of a Middle School Student

| SAMPLE MIDDLE SCHOOL STUDENT "DAY IN THE LIFE"	
Morning	Student logs on, reads and responds to messages from teachers, reviews graded assignments and upcoming lessons.
	Student logs in to participate in a math LiveLesson session and then begins work on today's math lesson.
	Student goes to the math message board to check for the unit test study guide the teacher posted after the LiveLesson session.
	Student completes a Language Arts lesson, including reading, writing, and discussing the lesson activities and text. Student complete the Language Arts lesson by taking a quiz online.
	Student takes a break from lessons after making progress on morning To Do list.
Afternoon	Student makes sandwich for lunch, and then goes for a walk outside as part of the Physical Education course.
	Student completes a science lesson and finishes working on the portfolio for Social Studies that is due tomorrow.
	Student spends time on the phone with their Spanish teacher discussing the student's most recent quiz.
	Student heads to soccer practice and then to the local library to find a new book to read.
	Learning Coach confirms lessons completed and records attendance.
	Learning Coach and student review next day's schedule and prepares accordingly.

Figure 7. Daily Schedule of a High School Student

SAMPLE HIGH SCHOOL STUDENT "DAY IN THE LIFE"	
Morning	Student logs on, reads and responds to messages from teachers, reviews graded assignments and upcoming lessons.
	Student logs in to participate in a Government LiveLesson session. Student collaborates with teacher and classmates and participates in class discussion on current events topic of the week.
	Student works on an Algebra lesson but has some trouble with a question. For help, the student accesses yesterday's recorded Algebra LiveLesson session from the teacher's message board and is able to finish the lesson successfully.
	Student completes an English lesson, including reading, writing, and discussing the lesson activities and text. Student posts on the discussion board thread as part of today's assignment.
	Student takes a break from lessons after making progress on morning To Do list.
Afternoon	Student makes plans for lunch in between scheduled LiveLesson sessions.
	Student returns from lunch and logs into their Biology LiveLesson session to review for upcoming test.
	Student heads to part-time job and then to the local library to find a new book to read.
	Student returns home and checks English discussion board for classmate posts that they can reply to for discussion assignment completion.
	Caretaker (or student over 18 with a Learning Coach account) records attendance.
	Student reviews next day's schedule and prepares accordingly.

Figure 8. NCA Student Improvement in Math and ELA[5]

2018-19	% Moved from Below Basic to Higher Level
Math	10.9%
ELA	26.4%

Figure 9. 2018-2019 State Math Performance for NCA Students by Number of Years Enrolled[6]

---
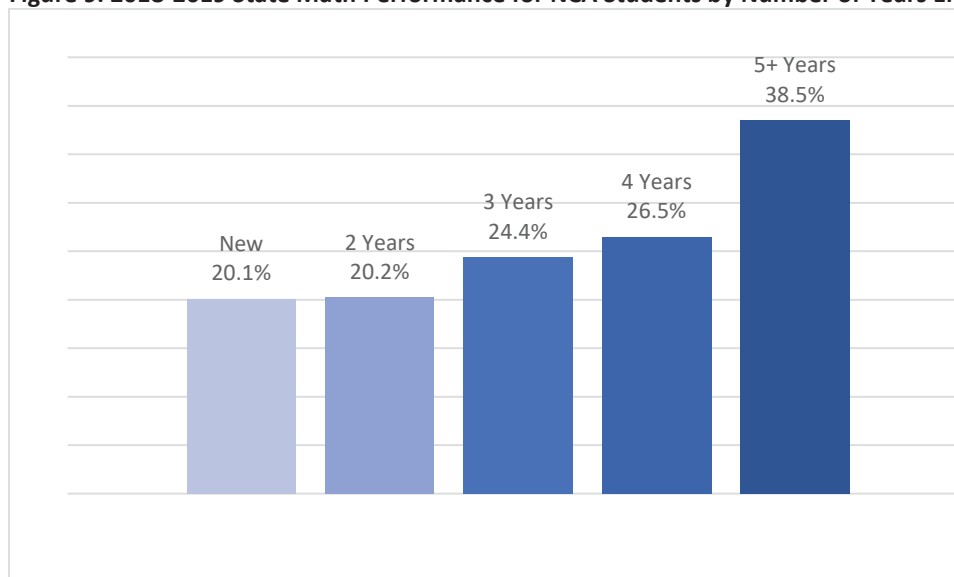
[5] Source: http://nevadareportcard.com/di/main/assessment
[6] Source: Nevada Connections Academy EMS Data

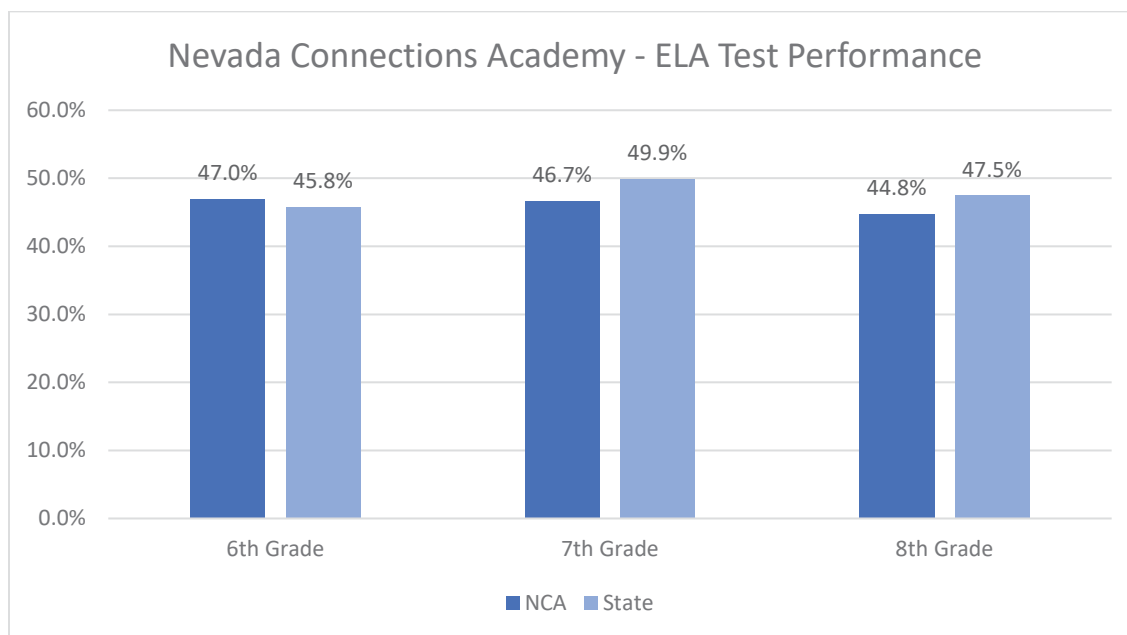**Figure 10. NCA ELA State Test Performance by Grade Level in 2018-2019 Relative to the State[7]**

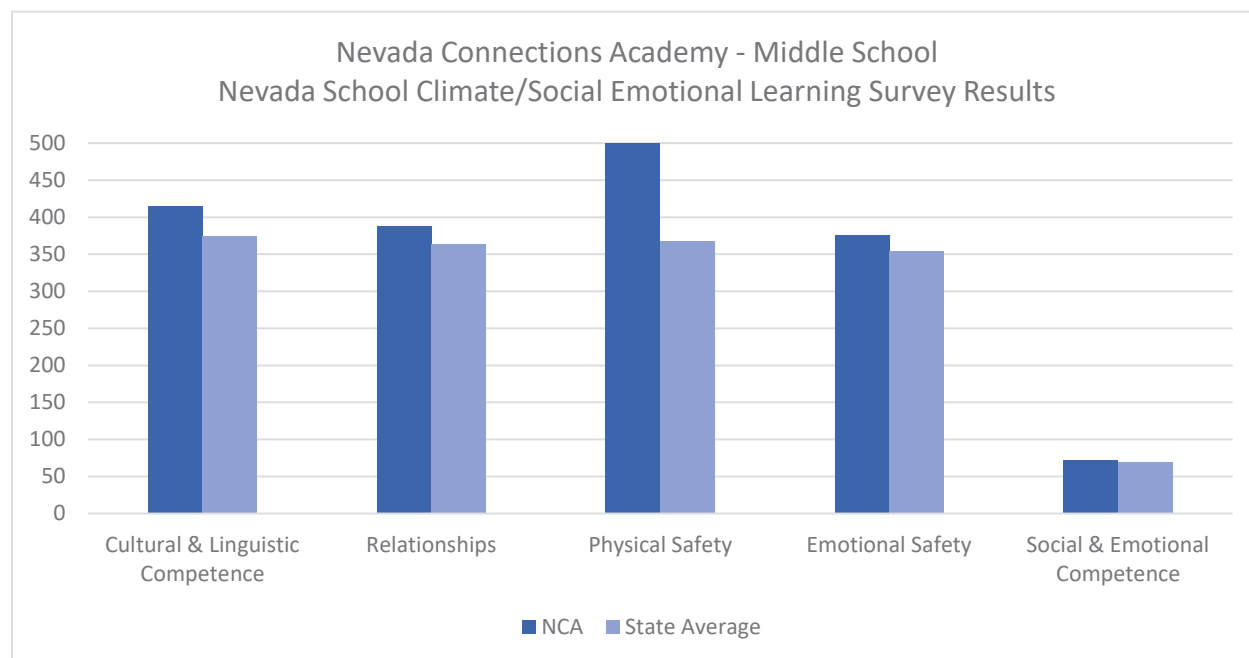**Figure 11. Nevada School Climate/Social Emotional Learning Survey Results for NCA Middle School[8]**

---

[7] Source: http://nevadareportcard.com/di/main/assessment
[8] Source: The Nevada School Climate/Social Emotional Learning Survey

Figure 12. Nevada School Climate/Social Emotional Learning Survey Results for NCA High School[9]

Nevada Connections Academy - High School
Nevada School Climate/Social Emotional Learning Survey Results
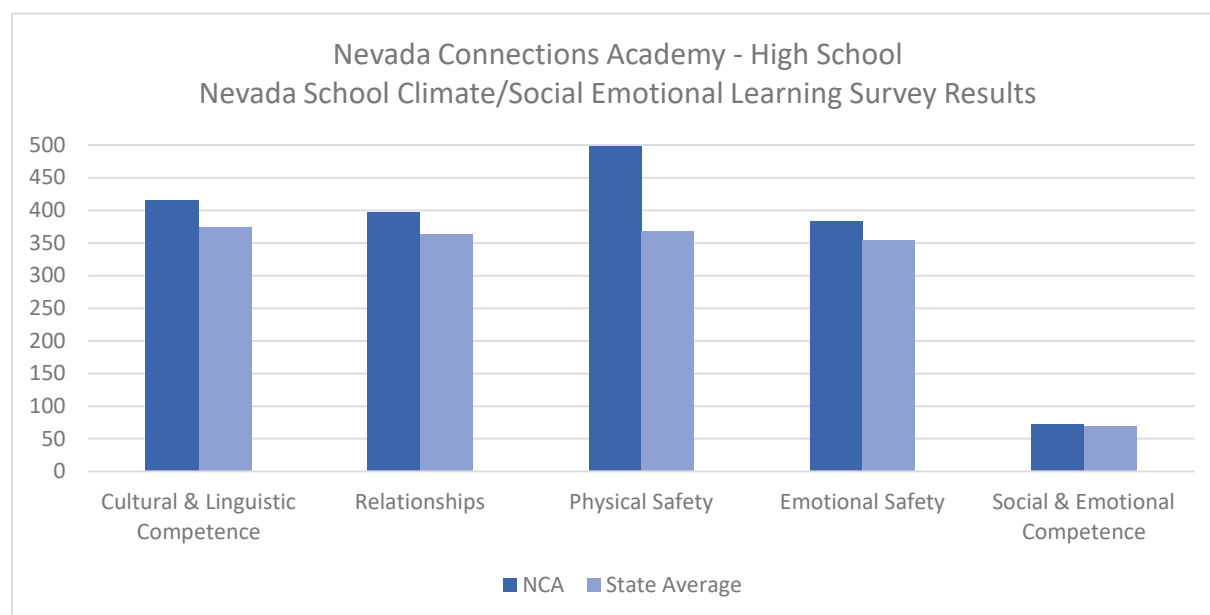
Figure 13. Improvements in Absenteeism Rate[10]

Grade Band	2017-18 Rate	2017-18 Rate under 2018-19 Rules	2018-19 Rate
Elementary	20.4%	10.96%	10.1%
Middle	29.7%	21.18%	11.7%
High	32.5%	24.17%	13.9%

---

[9] Source: The Nevada School Climate/Social Emotional Learning Survey
[10] Source: http://nevadareportcard.com/di/main/assessment and Nevada Connections Academy EMS Data

Appendix B: Appendix of Exhibits

Contents

Spring 2019

Dear Colleagues,

The Nevada School Climate / Social Emotional Learning Survey was developed specifically for the state of Nevada, and represents the priorities we all share for building positive school climates for the children of Nevada. We know that by providing a safe and accepting environment, fostering meaningful relationships, and using strength - based approaches in the classroom, our children will be set up for success academically, socially, and emotionally. However, it's not up to us to say how our students are feeling in our schools; it is the students who know whether they are engaged or whether they feel safe and accepted, feel like they belong, and feel like they have meaningful relationships and can rely upon them. This survey gives our students a voice to share their perceptions. It is our hope that you use the results of your survey to celebrate your successes and make plans for continuous improvement. Feel free to contact us at the Nevada Department of Education's Office for a Safe and Respectful Learning Environment for more ideas and support as you plan to use your results.

Working together to support Nevada's children,

Christy McGill, Director
Office for a Safe and Respectful Learning Environment

Overall Results

Engagement

Cultural and Linguistic Competence................... 415

Relationships....................................... 388

Safety

Physical Safety.................................... 500

Emotional Safety.................................. 376

Social and Emotional Competence.......... 73/100

Introduction

This report presents your school's results on the five topic areas of the *Nevada School Climate / Social Emotional Learning (NV-SCSEL) Survey*. The NV-SCSEL Survey measures students' perceptions in two domains of school climate—engagement and safety—and selected topics within those domains. The NV-SCSEL Survey also measures students' perceptions of their own social and emotional competencies.

Through these results, you can see how your school performed compared to your district and state.

What is in this report?

Pages 2–6 present overall survey results in scale scores ranging from 100 (low) to 500 (high) or percentages ranging from 0 (low) to 100 (high). These scores aggregate individual student responses at the school level to inform a broad swath of perceptions about school climate and social-emotional skills.

Pages 7–9 of this report list results for individual survey items as the percentages of students who responded in a given manner. These results can be used to provide additional context to the scale scores, but should be interpreted with caution because individual items are not as reliable as scale scores.

Results are not reported for groups with fewer than 10 students.

Planning for Improvement?

This school-level report can be used to inform decisions about how to adjust support services for students. Schools also can consider data such as safety incidents, attendance rates, and other nonacademic risk factors to evaluate the kinds of services and supports provided to students. It may be valuable to hold focus groups with your students to explore their thinking concerning each topic area.

This report also includes resources on pages 7-9. In addition, various tools are included to assist you in planning school - or districtwide climate improvements with stakeholders.

As you work with your district and school community to plan improvements, remember to focus on all students, even if the majority of students rated the school positively. Scores disaggregated by subgroup also may be useful in understanding and addressing the needs of different student populations.

Nevada Department of Education
Nevada Ready! | The Nevada School Climate / Social Emotional Learning Survey

Overall Results

What These Results Mean

The cultural and linguistic competence scale measures perceptions of how students, their peers, and school staff demonstrate empathy, understanding, and respect for different cultures and ethnic groups. As the U.S. population grows more diverse, schools have begun to recognize how cultural differences influence learning styles, communication, and behavior. Cultural competence refers to the awareness of one's own cultural identity, an understanding of differences, and the ability to learn and build on the varying cultural and community norms of students and their families. **Students who are provided culturally responsive learning environments and culturally meaningful educational experiences often feel more connected to school.**

Schools that exhibit a high level of cultural and linguistic competence have staff and students who treat each other equally well, no matter their culture, gender, gender identification, economic status, religion, or newness to the community. These schools typically provide instructional materials that reflect students' cultural backgrounds.

Results by Groups of Students

Nevada Department of Education
Nevada Ready! | The Nevada School Climate / Social Emotional Learning Survey

Overall Results

What These Results Mean

Relationships are the links and interactions between and among students, adults, and peers in the school setting; relationships foster positive social interaction and establish a nurturing environment of trust and support. Sound relationships reinforce existing feelings of connectedness to the school community, and may benefit students who typically do not feel connected to school.

Students who have supportive relationships at school and students who feel connected to their school are more likely to succeed: they have better attendance, grades, test scores, and persistence in school. These students are also less likely to experience emotional problems, substance abuse problems, or resort to violence. **Building positive relationships that foster a safe supportive learning environment and student connection to that environment is the responsibility of all who touch a school.** The school environment provides a natural setting to foster supportive relationships between and among students, adults, and peers. Relationship-building requires perspectives that embrace positive attitudes and beliefs, cultural and linguistic competence, an understanding of the needs and experiences of others, and an understanding of the school environment.

Schools with strong positive relationships may have students who report that their teachers understand them. Students may report that they can speak with adults in the building about issues. Students also may report that their peers like and respect one another.

Results by Groups of Students

Nevada Department of Education
Nevada Ready! | The Nevada School Climate
Social Emotional Learning Survey

Overall Results

What These Results Mean

Physical safety refers to the protection of all stakeholders—including families, caregivers, students, school staff, and the community—from fear of or actual exposure to physical violence, theft, intimidation, intruders, harsh punishment, and weapons. In order to establish a secure learning environment, physical safety is paramount.

For students to learn, they need to feel safe. It is essential that all students attend schools that provide a physically safe environment where they can thrive and fully engage in their studies with neither distraction nor worry about safety concerns. Students who are not fearful or worried feel more connected to their school and care more about their educational experience. Physical safety is related to higher academic performance, fewer risky behaviors, and lower dropout rates. Schools and communities can implement policies that promote student safety and prevent violence. School-based approaches such as conflict resolution and peer mediation are common. Connecting at-risk youth with local community organizations working to stop violence is another evidence-based strategy.

In schools with a high degree of physical safety, students may report feeling safe within the school building as well as while traveling between school and home. Students do not report experiencing threats or theft, and report that their peers respect school property. They trust that adults will take threats and bullying seriously and will work to protect students.

Results by Groups of Students
Some groups of students feel less positive about the Physical Safety in your school than other students. These groups include Black/African American Students.

Results by Groups of Students

Safety
Emotional Safety

Nevada Department of Education
Nevada Ready!
The Nevada School Climate
Social Emotional Learning Survey

Overall Results

376	337	354
Your School	District Average	State Average

What These Results Mean

Emotional safety refers to the range of experiences in which an individual feels open to express emotions, trusts those around him, exhibits confidence, and feels excited to try something new. A student who feels emotionally safe does not dread humiliation, embarrassment, or shame. **A sense of emotional safety stems from consistent attention to each student's emotional needs.**

Emotionally safe learning environments can be achieved when individuals in the school building balance authenticity and care without sacrificing the boundaries and hierarchy that keep students safe. Students need to feel freedom from harsh consequences, bullying, and mistreatment from adults and peers. Positive behavioral interventions and supports help engender emotionally safe environments, where respect is encouraged, and students are intentionally taught pro-social skills.

Schools that demonstrate an emotionally safe environment may have students who report strong feelings of acceptance and belonging. Students also may feel that they get along well with other students. Staff members should continue to ensure strategies that promote emotional safety are consistently implemented schoolwide.

Results by Groups of Students

Males	Females	6th Graders	7th Graders	8th Graders	White Students	Black/African American Students	Hispanic Students	Asian Students	Students of two or more races
376	376	382	372	373	379	364	381	360	368

Most favorable
Favorable
Least favorable

Overall Results

What These Results Mean

Social and emotional learning (SEL) refers to the process through which children and adults acquire and apply the knowledge, attitudes, and skills necessary to manage emotions; set and achieve positive goals; feel and exhibit empathy for others; maintain positive relationships, and make responsible decisions. SEL is fundamental not only to children's social and emotional development but also to their health, ethical development, citizenship, motivation to achieve, and academic learning.

The social and emotional competence composite score measures students' perceptions of their own skills in the areas of self-awareness, social awareness, self-management, relationship skills, and responsible decision making. **Developing students' SEL skills improves their grades, attendance, behavior, and attitudes toward school.** Many risky behaviors (e.g., drug use, violence) can be prevented when schools strive to develop students' social and emotional skills through effective SEL instruction and student engagement with positive activities. Students with good social and emotional skills are less likely to drop out of school.

In schools where social and emotional competence scores are high, students report that social and emotional skills are very easy for them to employ. For example, students may report that they have little difficulty recognizing their own emotions, learning from others with different opinions, or finishing challenging tasks. Students also may report that they have an easy time calming themselves and showing empathy.

Results by Groups of Students

Cultural and Linguistic Competence

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. All students are treated the same, regardless of whether their families are rich or poor.	**57**	32	9	1
2. Boys and girls are treated equally well.	**53**	37	8	2
3. This school provides instructional materials (e.g., textbooks, handouts) that reflect my cultural background, ethnicity, and identity.	34	**53**	11	2
4. Adults working at this school treat all students respectfully.	**51**	45	3	1
5. People of different cultural backgrounds, races, or ethnicities get along well at this school.	44	**54**	2	0

Strengthen Cultural and Linguistic Competence:
Approaches to increasing the cultural and linguistic competence of the environment include self-assessing implicit biases and perceptions, adding children's literature from diverse authors to classroom libraries, emphasizing the importance of global events within curriculum, and advocating for fair and equitable treatment of all individuals within the school community. Instituting culturally inclusive family engagement nights may be another method to bridge culture gaps and ameliorate misunderstandings.

Resources:
- Teaching Tolerance (http://www.tolerance.org)
- Teachers College Inclusive Classrooms Project (http://www.inclusiveclassrooms.org)
- Association for Supervision and Curriculum Development – Multicultural Education (http://www.ascd.org/research-a-topic/multicultural-education-resources.aspx)
- The National Center for Safe Supportive Learning Environments (https://safesupportivelearning.ed.gov/topic-research/engagement/cultural-linguistic-competence)

Relationships

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Teachers understand my problems.	28	**56**	14	2
2. Teachers are available when I need to talk with them.	37	**54**	8	1
3. It is easy to talk with teachers at this school.	34	**54**	10	3
4. My teachers care about me.	38	**58**	4	1
5. My teachers make me feel good about myself.	32	**59**	8	1
6. Students respect one another.	30	**64**	5	0
7. Students like one another.	24	**71**	5	1
8. If I am absent, there is a teacher or some other adult at school that will notice my absence.	29	**51**	16	4

Build Relationships:
To improve relationships, schools might benefit from hosting relationship-building activities throughout the school community, encouraging students and adults to model effective communication and judgment, or offering teacher or support staff check-ins with all students on an ongoing basis.

Resources:
- Family and Youth Services Bureau (https://www.acf.hhs.gov/fysb)
- Adolescent and School Health (https://www.cdc.gov/healthyyouth/protective/school_connectedness.htm)
- Community Matters (http://www.community-matters.org)
- National Mentoring Resource Center (http://www.nationalmentoringresourcecenter.org/)
- The National Center for Safe Supportive Learning Environments (https://safesupportivelearning.ed.gov/topic-research/engagement/relationships/)

Nevada Department of Education
Nevada Ready! The Nevada School Climate
Social Emotional Learning Survey

Physical Safety

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I feel safe at this school.	**52**	44	3	2
2. I feel safe going to and from this school.	**50**	47	2	1
3. I sometimes stay home because I don't feel safe at this school.	2	5	34	**59**
4. Students at this school carry guns or knives to school.	1	1	20	**77**
5. Students at this school threaten to hurt other students.	1	3	26	**70**
6. Students at this school steal money, electronics, or other valuable things while at school.	1	2	21	**77**
7. Students at this school damage or destroy other students' property.	1	2	22	**76**
8. Students at this school fight a lot.	0	3	27	**70**

Promote Physical Safety

Schools may consider partnering with community youth serving and law enforcement agencies to strategize how to enhance physical safety on school grounds, and may consider implementing peer-to-peer conflict resolution strategies.

Resources:

- Keep Schools Safe (http://www.keepschoolssafe.org)
- SaferSanerSchools (http://www.safersanerschools.org)
- The National Center on Safe Supportive Learning Environments (https://safesupportivelearning.ed.gov/topic-research/safety)
- The National School Safety Center (http://www.schoolsafety.us)
- OSEP TA Center for PBIS (http://www.ncjfcj.org/our-work/office-special-education-osep-technical-assistance-center-positive-behavioral-interventions)

Emotional Safety

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I feel like I belong.	27	**57**	11	5
2. Students at this school get along well with each other.	29	**68**	3	0
3. At this school, students talk about the importance of understanding their own feelings and the feelings of others.	14	**56**	25	5
4. At this school, students work on listerning to others to understand what they are trying to say.	22	**67**	9	1
5. I am happy to be at this school.	41	**44**	9	5
6. I feel like I am part of this school.	32	**50**	12	6
7. I feel socially accepted.	27	**58**	11	5

Enhance Emotional Safety

Schools wishing to improve emotional safety may try employing cooperative learning techniques, instituting crossgrade student mentoring, Implementing a multi-tiered system of behavioral support, or launching a peer mediation program.

Resources:

- The Learning Classroom: Feelings Count - Emotions and Learning (http://www.learner.org/courses/learningclassroom/session_overviews/emotion_home5.html)
- Active Minds (http://activeminds.org/index.php)
- New York State Center for School Safety (http://www.nyscfss.org)
- Promote Prevent (http://www.promoteprevent.org)
- The National Center on Safe Supportive Learning Environments (https://safesupportivelearning.ed.gov/topic-research/safety/emotional-safety)

Bullying

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Students at this school are often bullied.	1	2	38	**59**
2. Students at this school try to stop bullying.	29	**60**	7	4
3. Students often spread mean rumors or lies about others at this school on the internet (i.e., Facebook™, email, and instant message).	2	4	40	**54**

Nevada Department of Education
Nevada Ready! | The Nevada School Climate Social Emotional Learning Survey

Social and Emotional Competencies

Self-Awareness	Very Easy	Easy	Difficult	Very Difficult
1. Knowing what my strengths are.	20	**62**	16	1
2. Knowing ways I calm myself down.	25	**50**	21	5
3. Knowing the emotions I feel.	30	**48**	19	3
4. Knowing when my feelings are making it hard for me to focus.	30	**50**	18	2

Social Awareness	Very Easy	Easy	Difficult	Very Difficult
1. Knowing what people may be feeling by the look on their face.	27	**49**	21	3
2. Learning from people with different opinions than me.	22	**56**	19	3
3. Knowing when someone needs help.	31	**57**	11	1

Self-Management	Very Easy	Easy	Difficult	Very Difficult
1. Getting through something even when I feel frustrated.	6	35	**47**	12
2. Being patient even when I am really excited.	13	**45**	34	8
3. Finishing tasks even if they are hard for me.	8	38	**45**	9
4. Setting goals for myself.	21	**51**	24	5
5. Doing my schoolwork even when I do not feel like it.	12	**44**	35	9
6. Being prepared for tests.	8	**53**	34	4

Relationship Skills	Very Easy	Easy	Difficult	Very Difficult
1. Getting along with my classmates.	35	**52**	9	4
2. Respecting a classmate's opinions during a disagreement.	34	**59**	6	1

Responsible Decision-Making	Very Easy	Easy	Difficult	Very Difficult
1. Thinking about what might happen before making a decision.	19	**53**	23	5
2. Knowing what is right or wrong.	44	**48**	7	1

Boost Social and Emotional Competencies

Schools can implement universal SEL instruction and focus on integrating SEL skill-building opportunities into the instructional day. Item-level responses will help school staff identify particular areas in which students struggle. From there, staff members may implement targeted interventions for particular skills or student subgroups. For example, students may need assistance with setting goals or listening to others' perspectives in class discussions.

Resources:

- CASEL: Collaborative for Academic, Social, and Emotional Learning (http://www.casel.org)
- Edutopia (http://www.edutopia.org/social-emotional-learning)
- National School Climate Center (http://www.schoolclimate.org)
- Teaching the Whole Child: Instructional Practices That Support Social and Emotional Learning in Three Teacher Evaluation Frameworks ' (http://www.gtlcenter.org/sites/default/files/TeachingtheWholeChild.pdf) '
- Promote Prevent (http://www.promoteprevent.org/)
- Social and Emotional Learning and Character Development Certificate Program (http://psych.rutgers.edu/sel)

Spring 2019

Dear Colleagues,

The Nevada School Climate / Social Emotional Learning Survey was developed specifically for the state of Nevada, and represents the priorities we all share for building positive school climates for the children of Nevada. We know that by providing a safe and accepting environment, fostering meaningful relationships, and using strength - based approaches in the classroom, our children will be set up for success academically, socially, and emotionally. However, it's not up to us to say how our students are feeling in our schools; it is the students who know whether they are engaged or whether they feel safe and accepted, feel like they belong, and feel like they have meaningful relationships and can rely upon them. This survey gives our students a voice to share their perceptions. It is our hope that you use the results of your survey to celebrate your successes and make plans for continuous improvement. Feel free to contact us at the Nevada Department of Education's Office for a Safe and Respectful Learning Environment for more ideas and support as you plan to use your results.

Working together to support Nevada's children,

Christy McGill, Director
Office for a Safe and Respectful Learning Environment

Overall Results

Engagement

Cultural and Linguistic Competence................... 415

Relationships... 397

Safety

Physical Safety.. 498

Emotional Safety... 384

Social and Emotional Competence.......... 74/100

Introduction

This report presents your school's results on the five topic areas of the *Nevada School Climate / Social Emotional Learning (NV-SCSEL) Survey*. The NV-SCSEL Survey measures students' perceptions in two domains of school climate—engagement and safety—and selected topics within those domains. The NV-SCSEL Survey also measures students' perceptions of their own social and emotional competencies.

Through these results, you can see how your school performed compared to your district and state.

What is in this report?

Pages 2–6 present overall survey results in scale scores ranging from 100 (low) to 500 (high) or percentages ranging from 0 (low) to 100 (high). These scores aggregate individual student responses at the school level to inform a broad swath of perceptions about school climate and social-emotional skills.

Pages 7–9 of this report list results for individual survey items as the percentages of students who responded in a given manner. These results can be used to provide additional context to the scale scores, but should be interpreted with caution because individual items are not as reliable as scale scores.

Results are not reported for groups with fewer than 10 students.

Planning for Improvement?

This school-level report can be used to inform decisions about how to adjust support services for students. Schools also can consider data such as safety incidents, attendance rates, and other nonacademic risk factors to evaluate the kinds of services and supports provided to students. It may be valuable to hold focus groups with your students to explore their thinking concerning each topic area.

This report also includes resources on pages 7-9. In addition, various tools are included to assist you in planning school - or districtwide climate improvements with stakeholders.

As you work with your district and school community to plan improvements, remember to focus on all students, even if the majority of students rated the school positively. Scores disaggregated by subgroup also may be useful in understanding and addressing the needs of different student populations.
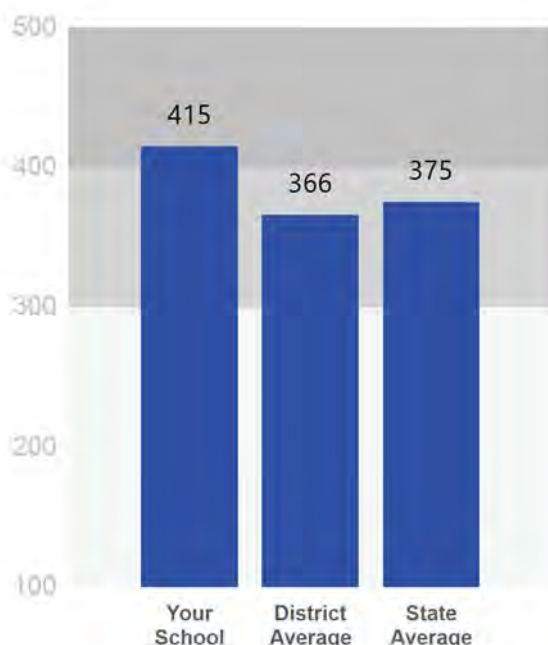
Overall Results

Your School: 415
District Average: 366
State Average: 375

What These Results Mean

The cultural and linguistic competence scale measures perceptions of how students, their peers, and school staff demonstrate empathy, understanding, and respect for different cultures and ethnic groups. As the U.S. population grows more diverse, schools have begun to recognize how cultural differences influence learning styles, communication, and behavior. Cultural competence refers to the awareness of one's own cultural identity, an understanding of differences, and the ability to learn and build on the varying cultural and community norms of students and their families. **Students who are provided culturally responsive learning environments and culturally meaningful educational experiences often feel more connected to school.**

Schools that exhibit a high level of cultural and linguistic competence have staff and students who treat each other equally well, no matter their culture, gender, gender identification, economic status, religion, or newness to the community. These schools typically provide instructional materials that reflect students' cultural backgrounds.

Results by Groups of Students
Some groups of students feel more positive about the Cultural and Linguistic Competence in your school than other students. These groups include 12th Graders.

Results by Groups of Students

Males: 421
Females: 411
9th Graders: 407
10th Graders: 409
11th Graders: 423
12th Graders: 435
White Students: 419
Black/African American Students: 410
Hispanic Students: 414
Asian Students: 425
Students of two or more races: 404

Most favorable
Favorable
Least favorable

Overall Results

What These Results Mean

Relationships are the links and interactions between and among students, adults, and peers in the school setting; relationships foster positive social interaction and establish a nurturing environment of trust and support. Sound relationships reinforce existing feelings of connectedness to the school community, and may benefit students who typically do not feel connected to school.

Students who have supportive relationships at school and students who feel connected to their school are more likely to succeed: they have better attendance, grades, test scores, and persistence in school. These students are also less likely to experience emotional problems, substance abuse problems, or resort to violence. **Building positive relationships that foster a safe supportive learning environment and student connection to that environment is the responsibility of all who touch a school.** The school environment provides a natural setting to foster supportive relationships between and among students, adults, and peers. Relationship-building requires perspectives that embrace positive attitudes and beliefs, cultural and linguistic competence, an understanding of the needs and experiences of others, and an understanding of the school environment.

Schools with strong positive relationships may have students who report that their teachers understand them. Students may report that they can speak with adults in the building about issues. Students also may report that their peers like and respect one another.

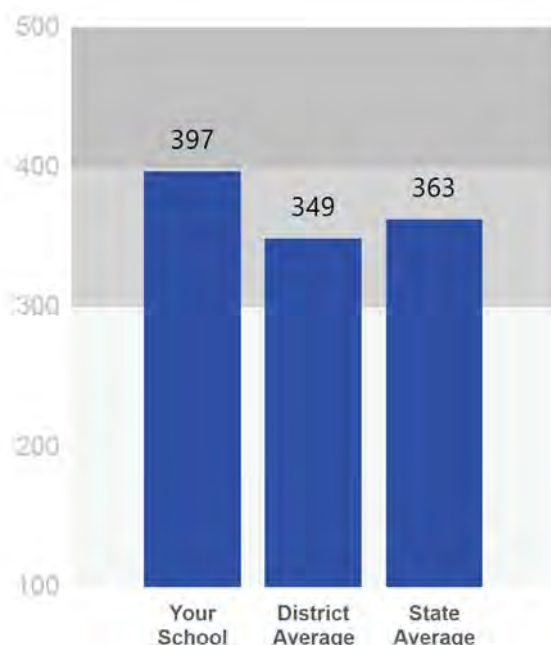### Results by Groups of Students
Some groups of students feel more positive about the Relationships in your school than other students. These groups include 12th Graders.

Results by Groups of Students

Overall Results

What These Results Mean

Physical safety refers to the protection of all stakeholders—including families, caregivers, students, school staff, and the community—from fear of or actual exposure to physical violence, theft, intimidation, intruders, harsh punishment, and weapons. In order to establish a secure learning environment, physical safety is paramount.

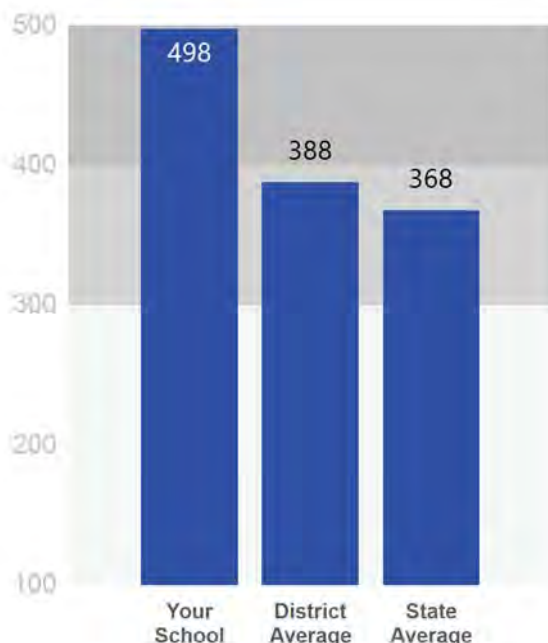**For students to learn, they need to feel safe.** It is essential that all students attend schools that provide a physically safe environment where they can thrive and fully engage in their studies with neither distraction nor worry about safety concerns. Students who are not fearful or worried feel more connected to their school and care more about their educational experience. Physical safety is related to higher academic performance, fewer risky behaviors, and lower dropout rates. Schools and communities can implement policies that promote student safety and prevent violence. School-based approaches such as conflict resolution and peer mediation are common. Connecting at-risk youth with local community organizations working to stop violence is another evidence-based strategy.

In schools with a high degree of physical safety, students may report feeling safe within the school building as well as while traveling between school and home. Students do not report experiencing threats or theft, and report that their peers respect school property. They trust that adults will take threats and bullying seriously and will work to protect students.

Results by Groups of Students
Some groups of students feel less positive about the Physical Safety in your school than other students. These groups include Black/African American Students.

Results by Groups of Students

Overall Results

What These Results Mean

Emotional safety refers to the range of experiences in which an individual feels open to express emotions, trusts those around him, exhibits confidence, and feels excited to try something new. A student who feels emotionally safe does not dread humiliation, embarrassment, or shame. **A sense of emotional safety stems from consistent attention to each student's emotional needs.**

Emotionally safe learning environments can be achieved when individuals in the school building balance authenticity and care without sacrificing the boundaries and hierarchy that keep students safe. Students need to feel freedom from harsh consequences, bullying, and mistreatment from adults and peers. Positive behavioral interventions and supports help engender emotionally safe environments, where respect is encouraged, and students are intentionally taught pro-social skills.

Schools that demonstrate an emotionally safe environment may have students who report strong feelings of acceptance and belonging. Students also may feel that they get along well with other students. Staff members should continue to ensure strategies that promote emotional safety are consistently implemented schoolwide.
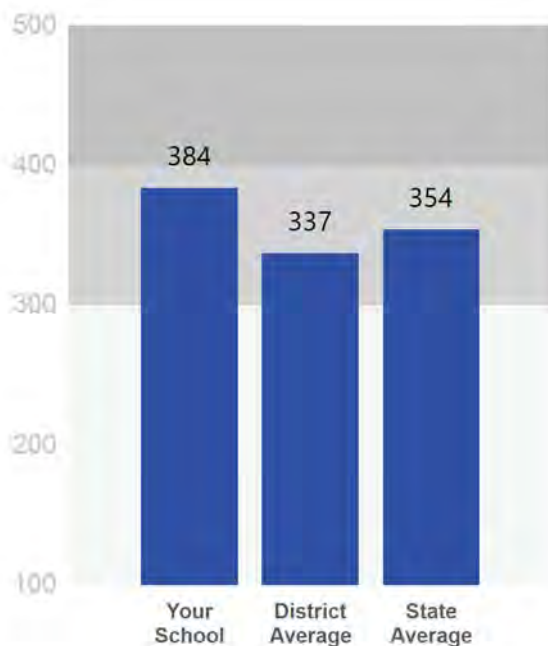
Results by Groups of Students
Some groups of students feel more positive about the Emotional Safety in your school than other students. These groups include 12th Graders.

Results by Groups of Students

Nevada Department of Education
Nevada Ready! | The Nevada School Climate
Social Emotional Learning Survey

Overall Results

What These Results Mean

Social and emotional learning (SEL) refers to the process through which children and adults acquire and apply the knowledge, attitudes, and skills necessary to manage emotions; set and achieve positive goals; feel and exhibit empathy for others; maintain positive relationships, and make responsible decisions. SEL is fundamental not only to children's social and emotional development but also to their health, ethical development, citizenship, motivation to achieve, and academic learning.

The social and emotional competence composite score measures students' perceptions of their own skills in the areas of self-awareness, social awareness, self-management, relationship skills, and responsible decision making. **Developing students' SEL skills improves their grades, attendance, behavior, and attitudes toward school.** Many risky behaviors (e.g., drug use, violence) can be prevented when schools strive to develop students' social and emotional skills through effective SEL instruction and student engagement with positive activities. Students with good social and emotional skills are less likely to drop out of school.

In schools where social and emotional competence scores are high, students report that social and emotional skills are very easy for them to employ. For example, students may report that they have little difficulty recognizing their own emotions, learning from others with different opinions, or finishing challenging tasks. Students also may report that they have an easy time calming themselves and showing empathy.

Results by Groups of Students

Cultural and Linguistic Competence

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. All students are treated the same, regardless of whether their families are rich or poor.	**55**	33	8	4
2. Boys and girls are treated equally well.	**50**	38	9	3
3. This school provides instructional materials (e.g., textbooks, handouts) that reflect my cultural background, ethnicity, and identity.	32	**57**	9	2
4. Adults working at this school treat all students respectfully.	**57**	40	3	0
5. People of different cultural backgrounds, races, or ethnicities get along well at this school.	44	**54**	1	1

Strengthen Cultural and Linguistic Competence:
Approaches to increasing the cultural and linguistic competence of the environment include self-assessing implicit biases and perceptions, adding children's literature from diverse authors to classroom libraries, emphasizing the importance of global events within curriculum, and advocating for fair and equitable treatment of all individuals within the school community. Instituting culturally inclusive family engagement nights may be another method to bridge culture gaps and ameliorate misunderstandings.

Resources:
- Teaching Tolerance (http://www.tolerance.org)
- Teachers College Inclusive Classrooms Project (http://www.inclusiveclassrooms.org)
- Association for Supervision and Curriculum Development – Multicultural Education (http://www.ascd.org/research-a-topic/multicultural-education-resources.aspx)
- The National Center for Safe Supportive Learning Environments (https://safesupportivelearning.ed.gov/topic-research/engagement/cultural-linguistic-competence)

Relationships

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Teachers understand my problems.	33	**55**	10	2
2. Teachers are available when I need to talk with them.	46	**48**	5	1
3. It is easy to talk with teachers at this school.	44	**48**	6	2
4. My teachers care about me.	43	**53**	4	1
5. My teachers make me feel good about myself.	33	**59**	7	1
6. Students respect one another.	34	**61**	4	1
7. Students like one another.	25	**68**	5	1
8. If I am absent, there is a teacher or some other adult at school that will notice my absence.	26	**55**	16	3

Build Relationships:
To improve relationships, schools might benefit from hosting relationship-building activities throughout the school community, encouraging students and adults to model effective communication and judgment, or offering teacher or support staff check-ins with all students on an ongoing basis.

Resources:
- Family and Youth Services Bureau (https://www.acf.hhs.gov/fysb)
- Adolescent and School Health (https://www.cdc.gov/healthyyouth/protective/school_connectedness.htm)
- Community Matters (http://www.community-matters.org)
- National Mentoring Resource Center (http://www.nationalmentoringresourcecenter.org/)
- The National Center for Safe Supportive Learning Environments (https://safesupportivelearning.ed.gov/topic-research/engagement/relationships/)

Safety

The Nevada School Climate
Social Emotional Learning Survey

Physical Safety

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I feel safe at this school.	**52**	47	1	1
2. I feel safe going to and from this school.	**51**	46	1	1
3. I sometimes stay home because I don't feel safe at this school.	3	5	35	**57**
4. Students at this school carry guns or knives to school.	1	2	23	**74**
5. Students at this school threaten to hurt other students.	1	2	27	**70**
6. Students at this school steal money, electronics, or other valuable things while at school.	1	1	25	**73**
7. Students at this school damage or destroy other students' property.	1	1	25	**73**
8. Students at this school fight a lot.	1	1	29	**69**

Promote Physical Safety

Schools may consider partnering with community youth serving and law enforcement agencies to strategize how to enhance physical safety on school grounds, and may consider implementing peer-to-peer conflict resolution strategies.

Resources:
- Keep Schools Safe (http://www.keepschoolssafe.org)
- SaferSanerSchools (http://www.safersanerschools.org)
- The National Center on Safe Supportive Learning Environments (https://safesupportivelearning.ed.gov/topic-research/safety)
- The National School Safety Center (http://www.schoolsafety.us)
- OSEP TA Center for PBIS (http://www.ncjfcj.org/our-work/office-special-education-osep-technical-assistance-center-positive-behavioral-interventions)

Emotional Safety

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I feel like I belong.	28	**57**	12	3
2. Students at this school get along well with each other.	31	**65**	3	1
3. At this school, students talk about the importance of understanding their own feelings and the feelings of others.	18	**51**	26	5
4. At this school, students work on listerning to others to understand what they are trying to say.	23	**66**	10	2
5. I am happy to be at this school.	**47**	44	6	3
6. I feel like I am part of this school.	38	**50**	10	2
7. I feel socially accepted.	31	**55**	11	4

Enhance Emotional Safety

Schools wishing to improve emotional safety may try employing cooperative learning techniques, instituting crossgrade student mentoring, Implementing a multi-tiered system of behavioral support, or launching a peer mediation program.

Resources:
- The Learning Classroom: Feelings Count - Emotions and Learning (http://www.learner.org/courses/learningclassroom/session_overviews/emotion_home5.html)
- Active Minds (http://activeminds.org/index.php)
- New York State Center for School Safety (http://www.nyscfss.org)
- Promote Prevent (http://www.promoteprevent.org)
- The National Center on Safe Supportive Learning Environments (https://safesupportivelearning.ed.gov/topic-research/safety/emotional-safety)

Bullying

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Students at this school are often bullied.	1	2	36	**61**
2. Students at this school try to stop bullying.	30	**58**	8	4
3. Students often spread mean rumors or lies about others at this school on the internet (i.e., Facebook™, email, and instant message).	2	3	39	**57**

Nevada School Climate / Social Emotional Learning

8
B-18

Social and Emotional Competencies

Self-Awareness	Very Easy	Easy	Difficult	Very Difficult
1. Knowing what my strengths are.	21	**61**	17	1
2. Knowing ways I calm myself down.	25	**49**	21	5
3. Knowing the emotions I feel.	28	**47**	22	3
4. Knowing when my feelings are making it hard for me to focus.	33	**50**	16	2

Social Awareness	Very Easy	Easy	Difficult	Very Difficult
1. Knowing what people may be feeling by the look on their face.	26	**52**	18	4
2. Learning from people with different opinions than me.	28	**54**	17	1
3. Knowing when someone needs help.	29	**58**	13	1

Self-Management	Very Easy	Easy	Difficult	Very Difficult
1. Getting through something even when I feel frustrated.	11	31	**48**	10
2. Being patient even when I am really excited.	18	**48**	29	5
3. Finishing tasks even if they are hard for me.	9	39	**42**	11
4. Setting goals for myself.	22	**44**	29	5
5. Doing my schoolwork even when I do not feel like it.	14	**41**	36	9
6. Being prepared for tests.	13	**50**	31	6

Relationship Skills	Very Easy	Easy	Difficult	Very Difficult
1. Getting along with my classmates.	35	**52**	8	4
2. Respecting a classmate's opinions during a disagreement.	39	**54**	6	1

Responsible Decision-Making	Very Easy	Easy	Difficult	Very Difficult
1. Thinking about what might happen before making a decision.	26	**55**	18	2
2. Knowing what is right or wrong.	**53**	42	5	0

Boost Social and Emotional Competencies

Schools can implement universal SEL instruction and focus on integrating SEL skill-building opportunities into the instructional day. Item-level responses will help school staff identify particular areas in which students struggle. From there, staff members may implement targeted interventions for particular skills or student subgroups. For example, students may need assistance with setting goals or listening to others' perspectives in class discussions.

Resources:
- CASEL: Collaborative for Academic, Social, and Emotional Learning (http://www.casel.org)
- Edutopia (http://www.edutopia.org/social-emotional-learning)
- National School Climate Center (http://www.schoolclimate.org)
- Teaching the Whole Child: Instructional Practices That Support Social and Emotional Learning in Three Teacher Evaluation Frameworks ' (http://www.gtlcenter.org/sites/default/files/TeachingtheWholeChild.pdf) '
- Promote Prevent (http://www.promoteprevent.org/)
- Social and Emotional Learning and Character Development Certificate Program (http://psych.rutgers.edu/sel)

CHARTER SCHOOL CONTRACT

between

State Public Charter School Authority

and

Nevada Connections Academy

Contents

Nevada Connections Academy

Nevada Connections Academy

Nevada Connections Academy

B-23

CHARTER CONTRACT

This agreement constitutes a Charter Contract (the "Charter Contract") executed between the State Public Charter School Authority (the "Authority"), and Nevada Connections Academy ("NCA") (collectively, the "Parties") to continue operations of the Nevada Connections Academy (the "Charter School"), an independent and autonomous public school authorized to operate in the State of Nevada.

RECITALS

WHEREAS, The primary consideration of the legislature in enacting legislation to authorize charter schools is to serve the best interests of all pupils, including pupils who may be at risk; and

WHEREAS, The intention of the legislature is to provide:

1. The board of trustees of school districts with a method to experiment with providing a variety of independent public schools to the pupils of this state;

2. A framework for such experimentation;

3. A mechanism by which the results achieved by charter schools may be measured and analyzed; and

4. A procedure by which the positive results achieved by charter schools may be replicated and the negative results may be identified and eliminated; and

WHEREAS, It is further the intention of the legislature to provide teachers and other educational personnel, parents, legal guardians and other persons who are interested in the system of public education in this state the opportunity to:

1. Improve the learning of pupils and, by extension, improve the system of public education;

2. Increase the opportunities for learning and access to quality education by pupils;

3. Encourage the use of different and innovative teaching methods;

4. Establish appropriate measures for and assessments of the learning achieved by pupils who are enrolled in charter schools;

5

Nevada Connections Academy

5. Provide a more thorough and efficient system of accountability of the results achieved in public education in this state; and

6. Create new professional opportunities for teachers and other educational personnel, including, without limitation, the opportunity to increase the accessibility and responsibility of teachers and other educational personnel for the program of learning offered;

WHEREAS, The Authority is authorized by the Legislature to sponsor charter schools pursuant to NRS 386.509; and

WHEREAS, in May 2013, the Authority approved the application for renewal of the charter for the Charter School; and

WHEREAS, the Parties intend that this Charter Contract serve as a performance contract that governs the operation of the Charter School and sets forth benchmarks for NCA's implementation of its Graduation Rate Improvement Plan;

NOW THEREFORE, in consideration of the mutual covenants, representations, warranties, and agreements contained herein and for other good and lawful consideration, the receipt and sufficiency of which is hereby acknowledged, the Authority and Charter School agree as follows:

Nevada Connections Academy

Part I: Operation of the School

1.1 Establishment

1.1.1 As authorized by the Nevada Revised Statute (NRS) 388A.150, the Authority hereby authorizes the operation of the Charter School with the aforementioned conditions, and in accordance with the terms and conditions set forth in this Charter Contract.

1.1.2 This Charter Contract is entered into between the Charter School, its governing body (the "Charter Board") and the Authority.

1.2 Parties

1.2.1 The person authorized to sign the Charter Contract on behalf of the Charter School is the President of the Charter Board ("Charter School Representative").

1.2.2 The person authorized to sign on behalf of the Authority is the Chair of the Authority or, in the absence of the Chair, the Acting Chair.

1.2.3 The Charter School Representative affirms as a condition of this Charter Contract, that he/she is the above-described representative of the Charter School and has authority to sign this Charter Contract on behalf of the Charter School.

1.3 Term of Charter Contract

1.3.1 [Intentionally Omitted]

1.3.2 This Charter Contract is effective upon execution, and began on May 6, 2013 and will terminate on the last day of the school year in 2020.

1.4 General

1.4.1 The Charter School shall not operate for profit and may be incorporated as a nonprofit corporation pursuant to the provision of chapter 82 of NRS.

1.4.2 The Charter School believes that all contracts obligating the Charter School have been and will be undertaken by the Charter School in accordance with statute and regulation. By December 1, 2017, the Charter School shall certify that all contracts obligating the Charter School have been undertaken in accordance with statute and regulation or notify the Authority of any contract that are not in accordance with statute or regulations and the efforts in plans to undertake to bring those contracts into conformance. If after the Charter School undertakes good faith efforts to comply with this section, the Charter School needs additional time to comply, it shall be able to request no more than two separate thirty day extensions.

1.4.3 The Charter School and its Charter Board shall operate at all times in accordance with all federal and state laws, local ordinances, regulations and Authority policies adopted as required by law applicable to charter schools.

1.4.4 The Charter School shall be deemed a public school subject to all applicable provisions of local, state and federal law and regulation, specifically including but not limited to health and safety, civil rights, student assessment and

Nevada Connections Academy

assessment administration, data collection, reporting, grading, and remediation requirements, except to the extent such provisions are inapplicable to charter schools.

1.4.5 Pursuant to NRS 388A.159, the Local Education Agency of the Charter School is the Authority.

1.5 Charter School Governing Body

1.5.1 The Charter School shall be governed by the Charter Board, which Board is deemed a public body, in a manner that is consistent with the terms of this Charter Contract so long as such provisions are in accordance with applicable state, federal, and local law and regulation. (NRS 388A.320)

1.5.2 The Charter Board shall have final authority and responsibility for the academic, financial, and organizational performance of the Charter School, and the fulfillment of the Charter Contract.

1.5.3 The Charter Board shall be the final authority in matters affecting the Charter School, including but not limited to staffing, job titles, employee salary and benefits, financial accountability and curriculum.

1.5.4 The Charter Board shall act in accordance with and is subject to the Nevada Open Meeting Law, Public Records Law, and Nevada Local Government Purchasing laws (NRS 332.039-.148).

1.5.5 The Charter Board shall have authority for and be responsible for policy, oversight, and ultimate accountability for operational decisions of the Charter School. The Charter Board shall govern the Charter School pursuant to Nevada law and also the following terms and conditions:

1.5.5.1 Articles of Incorporation and Bylaws. The articles of incorporation, if applicable, and bylaws of the Charter Board shall provide for governance of the operation of the Charter School as a public charter school and shall at all times be consistent with all applicable law, regulation and this Charter Contract. The articles of incorporation, if applicable, are set forth in Exhibit #2 (initially or as amended, the "Articles of Incorporation") and incorporated herein by reference. The Charter School shall notify the sponsor of changes to the bylaws or Articles of Incorporation.

1.5.5.2 Composition. The composition of the Charter Board shall at all times be determined by and consistent with the articles of incorporation, if applicable, and bylaws and all applicable law and regulation. The complete roster of the Charter Board and each member's affidavit, resume, and Request for Information shall be maintained in the Authority's established document library (AOIS). The Charter Board shall notify the Authority of any changes to the Board Roster and submit an amended Board Roster to the documents library within ten (10) business days of their taking effect.

1.5.5.3 Affiliation. Notwithstanding any provision to the contrary in the Charter

Contract, the Articles of Incorporation, if applicable, or the bylaws, in no event shall the Charter Board, at any time, include more than two directors, officers, employees, agents or other affiliates of any single entity, with the exception of the Charter School itself, regardless of whether said entity is affiliated or otherwise partnered with the Charter School. (NAC 386.345(3))

1.5.5.4   Conflicts of Interest. The Charter Board shall adopt a Conflicts of Interest Policy (the "Conflicts of Interest Policy"), including provisions related to nepotism and consistent with this section and applicable law by January 1 of 2018 . The Charter Board shall, at all times, comply with the provisions of the Conflicts of Interest Policy. The adopted and approved Conflicts of Interest Policy shall be maintained in the Authority's established document library (AOIS). Any modification of the Conflicts of Interest Policy must be submitted to the Authority within five (5) days of approval by the Charter Board.

1.5.5.5   Non-Commingling. Assets, funds, liabilities and financial records of the Charter School shall be kept separate from assets, funds, liabilities, and financial records of any other person, entity, or organization unless approved in writing by the Authority.

1.6   Location

1.6.1   The Charter School shall operate and provide educational services, including, without limitation, delivery of instruction or conduct operations at the following location(s):

555 Double Eagle Ct #2000, Reno, NV 89521

Additionally, the Charter School may employ personnel who work remotely to provide the above described services.

1.7   Facilities

1.7.1   The building(s) in which the Charter School is to be located shall be known as the Charter School Facilities (the "Facilities").

1.7.2   The Authority or its designee may, at the Authority's discretion, conduct health and safety inspections of the Facilities.

1.7.3   The Facilities shall meet all applicable health, safety and fire code requirements and shall conform with applicable provisions of the Americans with Disabilities Act and any other federal or state requirements applicable to public charter schools.

1.7.4   The Charter School's relocation to different Facilities shall constitute a

Nevada Connections Academy

material amendment of this Charter Contract and shall not become effective and the Charter School shall not take action or implement the change requested in the amendment until the amendment is approved, in writing, by the Authority.

1.7.5 In the event that legally viable Facilities and/or necessary certificates and permits are not in place for such a relocation, the Charter School may not provide instruction at the new Facilities or otherwise admit pupils into the new Facilities. In such event, the Authority reserves the right to enforce any of the consequences for failure to act in accordance with the material terms and conditions of this Charter Contract.

1.8   Charter School Independence

1.8.1 Neither the Authority nor the board of trustees of the local school district in which the Charter School is located may assign any pupil who is enrolled in a public school or any employee who is employed in a public school to the Charter School. Neither the Authority nor the local school district in which the Charter School is located may interfere with the operation and management of the Charter School except as authorized by NRS 386.490-.610, inclusive, and any other statute or regulation applicable to the Charter School or its officers or employees.

1.8.2 The Charter School will be subject to review of its operations and finances by the Authority, including related records, when the Authority, in its sole discretion, deems such review necessary.

Part 2: School Operations

2.1   Open Meetings and Public Records

2.1.1 The Charter School shall maintain and implement policies and procedures to ensure that it complies with all applicable laws and regulations relating to public meetings and records.

2.2   Mission Statement

2.2.1 The Charter School's mission statement (initially or as amended, the "Mission Statement") shall be as presented in the approved Charter Application appearing in Exhibit #3 and incorporated by reference herein. Any change to the Mission Statement shall be a material amendment to this Charter Contract and shall not become effective and the Charter School shall not take action or implement the change requested in the amendment until the amendment is approved, in writing, by the Authority.

2.3   Age; Grade Range; Number of Students

2.3.1 The Charter School shall provide instruction to pupils in such grades and numbers in each year of operation under the Charter Contract as it did during the 2016-2017 academic year; provided, however, that the Charter School shall immediately impose the following limits on enrollment for the high school:

2.3.1.1   The Charter School shall immediately cease enrollment of students in the 11th and 12th grade cohorts and the total high school student enrollment shall be limited to 1,500 students through attrition such that no currently enrolled student shall be withdrawn from the school solely to achieve the enrollment limit provided herein;

2.3.1.2   The Charter School shall not be entitled to the benefit of Nevada's "hold harmless" policy as set forth in NRS 387.1223(3) that would provide for receipt of continued funding for students lost as a result of the immediate freeze of enrollment in those grades set forth in Section 2.3.1.1 above;

2.3.1.3   The Charter School shall have a 10% buffer allowing but not requiring the Charter School to exceed the enrollment limitations on the combined 9th and 10th grade cohort;

2.3.1.4   The Charter School is entitled to further reduce enrollment to a total maximum of 1,200 students with letter notification to the Authority with the presumed percentage allocations between the high school grades consistent with those set forth herein under the 1,500 student cap; provided that the parties shall have the ability to negotiate mutually acceptable modification of that allocation among the high school grades.

2.3.2   Except as expressly set forth above in Section 2.3.1, the Charter School may modify the number of students in any particular grade, and number of students within a class, to accommodate staffing exigencies and attrition patterns provided such modifications are consistent with this Charter Contract.

2.3.3   Except as expressly set forth above in Section 2.3.1, elimination of a grade level that the Charter School was scheduled to serve; expansion to serve grade levels not identified in 2.3.1; or an annual increase or decrease in total enrollment by more than 10% from the enrollment of October 1 of the preceding year shall be a material amendment of this Charter Contract and shall not become effective and the Charter School shall not take action or implement the change requested in the amendment until the amendment is approved, in writing, by the Authority. Authorization to expand may require the Charter School to demonstrate satisfactory academic and financial performance, and organizational compliance. Regardless what enrollment projections are contained in the charter school application approved by the Authority, the first year enrollment on October 1, 2016 for the Charter School shall serve as the basis for the 10% annual enrollment increase or decrease for the school's second year; similarly, subsequent years' enrollment on October 1 shall serve as the basis for the following years' enrollment. Each year's enrollment shall be limited to 10% more pupils than the previous year's October 1 enrollment unless the school's request for a material amendment is approved by the Authority. For example, a school enrolling 100 pupils in any

11

given year may enroll no more than 110 pupils the following year without Authority approval of a material amendment. It is the responsibility of the Charter School to request the material amendment required by this section 2.3.3 in a timely manner so as to manage the school's enrollment to comply with 2.3.3.

2.4 **Non-discrimination**

2.4.1 The Charter School shall not discriminate against any student, employee or other person on the basis of race, color, creed, ethnicity, national origin, gender, marital status, religion, ancestry, disability, need for special education services, income level, athletic ability, proficiency in the English language or any other grounds that would be unlawful if done by any other public school. It shall take all steps necessary to ensure that discrimination does not occur, as required by federal civil rights law.

2.5 **Student Recruitment, Enrollment and Attendance**

2.5.1 The Charter School shall make student recruitment, admissions, enrollment and retention decisions in a nondiscriminatory manner and without regard to race, color, creed, national origin, sex, marital status, religion, ancestry, disability, need for special education services or status as credit-deficient. In no event may the Charter School limit admission based on race, ethnicity, national origin, gender, disability, income level, athletic ability, status as credit-deficient or proficiency in the English language, except as authorized by NRS 386.580(8).

2.5.2 The Charter School shall adopt and adhere to a Truancy and Absence Policy pursuant to NAC 386.180(5).

2.5.3 If there are more applications to enroll in the charter school than there are spaces available, the charter school shall select students to attend using a random selection process that shall be publicly noticed and open to the public.

2.5.4 Pursuant to NRS 386.580, Charter School may give enrollment preference based upon criteria established in law and regulation. Should state laws or regulations be amended to alter the nature or application of enrollment preferences, Charter School shall comply therewith upon the effective date of the changes. Before the Charter School enrolls pupils who are eligible for enrollment, the Charter School may enroll a child who:

2.5.4.1 Is a sibling of a pupil currently enrolled;

2.5.4.2 Was enrolled in a tuition-free prekindergarten program at the Charter School or affiliated program with the Charter School;

2.5.4.3 Is a child of a person who is:

2.5.4.3.1 Employed by the Charter School;

2.5.4.3.2 A member of the Committee to Form the Charter School; or

2.5.4.3.3 A member of the Charter Board;

2.5.4.4 Is in a particular category of at-risk and the child meets the eligibility

12

Nevada Connections Academy

requirements prescribed by the Charter School for that particular category; or

2.5.4.5 Resides within the school district and within two (2) miles of the Charter School if the Charter School is located in an area that the Authority determines includes a high percentage of children who are at-risk.

2.6 Tuition, Fees and Volunteer Requirements

2.6.1 The Charter School shall not charge tuition or fees of any kind as a condition of enrollment. The Charter School may not impose any fees that a school district would be prohibited by applicable law or regulation from imposing.

2.6.2 Nothing in this section shall be interpreted to prohibit the Charter School from imposing fees that a school district would be permitted to impose.

2.6.3 Any requirement that a parent commit a number of volunteer hours shall be prohibited unless such a requirement considers individual family circumstances and allows for a waiver of volunteer hours.

2.7 School Calendar; Hours of Operation

2.7.1 The Charter School shall adopt a school calendar with an instructional program to provide annually at least as many days of instruction as are required of other public schools located in the same school district as the Charter School is located, unless written approval from the Superintendent of Public Instruction provides for a waiver of this requirement. (NRS 386.550)

2.8 Student Conduct and Discipline

2.8.1 The Charter School shall adopt and adhere to a student discipline policy (the "Discipline Policy") pursuant to NRS 386.585 and regulation. The Charter School may not remove, withdraw, suspend or expel a pupil against a parent's wishes for reasons other than the reasons for suspension or expulsion stated in NRS 392.4655 – 392.4675 or other applicable statute or regulation. Nothing in this provision precludes the Charter School from withdrawing a pupil from the Charter School consistent with applicable law and regulation.

2.9 Service Agreements, Contracts, Facility Lease or Purchase

2.9.1 Nothing in this Charter shall be interpreted to prevent the Charter School from entering into a contract or other agreement related to the operation of the school. The Charter School shall include in any agreement or contract entered into that the provisions of any such agreement are enforceable only to the extent they are compliant with applicable law and regulation. The Charter Board is responsible for ensuring that all contracts or other agreements are compliant with existing law and regulation.

2.9.2 The Charter School shall clearly indicate to vendors and other entities and individuals with which or with whom the Charter School enters into an agreement or contract for goods or services that the obligations of the Charter School under such agreement or contract are solely the responsibility of the Charter School and are not the responsibility of the State of Nevada, the

Authority, or the Department of Education.

2.10 Contracts with an Educational Management Organization (EMO)

2.10.1 The provisions appearing under 2.9 apply to contracts with an EMO.

2.10.2 Should the Charter School intend to enter into an agreement with an EMO as defined by NRS 386.562, the following provisions shall apply:

2.10.2.1 The Charter School shall comply with all Authority requests for information about the EMO that are reasonably related to the Authority's duty to ensure that the Charter School is in compliance with all provisions of this Charter Contract and NRS 386.562; and NAC 386.400, 386.405, 386.407, 386.180, and 386.204 or other applicable statute and regulation. For the purposes of this section, the Charter School's good faith prosecution of a claim for breach of contract against an EMO shall constitute compliance.

2.10.2.2 In no event shall the Charter Board delegate or assign its responsibility for fulfilling the terms of this Charter Contract.

2.10.2.3 Any management contract entered into by Charter School shall include an indemnification provision for the Charter School as follows: "The management company shall indemnify, save and hold harmless against any and all claims, demands, suits, actions, proceedings, losses, costs, judgments, damages, or other forms of liability to third parties, of every kind and description, actual or claimed, including but not limited to attorneys' fees and/or litigation expenses, including but not limited to injury to property or persons (including but not limited to civil rights violations), occurring or allegedly occurring, in connection with the operation of the management company, or from conduct committed or alleged to have been committed by the management company on the premises of the Charter School, or from conduct committed by the management company's employees, officers, directors, subcontractors, or agents, during the term of this Charter Contract or any renewal thereof. Additionally, the management company shall defend the Authority in any such action or proceedings brought thereon. This provision shall survive the termination of this contract."

2.10.2.4 Should the Charter School propose to enter into a contract with an EMO, the Charter School agrees to submit all information requested by Authority regarding the management arrangement, including a copy of the proposed contract and a description of the EMO, with identification of its principals and their backgrounds. Entering into a contract with an EMO when an EMO was not previously engaged, terminating a contract with an existing EMO, or replacing an existing EMO with another EMO is considered a material amendment of the Charter Contract and the Charter School shall not enter into or terminate such contracts without written

14

Authority approval.

2.10.2.5 Renewal or renegotiation of an existing contract with an EMO requires the Charter School to notify the sponsor, only, and is not considered a material amendment.

2.11 Employment Matters

2.11.1 All employees of the Charter School shall be deemed public employees.

2.11.2 The Charter School agrees to comply with the provisions of NRS 386.595 regarding employment status and NRS 386.590 regarding teacher licensure.

2.11.3 Neither the Charter School, nor its employees, agents, nor contractors are employees or agents of the Authority; nor are either the Authority or its employees, agents, or contractors employees or agents of the Charter School. None of the provisions of this Charter Contract will be construed to create a relationship of agency, representation, joint venture, ownership, or control of employment between the Parties other than that of independent Parties contracting solely for the purpose of effectuating this Charter Contract.

2.11.4 The Charter School shall have ultimate responsibility for employment, management, dismissal and discipline of its employees, including key personnel employed by an EMO. The Charter School will establish and implement its own dispute resolution process for employment matters.

2.11.5 The Charter School may not employ instructional personnel whose certificate or license to teach has been revoked or is currently suspended by the state board of education in this state or another state. (NRS 386.590(a))

2.11.6 An employee of a charter school is eligible for all benefits for which the employee would be eligible for employment in a public school, including, without limitation, participation in the Public Employees Retirement System in a manner consistent with NRS 386.595.

2.11.7 The Charter School shall conduct criminal background checks and act in accordance with NRS 386.588.

2.11.8 The Charter School shall maintain employee files as identified in the Operations Manual, which are subject to audit by the Authority or other appropriate entity.

2.11.9 If the Charter School receives Title I funding, it must ensure that 100% of teachers in core academic subjects are Highly Qualified (as defined in the Elementary and Secondary Education Act) or are working pursuant to a plan to achieve Highly Qualified status.

2.12 Student Health, Welfare and Safety

2.12.1 The Charter School shall comply with all applicable federal and state laws and regulations concerning student health, welfare, and safety, including but not limited to state laws regarding the reporting of child abuse, accident prevention and disaster response, and any applicable state and local regulations governing the operation of school facilities.

15

2.13 **Transportation**

2.13.1 If applicable, the Charter School shall be responsible for providing students transportation consistent with the plan proposed in the approved Charter Application appearing in Exhibit #3 and incorporated herein.

2.13.2 The termination or change of transportation shall constitute a material amendment of this Charter Contract and shall not become effective and the Charter School shall not take action or implement the change requested in the amendment until the amendment is approved, in writing, by the Authority.

Part 3: Educational Program

3.1 **Design Elements**

3.1.1 The Charter School shall have control over and responsibility for delivery of the educational program and for attainment of the performance standards as set forth in the charter school performance framework (the "Charter School Performance Framework") Exhibit #1, as amended by Exhibit #1.1, incorporated herein. The Charter School shall have discretion to modify, amend, adapt, and otherwise change the educational program as it deems necessary to achieve the performance standards so long as such changes are consistent with the Charter Application and the Charter Contract.

3.1.2 In determining whether or not the Charter School complies with the essential terms of the educational program, the Authority will use the Charter Application (initial or as amended) as the basis to assess fidelity.

3.2 **Curriculum**

3.2.1 The Charter School's educational program shall meet or exceed Nevada's content standards.

3.3 **Student Assessment**

3.3.1 The Charter School shall be subject to and comply with all requirements related to the state assessment and accountability system for public schools.

3.3.2 Nothing in this section prohibits the Charter School or the Authority from assessing student learning outside of and in addition to the state's testing program.

3.3.3 Educational program matters not specifically identified in this Charter Contract shall remain within the Charter School's authority and discretion.

3.4 **Special Education**

3.4.1 The Authority is the "local education agency" ("LEA") for purposes of compliance with the Individuals with Disabilities Education Act ("IDEA").

3.4.2 The Charter School shall provide services and accommodations to students with disabilities as set forth in the Charter Application and in accordance with any relevant policies thereafter adopted, as well as with all applicable provisions of the Individuals with Disabilities Education Act (20 U.S.C. § 1401 et seq.) (the "IDEA"), the Americans with Disabilities Act (42 U.S.C. §

16

12101 et seq.) (the "ADA"), section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794) ("Section 504"), and all applicable regulations promulgated pursuant to such federal laws. This includes providing services to enrolled students with disabilities in accordance with the individualized education program ("IEP") prescribed by a student's IEP team. The Charter School shall comply with all applicable requirements of state law and regulation concerning the provision of services to students with disabilities.

3.4.3 An annual Memorandum of Understanding which defines the rights and responsibilities of the Charter School acting as a school of the LEA and the Authority acting as LEA for the purposes of Special Education, distribution of federal funds, and other LEA responsibilities will be annually updated and disseminated by the Authority and signed by the Parties.

3.4.4 The Charter School shall maintain a special education reserve as a financial reserve or demonstrate, to the Authority's satisfaction, that the Charter School carries an insurance policy with sufficient coverage to ensure compliance with the indemnification and financial obligations of the Charter School. Such reserve or insurance product shall not in any way limit the Charter School's obligation in the event the special education reserve or insurance product is insufficient to fully pay costs incurred in connection with any claim or claims, and the Charter School shall remain fully responsible for any and all costs incurred in connection with such claim or claims. The Charter School shall keep any special education reserve separate from and not utilize it to satisfy any other requirements applicable to the Charter School. Any special education reserve shall be maintained in a separate bank account and shall be equal to $25,000 plus the interest that has been earned in this account to date. The Charter School shall fully fund any reserve account by the end of its fifth year of operation and contribute to it in a manner that can reasonably be expected to reach this goal. If money is withdrawn from the reserve account, unless otherwise agreed to in writing by the Authority, the Charter School shall be required to replace all sums withdrawn by the end of the subsequent fiscal year.

3.5 **English Language Learners**

3.5.1 The Charter School shall provide resources and support to English language learners to enable them to acquire sufficient English language proficiency to participate in the mainstream English language instructional program. The Charter School shall adhere to policies and procedures for identifying, assessing and exiting English language learners, consistent with all applicable laws and regulations. The Authority and the Charter School will work to assure compliance with any and all requirements of the state and federal law regarding services to English language learners.

17

Part 4: Charter School Finance

4.1   Financial Management

4.1.1   The Charter School shall control and be responsible for financial management and performance of the Charter School including budgeting and expenditures. The Charter School shall operate on a fiscal year that begins July 1 and ends June 30.

4.1.2   At all times, the Charter School shall maintain appropriate governance and managerial procedures and financial controls, including without limitation: (1) commonly accepted accounting practices and the capacity to implement them; (2) a bank account maintained within this State; (3) adequate payroll procedures; (4) an organizational chart; (5) procedures for the creation and review of monthly and quarterly financial reports, including identification of the individual who will be responsible for preparing such financial reports in the following fiscal year; (6) internal control procedures for cash receipts, cash disbursements and purchases; and (7) maintenance of asset registers and financial procedures for grants in accordance with applicable federal and state law.

4.1.3   The Charter School shall undergo an independent financial audit conducted in accordance with governmental accounting standards and GASB #34 performed by a certified public accountant each fiscal year. The results of the audit will be provided to the Authority in written form in accordance with the date established by law and regulation and identified in the Reporting Requirements Manual. The Charter School shall pay for the audit.

4.1.4   The Charter School shall prepare quarterly financial reports for the Authority in compliance with this Charter Contract. Such reports shall be submitted to the Authority no later than fifteen (15) days following the end of each quarter, as defined in the Reporting Requirements Manual.

4.1.5   The Charter School agrees to maintain financial records in accordance with the governmental accounting method required by the Nevada Department of Education (the "Department") and/or Authority and to make such records available upon request.

4.1.6   The Charter School shall use and follow the chart of accounts and any grant codes as defined by the Department in the Nevada Common Elements for Accounting and Reporting K-12 Educational Finances.

4.1.7   The Charter School shall assure that all financial records for the school are maintained, posted and reconciled at least monthly, and are open for public inspection during reasonable business hours.

4.1.8   The Charter School shall establish procedures for ensuring that funds are disbursed for approved expenditures consistent with the Charter School's budget.

4.1.9   Pursuant to NAC 387.770, the Charter School shall maintain a complete and

18

current inventory of all school property and shall perform a physical inventory annually. Any asset acquired by the Charter School is the property of the Charter School for the duration of the Charter Contract and any subsequent renewals. The Charter School shall take reasonable precautions to safeguard assets acquired with public funds. The Charter School shall manage all assets consistent with the requirements of applicable law and regulation, including without limitation NAC 387.335, 387.342 and 387.360; and NRS 386.536.

4.1.10 If the Charter School's records fail to establish clearly whether an asset was acquired with the use of public funds, the assets shall be deemed to be public assets.

4.1.11 Except as may be expressly provided in this Charter Contract, as set forth in any subsequent written agreement between the Charter School and the Authority pursuant to NRS 386.561, or as may be required by law, neither the Charter School nor the Authority shall be entitled to the use of or access to the services, supplies, or facilities of the other. Any service agreements between the Authority and the Charter School shall be subject to all terms and conditions of this Charter Contract, except as may be otherwise agreed in writing. The purchase of any services not expressly required under this contract or set forth in any subsequent written agreement between the Charter School and the Authority or required by law, shall not be a condition of the approval or continuation of this contract.

4.1.12 The Charter School shall comply with other requirements as may be imposed through state law or regulation, from time to time, on charter school finances, budgeting, accounting, and expenditures, provided that the Authority shall provide technical assistance regarding material changes to state law and regulation, and the Parties will collaborate to assure that they each remain reasonably current on the impact of any modifications on charter schools. The Parties agree that the Charter School retains primary responsibility for compliance with state law and regulation.

4.1.13 The Charter School is solely responsible for all debt it incurs, and the Authority shall not be contractually bound on the Charter School's account to any third party. A statement to this effect shall be a provision of any and all contracts entered into by the Charter School.

4.2 **Budget**

4.2.1 In accordance with law and regulation and as identified in the Reporting Requirements Manual, the Charter School shall submit to the Department and the Authority the school's tentative budget for the upcoming fiscal year and the Charter School shall submit to the Department and the Authority the school's final budget for the upcoming fiscal year. The budget shall:

4.2.1.1 Be presented on forms prescribed by the Nevada Department of

19

Taxation; and

4.2.1.2   Not provide for expenditures, inter-fund transfers, or reserves in excess of available revenues plus beginning fund balances.

4.3   Charter School Funding

4.3.1   Charter School shall receive, directly from the Department, state and local aid in an amount equal to its weighted count of enrollment multiplied by the per pupil Distributive School Account amount for the county of residence of each student plus the per pupil Outside Revenue amount for that county. The count of pupils for calculating the basic support for distribution to a charter school is the "Average daily enrollment" as defined by NRS 387.1211.

4.3.2   The Charter School shall maintain and transmit all necessary student information in the format prescribed by the Department to evidence enrollment and attendance of students for purposes of receiving state aid. The Charter School will receive state payment from the Distributive School Account directly from the Department, based on "Average daily enrollment" as defined by NRS 387.1211.

4.3.3   The Charter School shall receive state aid payments quarterly unless the quarterly payments exceed $500,000 at which time the Department will pay state aid in monthly installments directly to the Charter School.

4.3.4   All state aid payments to the Charter School are subject to correction pending the outcome of the Department's annual Pupil Enrollment and Attendance Audit.

4.3.5   As set forth above, the Charter School shall not be entitled to "hold harmless" funding as set forth in NRS 387.1223(3) for the decrease in students that occurs as a result of the immediate enrollment freeze on these grades.

4.4   Authority Funding

4.4.1   The yearly sponsorship fee to be paid by the Charter School to the Authority must be in an amount of money not to exceed two (2) percent but at least one (1) percent of the total amount of money apportioned to the Charter School during the school year pursuant to NRS 387.124. (NRS 386.570)

4.4.2   The Authority shall notify the Charter School in February of the fee anticipated to be charged pursuant to NRS 386.570 in the following fiscal year.

Part 5: Insurance and Legal Liabilities

5.1   Insurance

5.1.1   The Charter School shall provide and maintain, at its sole expense without reimbursement, adequate insurance, pursuant to NAC 386.215, necessary for the operation of the school, including but not limited to, property insurance, general liability insurance, workers' compensation insurance, unemployment

compensation insurance, motor vehicle insurance, and errors and omissions insurance covering the Charter School and its employees. Should the State legislature or State Board of Education change the amount and/or type of insurance coverage required, the Charter School shall take necessary steps to ensure compliance with the law or regulation within thirty (30) days of receiving notice by the Authority of such change. The Authority shall be named as additional insured under all insurance policies identified under NAC 386.215.

5.2 **Liability**

    5.2.1 As required by NRS 388A.366, the Charter School agrees that the Authority is not liable for the acts or omissions of the Charter School, its officers, agents, or employees. The Charter School agrees to hold harmless, indemnify and defend the Authority against any claim or liability arising from an act or omission by the governing body of the charter school or an employee or officer of the charter school. An action at law may not be maintained against the sponsor of a charter school for any cause of action for which the charter school has obtained liability insurance and shall provide such indemnification as required by NRS 388A.366.

    5.2.2 If the Charter School files a voluntary petition for bankruptcy or is declared bankrupt during a school year, neither the State of Nevada nor the Authority may be held liable for any claims resulting from the bankruptcy pursuant to NRS 386.575.

Part 6: Transparency and Accountability

6.1 **Charter School Reporting**

    6.1.1 The Authority shall provide the Charter School with a Reporting Requirements Manual on or before the commencement of the contract year and updated at least annually. The Authority shall endeavor to make the Reporting Requirements Manual as complete as possible. The Charter School shall be responsible for submitting timely and complete reports in accordance with the Reporting Requirements Manual.

    6.1.2 The Authority shall provide the Charter School with an Operations Manual on or before the commencement of the contract year and updated at least annually.

6.2 **Additional Reporting**

    6.2.1 The Charter School shall be responsible for additional reporting as required for compliance with state law and regulation, federal requirements, and other applicable external reporting requirements.

    6.2.2 The Charter School shall provide such additional reporting in compliance with Exhibit #5 hereto.

    6.2.3 The Charter School shall work collaboratively with the Authority to review

21

data and information compiled and reported and evaluate and support mutually agreeable appropriate legislative changes in the 2019 Nevada legislative session to address policy issues such as those that have been at issue in the accountability proceedings involving the Charter School and the high school graduation rate.

6.3 **Authority Reporting**

    6.3.1 The Authority shall produce and make available reports to the Charter School in a manner consistent with the Reporting Requirements Manual.

Part 7: Oversight

7.1 **Authority**

    7.1.1 Pursuant to NRS 386.509, the Authority shall have broad oversight authority over the Charter School and may take all reasonable steps necessary to confirm that the Charter School is and remains in material compliance with this Charter Contract, the Charter Application, and applicable law and regulation. The Authority's oversight of the Charter School shall include, but not be limited to, the following activities:

        7.1.1.1 Oversight, intervention, termination, renewal, and closure processes and procedures for the Charter School as set forth in this Contract and Nevada law;

        7.1.1.2 Reviewing the performance and compliance of the Charter School within the terms of this Charter Contract and applicable laws, policies and regulations;

        7.1.1.3 Ensuring the Charter School's compliance with reporting requirements;

        7.1.1.4 Monitoring the educational, legal, fiscal, and organizational condition of the Charter School; and

        7.1.1.5 Providing guidance to the Charter School on compliance and other operational matters.

7.2 **Inspection**

    7.2.1 All records established and maintained in accordance with the provisions of this Charter Contract, applicable policies and/or regulations, and federal and state law shall be open to inspection by the Authority and other applicable agencies, entities, or individuals within a reasonable period of time after request is made.

7.3 **Site Visits**

    7.3.1 The Authority shall visit the Charter School at least once as a component of the Mid-Term evaluation as defined in the Charter School Performance Framework. Authority may, at its discretion, conduct formal, targeted school visits. Such site visits may include any activities reasonably related to fulfillment of its oversight responsibilities including, but not limited to, inspection of the facilities; inspection of records maintained by the Charter

22

School; and interviews of school and other stakeholders.

7.4 **Notification**

7.4.1 The Charter School shall notify the Authority immediately of any conditions that it knows are likely to cause it to violate the terms of this Charter Contract or the Charter Application. Such notification shall not be construed as relief from the Charter School's responsibility to correct such conditions.

7.4.2 The Charter School shall notify the Authority immediately of any circumstances requiring the closure of the Charter School, including but not limited to natural disaster, other extraordinary emergency, or destruction of or damage to the school facility.

7.4.3 The Charter School shall immediately notify the Authority of the arrest or charge of any members of the Charter Board or any Charter School employee for a crime punishable as a felony, any crime related to the misappropriation of funds or theft, any crime or misdemeanor constituting an act against a minor child or student, or of the investigation of a member of the Charter Board or any Charter School employee for child abuse.

7.4.4 The Charter School shall notify the Authority immediately of any change to its corporate legal status.

7.4.5 The Charter School shall notify the Authority immediately of any default on any obligation, which shall include debts for which payments are past due by sixty (60) days or more.

7.4.6 The Charter School shall notify the Authority immediately if at any time the Charter School receives notice or is informed that the Charter School or the Authority are parties to a legal suit.

7.5 **Intervention**

7.5.1 Consistent with any oversight practices set out in the Charter School Performance Framework, the Authority shall follow a progressive system of notification and calls for corrective action on the part of the Charter School.

7.5.2 Any complaints or concerns received by the Authority about the Charter School or its operation including but not limited to complaints filed with the Office for Civil Rights, the Nevada Attorney General's Office, and Equal Employment Opportunity Commission, shall be forwarded promptly by the Authority to the Charter School.

7.5.3 The Charter School shall promptly forward to the Authority any formal complaints or concerns received by the Charter School filed with or from the Office for Civil Rights, the Nevada Attorney General's Office, Equal Employment Opportunity Commission, and/or formal grievances filed by any party with the Charter Board. Such forwarding of complaints or concerns shall not relieve Charter School of the responsibility of resolving the complaints or concerns.

7.5.4 The Charter School shall indemnify the Authority for any costs, attorney fees,

23

and/or financial penalties imposed on the Authority by state and/or federal authorities due to actions or omissions of the Charter School relative to regulatory compliance.

7.5.5 To the extent that concerns or complaints received by the Authority about the Charter School may trigger Authority intervention, including termination or non-renewal of the Charter Contract under this Contract or Nevada law, the Authority may monitor the Charter School's handling of such concerns or complaints. In such cases, the Authority may request and the Charter School shall provide information regarding the Charter School's actions in responding to those concerns or complaints.

Part 8: Termination and Default Termination

8.1 Termination

8.1.1 As provided by NRS 388A.300, this Charter Contract may at any time be terminated by the Authority before its expiration upon determination and majority vote of the Authority that the Charter School, its officers or its employees:

8.1.1.1 Committed a material breach of the terms and conditions of the Charter Contract;

8.1.1.2 Failed to comply with generally accepted standards of fiscal management;

8.1.1.3 Failed to comply with the provisions of NRS 386.490 to 386.610, inclusive, or any other statute or lawful regulation applicable to charter schools; or

8.1.1.4 Persistently underperformed, as measured by the performance indicators, measures and metrics set forth in the Charter School Performance Framework for the Charter School except as to the high school as set forth in this Charter Contract.

8.1.2 Pursuant to NRS 388A.330, the Charter Contract may be terminated by the Authority if the Charter School has filed for a voluntary petition of bankruptcy, is adjudicated bankrupt or insolvent, or is otherwise financially impaired such that the Charter School cannot continue to operate.

8.1.3 Pursuant to NRS 388A.330, the Charter Contract may be terminated by the Authority if the Authority determines that termination is necessary to protect the health and safety of the pupils who are enrolled in the Charter School or persons who are employed by the Charter School from jeopardy, or to prevent damage to or loss of property of the school district or the community in which the Charter School is located.

8.1.4 Pursuant to NRS 388A.330, the Charter Contract may be terminated by the Authority if the Authority determines that the committee to form the charter

24

Nevada Connections Academy

school or charter management organization, as applicable, or any member of the committee to form the charter school or charter management organization, as applicable, or the governing body of the charter school has at any time made a material misrepresentation or omission concerning any information disclosed to the Authority.

8.1.5 Notwithstanding NRS 388A.330, the Charter Contract may not be terminated by the Authority if the Authority determines that the charter school operates a high school that has a graduation rate for the immediately preceding school year that is less than 60 percent.

8.1.5.1 For the graduating cohorts, as defined by NAC 389.0246, of 2017-2018 academic year, and 2018-2019 academic year the Charter School's Charter Contract shall not be eligible for termination, appointment of a receiver or board reconstitution based on a graduation rate, as calculated by the Nevada Department of Education, below 60%. Graduation rate benchmarks for the Charter School shall be as follows:

Academic Year Cohort 2017-18: 49%
Academic Year Cohort 2018-19: 60%

Achievement of or failure to achieve these academic year benchmarks for 2017-18 and 2018-19 will be a material factor for consideration relevant in any renewal proceedings. This section shall not restrict the Charter School's ability to present information relative to this or any other issue for any renewal proceedings.

If the Charter School fails to meet the 2017-18 benchmark, the Charter School shall not be allowed to enroll any students in the 11th or 12th grade cohorts and shall limit its total high school enrollment to no more than 1,200 students provided that no students enrolled shall be forced to withdraw as a result of the cap. If the Charter School meets the 2017-18 benchmark, it shall be permitted to request the Executive Director of the Authority allow it to impose caps on the 11th and 12th grade cohorts such that some enrollment in those grades would be permitted; however, the Executive Director's decision on such request shall be final with no right to challenge or appeal the decision.

8.1.6 Pursuant to NRS 388A.330, the Charter Contract may be terminated by the Authority if the Authority determines that the charter school operates an elementary or middle school or junior high school that is rated in the lowest 5 percent of elementary schools, middle schools or junior high schools in the State in pupil achievement and school performance, as determined by the Department pursuant to the statewide system of accountability for public schools; or

25

8.1.7 Except as otherwise provided herein for the high school, pursuant to NRS 388A.330, the Charter Contract may be terminated by the Authority if the Authority determines that pupil achievement and school performance at the charter school is unsatisfactory as determined by the Department pursuant to criteria prescribed by regulation by the Department to measure the performance of any public school.

8.1.8 Except as otherwise provided in section 8.1.5.1 of this contract, in any instance of termination, reconstitution, the Authority shall provide to the Charter School written notice of termination, which notice shall include its findings and reasons for such action, and adhere to the process outlined in NRS 388A.330.

8.2 Default Termination

8.2.1 The Authority shall terminate the Charter Contract if the school receives in any period of 5 consecutive school years, three annual ratings established as the lowest rating possible indicating underperformance of a public school, as determined by the Department pursuant to the statewide system of accountability for public schools. The charter school's annual rating pursuant to the statewide system of accountability based upon the performance of the charter school for any school year before the 2016-2017 school year must not be included in the count of annual ratings for the purposes of this subsection.

8.3 Other Remedies

8.3.1 The Authority may impose other appropriate remedies for breach including, but not limited to, a required corrective action plan. Remedies available under this section shall not include termination, reconstitution, or receivership.

8.3.2 The Charter School shall immediately begin a search for a third party turn around specialist and work collaboratively with the Authority to identify a consultant who may be able to provide assistance to address the high school graduation rate issues that have been the subject of accountability proceedings for the Charter School. It is the intention of the parties that any such consultant hired will be demonstrated first to have ability and expertise to provide meaningful support to the Charter School under these circumstances.

Part 9: Closure

9.1 Closure

9.1.1 In the event that the Charter School is required to cease operation for any reason, including but not limited to non-renewal, termination, or voluntary surrender of the Charter Contract, the Charter School shall cooperate fully with the Authority to ensure the orderly closure of the Charter School in a manner consistent with state law and regulation (NRS 386.536), including,

Nevada Connections Academy

but not limited to:

9.1.1.1   Securing student records; assisting students with their enrollment in other schools; financial responsibilities and preserving financial records.

9.1.2   Nothing in this Part shall constitute a waiver of any right the Charter School has to seek judicial relief of an action resulting in the cessation of operation.

Part 10: Dispute Resolution

INTENTIONALLY OMITTED

Part 11: School Performance Standards and Review

11.1   **Performance Standards**

11.1.1   The Charter School Performance Framework is composed of indicators, measures, metrics, targets, and ratings to measure the academic, financial, organizational and mission specific, if applicable, performance of the Charter School. Pursuant to NRS 386.527, the performance framework is incorporated into this Charter Contract as set forth in the Charter School Performance Framework in Exhibit #1.

11.1.1.1   The Authority may, upon request for a material amendment from the Charter Board, include additional rigorous, valid and reliable performance indicators that are specific to the Mission of the Charter School and complementary to the existing measures.

11.1.1.2   The Charter School Performance Framework shall supersede and replace any and all assessment measures, educational goals and objectives, financial operations metrics, and organizational performance metrics set forth in the approved Charter Application and not explicitly incorporated into the Charter School Performance Framework. The specific terms, form and requirements of the Charter School Performance Framework, including any required indicators, measures, metrics, and targets, are determined by the Authority and will be binding on the Charter School.

11.1.2   According to the Charter School Performance Framework, the Charter School shall annually:

11.1.2.1   Meet or exceed standards on the academic indicators;

11.1.2.2   Demonstrate financial sustainability through meeting standards on the financial indicators;

11.1.2.3   Operate in compliance with the terms and conditions of this Charter Contract; and

11.1.2.4   If applicable, demonstrate sound performance on mission specific indicators.

27

11.2 Review

11.2.1 The Authority shall monitor and periodically report on the Charter School's progress in relation to the indicators, measures, metrics and targets set out in the Charter School Performance Framework. Such reporting shall take place at least annually.

11.2.2 The Charter School's performance in relation to the indicators, measures, metrics and targets set forth in the Charter School Performance Framework shall provide the basis upon which the Authority will decide whether to renew the Charter Contract at the end of the term pursuant to NRS 388A.285.

11.2.3 The Parties intend that, where this Charter Contract and the Charter School Performance Framework references or is contingent upon state or federal accountability laws, that they be bound by any applicable modification or amendments to such laws upon the effective date of said modifications or amendments. The specific terms, form and requirements of the Charter School Performance Framework may be modified or amended to the extent required to align with changes to applicable state or federal accountability requirements, as set forth in law. In the event that any such modifications or amendments are required, the Authority will use best efforts to apply expectations for school performance in a manner consistent with those set forth in the Charter School Performance Framework as initially established in the Charter Contract.

11.2.4 While both parties acknowledge the importance of the Charter School Performance Framework, and the Authority's obligation to consider the Charter School's performance under the Charter School Performance Framework in any decision that results in reconstitution, revocation, or termination of a charter contract, the parties also acknowledge that the Authority may reconstitute the board, revoke the charter, or terminate the charter contract prior to its expiration of a school with acceptable performance under the Charter School Performance Framework if allowed by NRS 386.535.

Part 12: Contract Construction

12.1 Entire Charter Contract

12.1.1 The Parties intend this Charter Contract, including all exhibits hereto, to represent a final and complete expression of their agreement, which shall be considered the Charter Contract. All prior representations, understandings and discussions are merged herein, and no course of prior dealings between Parties shall supplement or explain any terms used in this document. The Parties recognize that amendments to this Charter Contract may be approved from time to time hereafter.

28

12.2 Authority

12.2.1 The individual officers, agents and employees of the Parties do hereby individually represent and warrant that they have full power and lawful authority to execute this Charter Contract.

12.3 Notice

12.3.1 Any notice required, or permitted, under this Charter Contract shall be in writing and shall be effective upon personal delivery, subject to verification of service or acknowledgment of receipt, or three (3) days after mailing when sent by certified mail, postage prepaid to the following:

In the case of State Public Charter School Authority:
Director
1749 N. Stewart St, Suite 40
Carson City, NV 89706

In the case of Charter School:

Nevada Connections Academy
555 Double Eagle Ct #2000
Reno, NV 89521

12.4 Waiver

12.4.1 The Parties agree that no assent, express or implied, to any breach by either of them of any one or more of the covenants and agreements expressed herein shall be deemed or taken to constitute a waiver of any succeeding or other breach.

12.5 Non-Assignment

12.5.1 Neither party to this Charter Contract shall assign or attempt to assign any rights, benefits, or obligations accruing to the party under this Charter Contract unless the other party agrees in writing to any such assignment.

12.6 Applicable Law

12.6.1 This Charter Contract shall be governed by and construed in accordance with the laws of the State of Nevada, including all requirements imposed by regulation and Authority policy adopted as required by law, and all applicable federal laws of the United States.

12.6.2 The Parties intend that, where this Charter Contract references federal or state laws, they be bound by any amendments to such laws upon the effective date of such amendments.

12.7 Material Amendments

12.7.1 Material amendments require Authority approval. Pursuant to NRS 386.527 any material amendment to this Charter Contract will be effective only if

approved in writing by the Authority. The proposed amendment must be submitted in a manner consistent with applicable law and regulation and defined in the Operations Manual. A material amendment shall not become effective and the Charter School shall not take action or implement the change requested in the amendment until the amendment is approved, in writing, by the Authority. Changes in operation that are considered material and require the Charter School to obtain an amendment to this Charter Contract include, but are not limited to, the following:

12.7.1.1   [Intentionally omitted]

12.7.1.2   Change in the Charter School's location (change of site and/or adding or deleting sites) (see 1.7.4);

12.7.1.3   Changes to the Mission Statement (see 2.2.1);

12.7.1.4   Elimination of a grade level served or expansion to serve a grade level not served (see 2.3.3);

12.7.1.5   Except as otherwise set forth herein, more than 10% annual increase or decrease in total enrollment pursuant to 2.3.3 of this Charter Contract;

12.7.1.6   Changes to the name of the Charter School;

12.7.1.7   Entering into a contract with an Educational Management Organization or terminating a contract with an Educational Management Organization pursuant to 2.10.2.4 of this Charter Contract;

12.7.1.8   Changes to the Mission Specific indicators (see 11.1.1.1);

12.7.1.9   Changes to pupil transportation plans (see 2.13.2).

12.8   **Non-Material Change - Notification Required**

12.8.1   Changes to this Charter Contract listed below do not require amendment as described in NRS 386.527; rather, such changes shall be accomplished through written notification. Changes requiring notification include, but are not limited to:

12.8.1.1   Mailing address, phone and fax number of the Charter School;

12.8.1.2   Changes in the lead administrator of the Charter School;

12.8.1.3   Changes in the composition of the Charter Board (see 1.5.5.2);

12.8.1.4   Changes to the Bylaws and/or Articles of Incorporation (see 1.5.5.1).

12.9   **Other Changes – Determination as Material or Non-Material, Requiring Notification or Not.**

12.9.1   The Charter School may, from time to time, contemplate a change to the Charter School that is not identified within this Charter Contract as a Material Amendment or as a Non-Material Change that requires notification. In such an event, the Charter School is obligated to request, in writing, the determination of the Authority as to whether or not such a change requires a Material Amendment (12.7) or Notification (12.8).

Nevada Connections Academy

12.10 **Severability**

12.10.1 The provisions of this Charter Contract are severable. Any term or condition deemed illegal or invalid shall not affect any other term or condition, and the remainder of the Charter Contract shall remain in effect unless otherwise terminated by one or both of the Parties.

12.11 **Third Parties**

12.11.1 This Charter Contract shall not create any rights in any third parties who have not entered into this Charter Contract; nor shall any third party be entitled to enforce any rights or obligations that may be possessed by either party to this Charter Contract.

12.12 **Counterparts; Signatures**

12.12.1 The Charter Contract may be signed in counterparts, which shall together constitute the original Charter Contract. Signatures received by facsimile or email by either of the Parties shall have the same effect as original signatures.

12.13 **Material Breach**

12.13.1 A material breach is defined as a violation of this Charter Contract which is substantial and significant as determined by the Authority. A Charter School may petition a court for a review of the Authority's determination of materiality under this section.

12.14 **Contract Does Not Affect Rights Under NRS 233B.**

This Charter Contract shall not waive any rights or obligations of the Parties under NRS 233B, nor shall it grant any new rights or expand any existing rights or obligations under that section.

Signature Page
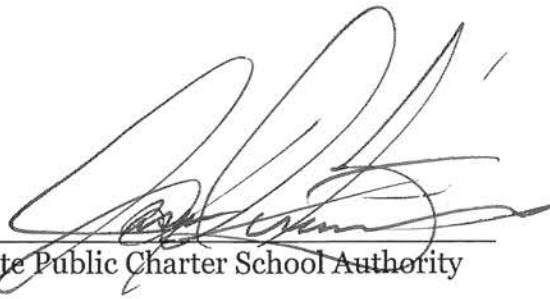
IN WITNESS WHEREOF, the Parties have executed this Charter Contract:

_____
President, Charter School Governing Body

Please print your name: _JAFETH E. Sanchez_

Date: _11/30/2017_

31

Nevada Connections Academy

_____

Chair, State Public Charter School Authority

Please print your name: _Jason D. Guinasso_

Date: _12/6/17_

EXHIBIT #1

Charter School Performance Framework

Charter School Performance Framework

Objective:

To provide charter school boards and leaders with clear expectations, fact-based oversight, and timely feedback while ensuring charter autonomy.

- Clear standards, timely feedback, and maximum transparency
- Objective information for schools, students, and families
- Differentiated oversight including incentives for charter schools designated as quality
- Comprehensive information to guide charter renewal determinations

B-53
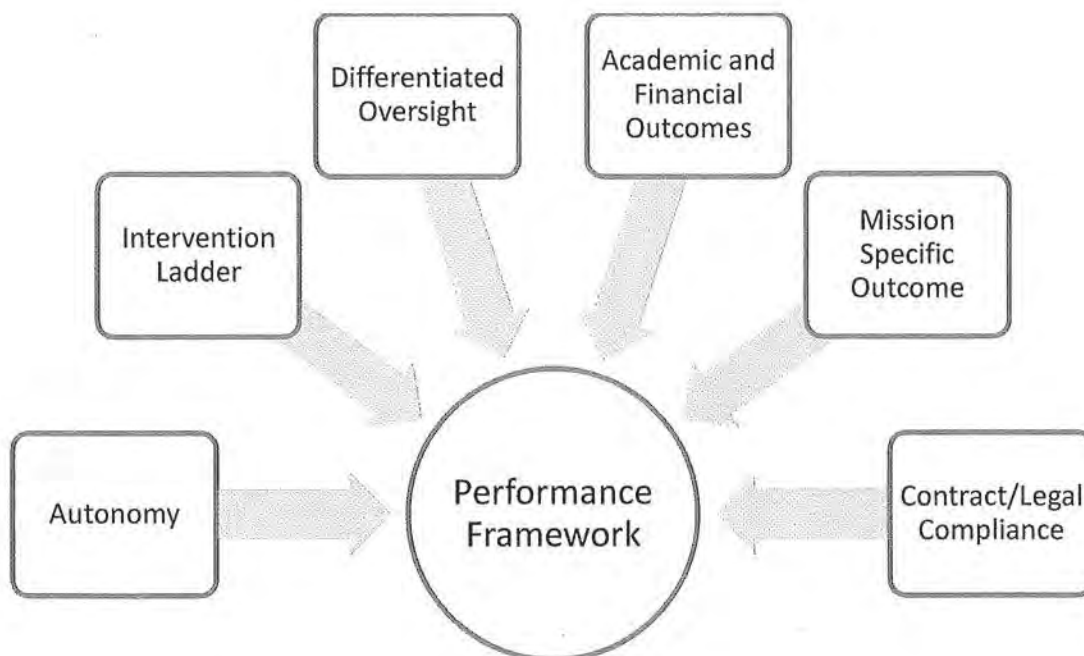
Section 1: Introduction

This document describes the Charter School Performance Framework, the accountability mechanism for all charter schools sponsored by the State Public Charter School Authority (Authority).

This document provides:

- A conceptual overview of the Charter School Performance Framework (the body of the document); along with
- The specifics regarding Performance Framework implementation, and the academic, financial, organizational and mission specific performance standards.

In addition to establishing performance criteria for charter schools, the Charter School Performance Framework also ensures that the Authority is accountable to charter schools.

The Authority is accountable for implementing a rigorous and fair oversight process that respects the autonomy that is vital to charter school success. This mutual obligation drives the Charter School Performance Framework – a collaborative effort with the common mission of improving and influencing public education in Nevada by sponsoring public charter schools that prepare all students for college and career success and by modeling best practices in charter school sponsorship.

**Charter School Performance Framework
Authority Obligations**

- Clearly communicate standards and expectations to schools;
- Conduct a transparent, consistent, and predictable oversight process;
- Conduct an oversight process that is respectful of schools' autonomy;
- Emphasis on student outcomes rather than compliance and process;
- Provide fact-based feedback to schools and communities indicating where schools stand relative to performance framework standards and expectations.

Section 2: Objective of the Charter School Performance Framework

Through its mission, the Authority has the responsibility to ensure its sponsored schools prepare all students for college and career success and to model best practices in charter school sponsorship.

The Authority acknowledges that charter schools need autonomy in order to develop and apply the policies and educational strategies that maximize their effectiveness.

The Charter School Performance Framework balances these two considerations.

The objective of the Charter School Performance Framework is to provide charter school boards and leaders with clear expectations, fact-based oversight, and timely feedback while ensuring charter school autonomy.

In addition to achieving this objective, the Performance Framework should deliver important secondary benefits:

- Incentives for charter schools designated as quality that regularly achieve their academic, financial, organizational, and mission specific performance standards;
- Comprehensive information for data-driven and merit-based charter renewal and contract revocation/termination;
- Differentiated oversight based on each school's performance and maturity;
- Maximum transparency so all stakeholders can understand where charter schools are meeting or exceeding performance standards, and where they are failing to achieve performance standards; and
- Objective information for students and families who want to learn more about the charter schools in their community.

The Performance Framework describes methods that seek the optimal balance between oversight and autonomy, while delivering the secondary benefits important to each targeted stakeholder. The Performance Framework is a dynamic process subject to continuous review and improvement.

Autonomy

Accountability

B-55
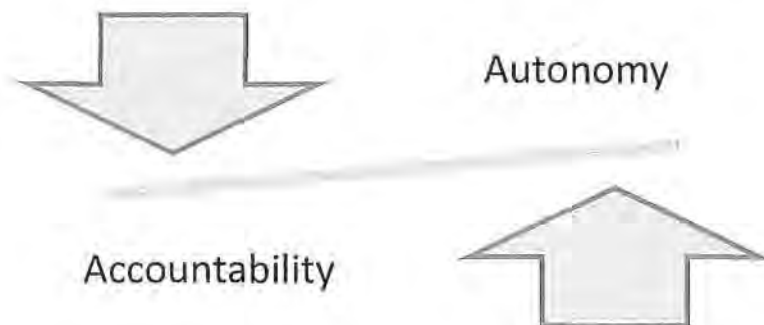
Section 3: Performance Framework Components

The Performance Framework provides for the evaluation of schools based on their ability to operate as sound, independent entities that successfully serve all students. The Authority has selected components that strike the balance between easy-to-submit documents and data that provide fact-based insight on school performance.

Routine Year Round Submissions

During the year, schools are required to submit a variety of documents to the Authority and the Department of Education. It is vital that this information is submitted by the given due date. These required submissions are often linked to funding allotments or federal reporting requirements. See the Reporting Requirements Manual for greater detail on each requirement and its function.

Academic, Financial, Organizational and Mission Specific Indicators

Academic – Academic achievement determinations for all schools will be based on student progress over time (growth), student achievement (status), and college and career readiness.

Financial – The near term fiscal health of schools is assessed through four measures: 1) Current Ratio; 2) Unrestricted Days Cash on Hand; 3) Enrollment Forecast Accuracy; and 4) Debt Default. The fiscal sustainability of schools is assessed through four different measures: 1) Total Margin; 2) Debt to Asset Ratio; 3) Cash Flow; and 4) Debt Service Coverage Ratio. These measures will be evaluated quarterly and a profile published annually based on each school's audited financial statements.

Organizational – Defines the operational standards to which a charter school should be accountable to its sponsor and the public. It is designed to treat all schools as though they are the same only in terms of meeting minimum legal and ethical requirements.

Mission Specific – The Authority may, upon request of the governing body of a charter school, include additional rigorous, valid and reliable performance indicators that are specific to the mission of the charter school and complementary to the existing framework measures.

Annual Review

The annual review is a process that compiles data from the routine year-round submissions; academic, financial, organizational and mission specific indicators and oversight to provide an evaluation of school performance. In the annual review, each school will receive an academic and financial profile, an organizational overview of compliance, and a review of mission specific indicators

Annual reviews will be provided to charter school boards and school leaders each fall following the release of the State's star ratings. We are committed to clearly communicating information from the annual review to families, schools, and the public. These reviews will also be posted on the Authority website.

Mid-Term Review

The mid-term review is a process that compiles all annual reviews and provides a three year longitudinal evaluation of school performance. The mid-term review includes a site visit to gather qualitative data that complements the quantitative findings. The results of the mid-term review provide stakeholders with a multi-year analysis of school performance and status of the school related to expectations at time of renewal.

Section 4: Performance Framework Process Description

The Authority has studied best practices to develop the Performance Framework process depicted in this flowchart. Throughout the school year, every charter school will submit scheduled documents and data that enable us to assess their compliance with laws and regulations, and their progress in achieving important school milestones.

The routine year round submissions are indicated in the Reporting Requirements Manual.

The Authority believes in conducting its oversight in a manner that is respectful of school autonomy and differentiated based upon charter school performance and maturity. Charter schools with a track record of compliance and performance do not need the same level of oversight as charter schools without such a track record. The Authority's oversight plan includes the opportunity for schools during their first three years of operation, based on compliance and performance, to transition from demonstrated compliance to assumed compliance.

Every charter school will receive an Annual Review and a three year Mid-Term review. The reviews analyze a school's academic, financial, organizational, and mission specific performance along with information collected from the ongoing oversight processes. The parameters of these analyses are indicated in detail in Appendix A, "Detailed Academic Performance Indicator Descriptions", Appendix B, "Detailed Financial Performance Indicator Descriptions", and Appendix C, "Detailed Organizational Performance Indicator Descriptions." The mission specific indicators will be finalized at the beginning of the second school year using the first school year as the baseline.

Site visits afford a sponsor with an opportunity to appreciate a qualitative aspect of the school not directly measured in ways other than observation or personal interaction. The Authority has two types of official site visits: Mid-Term Review and Targeted. The Mid-Term Review site visit is guided by a clear purpose and rubric that complements the quantitative findings. A Targeted site visit is driven by specific circumstances where the frequency and intensity of the visit will depend upon a particular circumstance.

Ongoing Oversight
- Intervene as needed
- Routine Document and Data Submissions
- Data Analysis

Performance Framework
- Academic and Financial Performance Designations
- Organizational Compliance Findings
- Mission Specific, if applicable

Annual Review
- Compilation of Performance Ratings
- Compilation of any Notices of Concern or Breach and Intervention Ladder Findings
- Presented to key stakeholders

Mid-Term Review
- Longitudinal three year review of performance
- Presented to key stakeholders
- Communicate school's position relative to renewal/non-renewal

Section 5: Intervention Ladder

Occasionally, the routine Performance Framework process will result in adverse findings. Charter schools may fall out of compliance on important legal or contractual requirements. Academic standards may not be met. Financial sustainability may become an issue. When these situations occur, the Authority may need to intervene.

Level 1: Notice of Concern
A school enters Level 1 upon receiving a Notice of Concern.

Level 2: Notice of Breach
A school enters Level 2 when it fails to comply with a material term or condition of its charter contract.

Level 3: Intent to Revoke
A school enters Level 3 when it fails to meet its requirements or schedule to remedy a Notice of Breach.

All schools begin outside of the intervention ladder and are considered to be in Good Standing. Schools in good standing receive non-intrusive regular oversight and submissions tracking. Schools must meet performance targets and expectations including compliance and maintain open communication with us in exchange for this level of non-intrusive oversight.

Schools can enter Level 1 of the intervention ladder if the Authority receives a verified complaint of material concern, or if regular oversight generates significant questions or concerns. We will communicate with school leaders, parents, and any other necessary stakeholders to verify complaints. We will contact the Board president and school leaders to issue a formal Notice of Concern. The Notice of Concern contains specific actions and due dates required to remedy the concern. Upon remedying the concern, the school returns to Good Standing. If the concern is not remedied in the time allotted, the school progresses to Level 2 of the intervention ladder.

At Level 2, the school is issued a Notice of Breach. The Notice of Breach outlines the actions necessary to cure the breach. A school can enter the ladder at Level 2 if it fails to comply with a material term or condition of its charter contract. Once a Notice of Breach is issued, the Authority monitors the school's implementation of the steps required to cure the breach. Once the school has met the Notice of Breach requirements, they exit from Level 2 and return to Good Standing.

Failure to meet the requirements specified in the Notice of Breach will result in entry to Level 3, charter school revocation/termination review. The review may include additional visits to the school or an in-depth audit to assess financial and organizational health. Schools in Level 3 are at risk of contract revocation/termination. Schools may also progress on the ladder to Level 3 if they receive repeated Notices of Breach in the same school year. Findings from the Intent to Revoke will determine whether a school enters into revocation/termination proceedings or is granted a revised Notice of Breach, returning to Level 2.

In unfortunate cases, data gathered from the Performance Framework process can be used to directly initiate charter school revocation/termination proceedings. The Authority recognizes the severity of this process and will use this right only in the case of persistent shortcomings or a grave incident that threatens the health, safety, or welfare of children.

Section 6: High-Stakes Decisions

The Authority will consider the collective record of a school's academic, financial, organizational and mission specific performance when making high–stakes decisions, though the academic performance will be the most important factor in most decisions.

Contract Renewal

The Performance Framework provides information necessary for merit-based charter renewal decisions. Decisions will be made in accordance with statute and regulation and based on longitudinal information over a school's charter term. Once a school is recommended for renewal and approved by the Authority the school will receive a renewal term length of six years as defined by law.

Performance Expectation

- Academic: Schools seeking renewal must be designated "Adequate" or above on the Authority Academic Framework plus receive a three-star rating or above on the Nevada School Performance Framework in the preceding school year.
- Financial: Schools must be rated as financially sustainable.
- Organization: Schools must be considered compliant with the material terms and conditions of its charter contract.

Streamlined Renewal

Schools designated as quality schools by the Authority may qualify for the streamlined renewal process. Quality schools are schools ranked on the Authority Academic Framework as "Exceeds" or "Exceptional" and on the Nevada School Performance Framework as a four or five-star school.

Contract Termination

The following performance outcomes may be cause for revocation/termination of a school's charter:

- Persistent Underperformance: A school with any combination of "Unsatisfactory" or "Critical" designations on the Authority Framework and two-star or one star ranking on the Nevada School Performance Framework for three consecutive academic reporting cycles.

Auto-Termination

As defined by law, starting with the 2013-2014 school year, a charter school must be closed after obtaining three consecutive ratings of one-star on the Nevada School Performance Framework.

Performance Framework Ranking/Designation				
Designation	**NSPF**		**Authority**	**Timeframe**
Contract Renewal Expectation	3-stars or above	AND	"Adequate" or above	Preceding Year
Quality	4-star or 5-star	AND	"Exceptional" or "Exceeds	Preceding Year
Contract Termination	Any combination of 1-star or 2 star	AND	Any combination of "Unsatisfactory" & "Critical"	Three consecutive years
Auto-Termination	1-star			Three consecutive years starting in 2013-2014

Section 7: Performance Framework Timeline

The Performance Framework is implemented according to an annual timeline. The goals of the timeline: a) to set clear expectations for the Authority interaction with schools; while b) standardizing the oversight process.

Beginning of the School Year

- Schools receive the Operations Manual from the Authority
- Schools receive the Reporting Requirements Manual from the Authority
- School board members and leaders contact the Authority with any questions

During the School Year

- Schools submit the required documents listed in the Reporting Requirements Manual on time
- The Authority tracks submissions and school performance framework indicators
- Schools may receive a site visit
- If issues arise or deficiencies are observed, schools enter the intervention ladder

End of the School Year

- The Authority summarizes all collected school performance data and assigns performance designations
- The Authority creates school annual reviews that combine performance scores, site visit data, and school submission performance
- The Authority shares annual reviews with school leaders, school boards, and the public

Schools should contact the Authority at any time for additional support on and information about meeting any of the Performance Framework components.

B-60

NCA's Amendment to Proposed Cure for Alleged Deficiency in Four Year Cohort Graduation Rate

In accordance with the permission of the Authority during the August 23, 2017, hearing, NCA submits the following additional proposal to cure the alleged deficiency in the high school's four year adjusted cohort graduation rate.

1. *Judicial and Agency Review Waiver - Shall be included in Settlement Stipulation as provided in NCA's proposed cure submitted August 23, 2017*

2. *Enrollment Cap & Immediate Enrollment Freeze for 11th & 12th Grade Cohorts -Have been incorporated into Charter Contract agreed upon by the Authority and NCA*

- NCA's high school enrollment as of 11/2/17 was 1,813 students
-
    - NCA's high school program will not grow beyond 1500 and enrollment will immediately stop in the 12th and 11th grade cohorts This is a decrease of 300 students from current levels. This will still accommodate returning students and no currently enrolled NCA students shall be withdrawn solely based on this cap.
    -

3. *Annual Reporting, Benchmarks & Consequences*

The following operational provisions shall not be rigidly required if the school identifies that certain proposed changes to operations are not having the desired effect of helping increase the graduation rate and, even if completed, will not be considered to satisfy the school's obligation to increase the graduation rate if the graduation rate does not increase. The school shall complete the promised reporting to both the NCA board and the Authority board on a quarterly basis beginning in April 2018. With its first report, NCA will provide a schedule for reporting the remaining quarters for the upcoming year.

The reporting shall include subgroups of students similar to those presented by NCA at the Phase I hearing through the testimony of Matt Wicks and shall include students who are 2 or more years behind in credits in high school as well as students who are not credit deficient. The reports shall focus on how these students are doing once they arrive at NCA.

B-61

Both NCA and its academy to serve credit deficient students (currently the Every Student Succeeds Academy, ES2) will submit annual (by January 30 following the close of the preceding Academic Year) reports to the Authority tracking school performance (all data will be validated by a third party mutually agreed upon with the Authority and the school) in the following areas:

a. for each credit deficient student (using only a Connexus ID not name, to avoid PII issues – and, at the Authority's request, a state issued ID), the grade student entered the high school, credits deficient at time of enrollment, credits earned during year under review, total credits earned to date, expected graduation date if student remains at that school

b. school state required test scores compared to state averages; ACT and other college prep scores compared to state average—track improvement of ACT scores based on cohort

c. students who transfer out (ID's by Connexus ID); where that student transferred to or entered GED or Alternative ED program; NCA students being accepted into college or career tech. school

d. grad rate - students all 4 years at NCA or Alternative School; of those continuing in school after 4th year, numbers graduated (or %) at conclusion of 5th year (measured as of 9/30 in year following close of 5th academic year); at conclusion of 6th year (measured as of 9/30 in year following close of 6th academic year)

Clear benchmarks for improvement and consequences if those benchmarks are not met: certain Authority board members suggested at the August hearing that the school needed to provide benchmarks and consequences if those benchmarks were not met. The school did so in the propose charter contract included as part of the cure and hereby incorporates those provisions which require a 49% graduation rate for 2017-18 and a 60% graduation rate for 2018-19 Whether NCA achieves or fails to achieve these benchmarks shall be a consideration in any renewal proceeding for NCA in 2020. In addition, if NCA does not achieve the 49% benchmark, enrollment for 11th and 12th grade shall remain frozen for the 2018-19 school year and the maximum enrollment for the high school will decrease to 1,200 students.

4. *Implement Best Practices for Tracking Mobile Students*

NCA's graduation rate is impacted significantly by students who transfer out to pursue other educational programs without informing the school of their plans. As students withdraw, some are coded by default as drop-outs due to lack of data about where those students end up. In conferring with other charter schools in Nevada, some schools have developed best-practices and processes to track these students in ways that yield significant increases in graduation rates. Accordingly, NCA proposes to implement best practices for tracking these students:

- NCA is actively collecting information on these approaches and will continue to implement improvements to how they track and counsel students during the withdrawal process.

- As part of NCA's ongoing efforts to improve graduation rates, the school will continue to provide training to all staff emphasizing the importance of asking for next school or program information when a caretaker initiates withdrawal. Unfortunately, many of the caretakers still do not provide this information. When a withdrawal is initiated without next school information, an NCA homeroom teacher and an administrative assistant both contact the family through phone calls and emails in order to obtain information. If the information is still not provided, the student's name is placed on a list and a team from Connections Academy works to contact the family and obtain a verification of enrollment.
- Multiple strategies are used to obtain next school information including searching for students in Bighorn and Infinite Campus, searching social media, reaching out to caretakers via personal email addresses, multiple phone call and text attempts, and the use of a people finder tool online. When information is acquired, a Verification of Enrollment form is sent to the new school or program in order to obtain proof of enrollment. If no information is found and the area in which the student moved to or is currently living is known, a Verification of Enrollment form is sent to possible schools the student is zoned for in that area. Attempts to verify enrollment are continued until verification is received, or the end of the validation period for the cohort.

5. Quarterly Metrics

Every quarter in the school year, NCA and the Board will review the Quarterly Metrics to see where the school is doing well and where the school can improve.

The Quarterly Metrics are a useful starting point for school improvement planning and any needed action plans and ensure that school performance is being monitored on a regular basis against key metrics that have been shown to contribute to school and student success. The Figures below show the name of the metric and the Quarters in which that metric will be reported. The School Leader will be given access to ongoing calculations for these metrics in order to "progress monitor" the metrics.

Figure 1. Personalize & Monitor Student Learning

Metric	Quarter(s) Reported
% 1st Semester "core" courses successfully completed for ELA, Math, Science & SS	Q1 - Reported as % on track for successful completion (earning a passing score) Q2 – Reported as % successfully completing course (earning a passing score)
% 2nd Semester "core" courses successfully completed for ELA, Math, Science & SS	Q3 - Reported as % on track for successful completion (earning a passing score) Q4 – Reported as % successfully completing course (earning a passing score)
% of High School Students with cohort status "graduate on time"	Q1, Q3
% of High School Students within 1.5 credits of cohort status "graduate on time"	Q2, Q4
% completing Scantron Formative Assessment Pre, Mid and Post Test	Q1 – Pre-test Q3 – Mid-Test Q4 – Post-Test

Metric	Quarter(s) Reported
% of students assigned by RTI Tier	Q1, 2, 3, 4 – Reported as % assigned Tier 1, Tier 2, and Tier 3
% students with Compliant IEPs	Q1, 2, 3, 4 – Reported as average of annual and triennial required reviews.

Figure 2. Ensure High Levels of Student Engagement

Metric	Quarter(s) Reported
% on-time Welcome Calls	Q1, 2, 3, 4 – Reported as % of welcome calls completed within 7 days of enrollment
% completed Welcome Calls	Q1, 2, 3, 4 – Reported as % of welcome calls complete
% Start Up Tasks completed on-time	Q1, 3 – Reported as % start up tasks completed within 21 days of enrollment
% Curriculum Based Assessments (CBA) Target Met	Q1, 2, 3, 4
% Student Contacts Met	Q1, 2, 3, 4 – Reported as % of students with status "contacts met" indicating a successful synchronous contact
% Learning Coach Contacts Met	Q1, 2, 3, 4 – Reported as % receiving at least: -1 successful call by Q1 -2 successful calls by Q2 -3 successful calls by Q4
% completed notification of Preliminary Retention status	Q3 – Reported as % of students marked "retain or unsure" with a successful retention contact during the Preliminary Promotion/Retention period
% completed End of Year contact	Q4 – Reported as % of students successfully receiving an End of Year call
% "On Track" escalation status	Q1, 2, 3, 4 – Reported as % of students meeting school-determined participation thresholds to demonstrate active engagement in a virtual school.
% During School Year Withdrawals	Q1, 2, 3, 4 – Reported as % of students who withdraw during the school year (after meeting "engagement" criteria)

Figure 3. Develop and Collaborate Professionally

Metric	Quarter(s) Reported
% of Teachers in a Professional Learning Community (PLC)	Q1 – Reported as % of teachers reporting a PLC IA number in their Staff Profile data view
% of PLCs in a school with a SMART goal	Q2 – Reported as % of PLCs with a school leader approved SMART goal for the 2017-2018 school year
% of PLCs in a school making progress towards SMART goal	Q3 – Reported as % of PLCs within a school with documented progress towards attaining SMART goal, as acknowledged by school leader
% of PLCs in a school with end of year SMART goal attainment	Q4 - Reported as % of PLCs within a school with documented attainment of SMART goal, as acknowledged by school leader
% of teachers completing Connections-led Professional Learning sessions (100, 200, 300-level)	Q1, 2, 3, 4 – Reported as % of teachers with a participation date listed for each monthly session that falls within a reporting quarter

Figure 4. School Operations

Metric	Quarter(s) Reported
% of open teaching positions filled by the student first day of school	Q1
% of teachers with Teacher Orientation course complete	Q1
% of Students Enrolled "On Time"	Q1 – Reported as % of students enrolled on or before the first student day of school
% of eligible "Returning" students enrolled	Q1 – Reported as % of students eligible to return the following school year who enrolled by 9/25
% of open teaching positions filled by June	Q4
% Teachers Returning	Q4 – Reported as % of teachers not indicating they wouldn't not returning via the Teacher Intent to Return process
% eligible Students Returning	Q4 – Reported as % of students indicating they would returning via the Student Intent to Return process

6. *Adult Advocates for students at-risk for dropping out*

As recommended by the National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences' (ICS) Dropout Prevention Practice Guide1, the school will assign adult advocates to serve students at-risk of dropping out to serve as mentors/advisors. As noted in the Practice Guide, "research suggests that students who have ongoing relationships with adults feel a greater sense of school membership, attachment, and involvement" and that additional benefits of these relationships include "reduced risky behaviors, reduced absentee rates, improved grades, and improved communication and social skills. Recognizing that these are all areas that are key indicators of school success, the school's adult advocates will mentor, build relationships, and engage with students in the following ways:

- Small group LiveLesson Advisory Sessions
- Advisory Teachers/Designated Counselors
- Student Engagement Team (SET)
- Teacher and staff Professional Development (guidance and training on support to at-risk students and dropout prevention)
- Learning Coach Support

SMALL GROUP LIVELESSON ADVISORY SESSIONS

The ICS Dropout Prevention Practice Guide provides specific suggestions regarding the types of responsibilities adult advocates should undertake, including that regular time in the school day or week should be established for students to meet with the adult.   This will be accomplished through weekly small group LiveLesson advisory sessions.

---

[1] https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dp_pg_090308.pdf

ADVISORY TEACHERS/DESIGNATED COUNSELORS

The Advisory Teacher/Counselor will be the key person within the high school team who is responsible for keeping a comprehensive view on all students they are assigned. These will be synchronous small group (15 students or fewer) advisory sessions conducted 1-2x per week with the Advisory Teacher/Counselor to support student engagement, academic success, and career readiness.

The advisory teacher/counselor will watch for gaps in learning as well as the most likely gaps in positive learning habits in order to support student success in the online environment. They will use the data systems outlined in section 2.1 to support the identification and support of students at-risk for dropping out.

COUNSELING PROGRAM

The counseling program will offer individual and group counseling, as needed, and will focus on academic development, personal and social growth, and college and career readiness activities through a variety of communication tools (LiveLesson sessions, phone calls, message boards, Virtual Library, newsletters, and face-to-face field trips and events that will take place throughout the state).

The counseling team will have an established system for early identification of students who are behind in earning high school credits, or those who are off track for graduation. Once identified, counselors will work with these students to identify support needed to be successful in earning credits, and a plan to get back on track to graduate with his/her cohort. Specifically, school counselors will be working directly with students to identify a course of study that works to get the student back to graduating with his or her cohort. Potential options include credit recovery courses, additional credits each semester, block scheduling, and summer school. Counselors will work with students and families individually to identify what is best for the needs of each student. Further, counselors will work with students individually and in groups to instruct students on the mindsets and behaviors necessary to be a successful virtual school student. Students will learn about organizational and time management skills, assertiveness in working with teachers, and the skills necessary to become a self-regulated learner. Finally, school counselors will also collaborate with special educators to support students with IEPs transition plans.

The technology available in Connexus will allow for teachers and counselors to monitor students' participation and performance in course work to identify students who are behind in lessons or performing poorly in current courses. Teachers and counselors will assist these students in successfully completing courses through frequent calls and access to additional resources, as needed.

Counselors will help monitor students' performance against drop out and on-track indicators and prepare students for college, career, and/or employability with

- College and career readiness data view focusing on steps needed to meet post-

B-66

graduation goals;

- Interactive LiveLesson sessions connecting families with real-time information on financial aid and scholarships, college application processes, entrance requirements, and more;

- College test preparation courses for the SAT/ACT;

- Early identification of students who may be off track for graduating on time; and

- 1-to-1 counseling with students as needed to provide resources and assistance with post-secondary planning, including career options, vocational training, and selecting the right college.

In addition, there will be additional supports and activities available to support a student's college and career goals including the following:

- Counseling LiveLesson sessions each Friday for high school students (including Career Fireside Chats on the fourth Friday of each month);

- College admissions LiveLesson sessions;

- Career and vocational options LiveLesson sessions;

- College newsletters sent to high school students each month;

- Chat-with-a-Grad sessions; and

- Connexus tools such as the Progression Plan Manager.

Students will have access to the national counseling LiveLesson session program, which delivers weekly guidance curriculum lessons and national college admissions sessions throughout the school year. The sessions include the Career Fireside Chats on the fourth Friday of each month. Previous sessions have covered such topics as Teen Dating Violence Awareness, Educational/Training Opportunities After High School, Why School Matters: Navigating Your Educational Development Plan, How to Develop a Growth Mindset, Aligning Individual Goals & Abilities, and ACT & SAT Overview. A college newsletter is sent to high school students each month.

Students will be encouraged to enroll in College and Career Focused clubs. Each club includes regular LiveLesson sessions with a career and college counselor. There are several clubs focused on post-secondary planning including: College Planning Club, First Generation Club, High School Career Club, and Middle School Career Club.

The counselors will also plan additional LiveLesson sessions, and small group advisory sessions, for students which will address specific student needs. The counselor will be a resource to students, families, and staff in ensuring that all students are safe.

7. Targeted Professional Development and Changes

TEACHERS

Teachers and Staff at NCA will participate in additional training, and have access to on-demand resources, to support them with:

- motivating and engaging at-risk students;
- recognizing potential drop-outs and implementing strategies for dropout prevention;
- recognizing and supporting students in distress;
- determining appropriate instructional and behavioral supports;
- identifying on-track indicators for high school graduation;
- creating a college-going culture; and
- providing guidance and support to students who may choose to go to work after graduation.

NCA BOARD MEMBERS

In addition to the professional development for the teachers and staff, the Board will also receive training throughout the year. A sample of a training schedule is included in Figure 6.

Figure 5. Board Professional Development

Month	Training	Description
August	What is the Monthly School Report? What does it mean?	The monthly school report is provided to the board at each month's board meeting. This report contains enrollment data (by grade band), student demographics (including FARM eligibility and Special Population numbers), contacts between teachers and students, and performance metrics (attendance, participation and overall performance). After the training, the board should be able to interpret the data on the monthly school report and see trends and issues at the school.
September	What are the Quarterly Metrics and what do they mean for the School?	At the end of each Quarter (October, January, April, and July) Connections Academy will report to the Board on operational metrics related to the School Focus Goals, Core Model & Standards and School Year Cycle. These are metrics that Connections expects will help drive Efficacy as measured by the School Focus Goals. These metrics are either in addition to those shared on the Monthly School Report, or are sharing comparative results across the schools for what is shared on the Monthly School Report. The training will explain each metric that will be used, what it means, how it is calculated.
October	What are our school goals and how are they calculated?	This training will go over the school goals (as the School Leader goes over his state of the school report). The school goals will be discussed/explained in terms of how they will be measured, monitored, and what actions the school will be taking to meet them.
November	What were the key takeaways of the Leadership team from the 2017 National Dropout Prevention Network Conference?	The conference is to be held October 22-25, 2017 and is put on by the National Dropout Prevention Center/Network at Clemson University. Key members of the leadership team plan to attend the conference. Conference strands include credit and recovery opportunities, parent and family engagement, alternative educational contexts, strategies for specific populations, civic/community engagement, leadership and administration issues, and chronic absenteeism. The attendees at the

Month	Training	Description
		conference will be prepared to share their takeaways with the board.
January	*How is NCA doing on Quarter 2 Metrics?*	This session would highlight the outcomes of the metrics that are reported in Quarter 2. The board should be able to gauge how successful the school is on implementing the school improvement plan and whether at the half-way point in the school year, the school is on track to make its goals.
February	*How is NCA preparing for state assessments?*	Throughout the school year NCA has been preparing it students to take the state assessments. This month the school leader (or designee) will explain all the work that has been done to prepare students academically to succeed on these important assessments. The school leader (or designee) will also talk about the logistics/planning that went into finding test sites and scheduling students – this is an important part of reaching that 95% attendance threshold.
April	*How is NCA doing on Quarter 3 metrics?*	This session would highlight the outcomes of the metrics that are reported in Quarter 3. The board should be able to gauge how successful the school is on implementing the school improvement plan and whether with three quarters of the school year completed, the school is on track to make its goals.
May/June	*What have we learned? Strategic Planning for next year?*	This session would be more of a discussion of the board and school leader. It would be a reflection on the school year as a whole – what they learned, what worked, and where the school is now. The board may consider going through a strategic planning process as they prepare for the 18-19 school year. This planning could be facilitated by an outside consultant who would help the board set new goals for the school for the coming school year.

NCA LEADERSHIP

NCA has implemented promising leadership changes. NCA's new school leader as of November 1, 2017, Dr. Chris McBride, has an impressive track record in terms of raising student achievement throughout various public schools in Washoe County School District and beyond. For example, as the director of Mariposa Academy Charter School in Reno, Mr. McBride had extensive experience managing school budgets, ensuring academic success of students, and successfully overseeing school operations, both academic and financial. Likewise, as Dean of Smithridge S.T.E.M. Academy, he successfully implemented improved student achievement measures and led implementation of several committees and programs dedicated to that success and he also served an important role in building the school improvement plan as Associate Dean of Students (alternative education) at Pine Middle School.

8.   Academic support and enrichment to improve academic performance

As indicated by the ICS Dropout Prevention Practice Guide, "research shows that low academic performance, absenteeism, and grade retention are related to dropping out" and that the provision of appropriate academic supports that helps address skills gaps, can offset a cycle of

frustration, and can enrich the academic experience for students who may be disengaged.[2] In support of this recommendation and to improve student academic performance, NCA will continue to provide and add further academic supports beyond the standard high school course offerings and instructional supports:

- GradPoint Credit Recovery Courses (already being provided as part of Grad Rate Improvement Plan)

- Success Academy Courses - Freshman and Senior Success courses (already part of Grad Rate Improvement Plan)

- Supplemental Instructional Support Programs (e.g., Reading Plus, Imagine Math, Math XL)

- Career Technical Education (CTE) course offerings and college, career, employability supports

- Summer School (already offered and expanded through Grad Rate Improvement Plan)

CREDIT RECOVERY/GRADPOINT

To support high school students on their path to graduation and college and career, NCA is providing credit recovery course offerings during the summer and school year as a resource to help students recover credits and achieve and maintain on track status.

GradPoint credit recovery courses offer a diagnostic-prescriptive virtual learning solution. The student-centered philosophy behind GradPoint's courses includes the necessary support features to facilitate and guide customized credit recovery:

1. Prescriptive-diagnostic assessment and instructional sequencing tools that automatically tailor and deliver personalized learning for every student.

2. Engaging content and interactive, collaborative learning elements to re-engage at-risk students.

3. Instruction, activities, and assessments that address diverse learning modalities and enable students to demonstrate content mastery in a variety of ways.

4. Robust progress monitoring tools.

GradPoint's prescriptive courses provide a personalized pathway through the course based on needs, saving valuable learning time and increasing student motivation. Unlike other programs, GradPoint automatically diagnoses and prescribes content for a truly personalized learning experience. Students take a pre-test and a post-test with every module. Based on their results, they are assigned lessons in areas in which they did not demonstrate mastery and are exempted from other lessons they have already mastered.

SUCCESS ACADEMY COURSES

To further support students' success and engagement in school, NCA has been offering and will expand on two Success Academy courses: Freshman Focus and Senior Success.

---

[2] Page 22, https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dp_pg_090308.pdf

The Freshman Focus course will orient students to resources available to them, introduce strategies for success in high school course-level work, emphasize the importance of academic integrity and producing authentic work, and build college, work, and career readiness.

Based on the positive results of the Freshman Focus Course, NCA will also offer a course that addresses needs specific to seniors, Senior Success. The Senior Success course exposes students to tools and resources designed to best prepare them for life after high school. Students will gain exposure to information about financial aid, the college application process, résumé writing, graduation information, and post-secondary options. This course also provides students the opportunity to reflect on their high school experience.

SUPPLEMENTAL INSTRUCTIONAL SUPPORT PROGRAMS

Supplemental instructional support programs (SISPs) are assigned to students who need additional practice and/or support with the foundational skills required to be successful with grade level standards. Teachers are trained in the implementation of these programs, including analyzing and evaluating student progress using the data provided by each program. As a standard part of the SISP review process, the Connections Academy Curriculum and Instruction team evaluates programs for:

- Evidence of research
- Alignment to standards
- Ability to customize
- Feedback to students
- Direct instruction
- Teacher/Student user experience
- Diagnostic/prescriptive component
- Motivation feature
- Data and reporting, including data on discrete skills

Some of the additional SISP resources that the school will provide students will include Imagine Math,[3] Math XL,[4] and Reading Plus.

CAREER TECHNICAL EDUCATION (CTE)

As indicated in the ICS Dropout Prevention Practice Guide, students at risk for dropping out should be provided relevant instruction to better engage them in learning and to better serve them after they complete school, with a specific focus on helping students discover the purpose for completing school by incorporating career-related curricula.5   NCA fully supports this recommendation and will offer CTE courses that provide students the opportunity to take courses in many of the 16 nationally recognized career clusters. The courses expose students to a wide variety of career areas and help prepare them for career and college success by giving them a solid academic foundation, technical knowledge, and skills training in a wide

---

[3] https://www.thinkthroughmath.com/resources/case-studies/
[4] http://www.pearsonmylabandmastering.com/northamerica/mathxl/educators/results/results-library.php?product[]=MyStatLab&hpd
[5] Page 34, https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dp_pg_090308.pdf

variety of fields. The courses include interactive presentations, real-world activities and assignments, career connections, and an online study guide to help students obtain the skills and competencies of their chosen career pathway. NCA will explore adding additional CTE courses and certifications associated with the selected career pathways.

In addition, students will be encouraged to enroll in College and Career Focused clubs. Each club includes regular LiveLesson sessions with a career and college counselor. There are several clubs focused on post-secondary planning including: College Planning Club, First Generation Club, and High School Career Club.

SUMMER SCHOOL

Summer school provides an opportunity for many students to "catch up" and be on track for graduation. In addition, research has shown that by enrolling in academic courses in the summer months, "summer slide" is reduced and can help students achieve academically. In support of this research finding, GradPoint and targeted Connections Academy courses will continue to be offered to NCA students during the summer.

As part of students' PLP, students in NCA's summer school program will be closely monitored by certified teachers and counselors who will provide targeted, supplemental instruction and maintain regular contact to keep them focused on their goal of graduation. Teachers will work to ensure that students complete pre- and post-tests, progress at a pace that enables successful course completion, and participate in daily instructional and intervention activities. Students who are credit deficient will take GradPoint courses.

Summer school staff will be chosen based on their familiarity with effective instructional and motivational strategies. They will be focused on student success and already have relationships with many of the students, a foundation on which to build academic success. When students know that there is an adult that cares about their success, then they are more motivated to be successful.[6]

Every student who is behind as indicated by the On Track Indicator and Progression Plan will be encouraged and provided support to continue their school year into the summer, whether it is realistic for them to move up a grade by the end of summer or not.

1)

---

[6] Hattie, J. (2009). *Visible Learning: A Synthesis of over 800 Meta-Analyses Relating to Achievement.* Routledge: New York, p. 72.

Nevada Connections Academy's Response to the 2019 Renewal Report

August 12, 2019

Nevada Connections Academy (NCA) submits this response to the 2019 Renewal Report issued by Authority Staff on June 28, 2019. While NCA has received notices of breach and concern in 2018 related to the 1-star rating of its elementary and middle school under the Department of Education's Nevada School Performance Framework (NSPF) for the 2017-2018 school year and not meeting the 95% participation threshold overall and for subgroups, NCA has worked diligently on instituting measures to improve its performance in these areas. While the emphasis in Staff's Renewal Report is on the school's performance under the NSPF, it should be noted the state legislature acknowledges virtual schools are different as evidenced by recent (June 2019) passage of SB441 which acknowledged the lack of adequate policy supports to help ensure virtual school success. The legislature recognizes that measuring outcomes in virtual schools and brick-and-mortar schools are quite different. NCA looks forward to engaging with NDE as it begins the regulation process for virtual schools to ensure that students and families can have the best opportunities for a successful K-12 education.

Additionally, missing from the Renewal Report was NCA's ratings under the Authority's Charter School Performance Framework in 2013 and 2014. Under the Authority's Charter School Performance Framework, incorporated in NCA's charter contract pursuant to NRS388A.273, NCA received an Authority rating of "Adequate" in 2013 and "Approaches" in 2014 and was rated as in "Good Standing" by the Authority for both of those years.[1]

NCA takes exception with statement in the Renewal Report that "[p]rior to the 2017-2018 school year, performance ratings for Nevada Connections Academy were relatively similar." As NCA has received three years of star ratings thus far (and only two years of ratings for the high school), negatively characterizing the school's performance in prior years is misleading. For the 2014-2015 school year, the middle school received a 4-star rating, and the elementary school and high school each received a 2-star rating. Nevada did not issue star ratings for the 2015-2016 school year. For the 2016-2017 school year, the middle school received a 3-star rating, the high school did not receive a rating, and only the elementary school received a 1-star rating. NCA received its lowest ratings under the NSPF for the 2017-2018 school year.[2] Thus, with the variance in star ratings over the years, it is not appropriate to characterize NCA's performance prior to 2017-2018 as "relatively similar" to its performance in 2017-2018.

Although Staff's Renewal Report concludes NCA's overall NSPF ratings for the previous three years of history currently available[3] has trended downward, the impact of measures implemented as part of the Elementary School Improvement Plan and the High School Graduation Rate Improvement Plan remains to be seen. The elementary school program's rating for 2018-2019 will reflect less than one year

---

[1] See attached Charter School Performance Framework Reports for 2013 and 2014.

[2] NCA notes that for the 2017-2018 school year, the middle school program would have received a 2-star rating but for not meeting testing participation threshold in place at the time (or if the testing participation rules in 2018-2019 had been applied).

[3] Of the three years of NSPF ratings currently available (2014-2015, 2016-2017 and 2017-2018), there are three years of ratings for the elementary and middle school and only two years of ratings for the high school.

1

of implementation of the measures approved in the Elementary School Improvement Plan as students were measured in the spring before the end of the school year. The high school program's performance ratings for the 2018-2019 school year will not reflect the high school's graduation rate for that year as that data is not available until December, but instead will reflect graduation rate for the previous 2017-2018 school year. NCA's graduation rate has improved almost 20% in one year, but with graduation rates under the NSPF being reported on a one-year lag, it is practically impossible for NCA's high school program to improve its star rating for 2018-2019.

High School Improvement Plan

NCA's implementation of its High School Graduation Rate Improvement Plan has been a success. The school not only achieved the Authority's graduation rate targets for the 2018 and 2019 cohorts, they exceeded those targets. This remarkable performance by NCA cannot be understated. Under the plan, the school saw its graduation rate increase 18.7 percentage points in one school year, jumping from 45.04% in 2016-2017 to 63.77% in 2017-2018. Based on preliminary data for 2018-2019, it's expected that this upward trend will continue, and the school will see its graduation rate increase over the previous year. It is also important to note that NCA students that remain in the school since 6th grade have a graduation rate of 95%. NCA objects to the characterization by Authority Staff in the Renewal Report that the high school program "has struggled to maintain an adequate four-year adjusted cohort graduation rate" based on its recent graduation rates.

Elementary School Improvement Plan

At the beginning of the 2018-2019 school year, NCA implemented an Elementary School Improvement Plan that was approved by the Authority in August 2018. While the plan is still in its infancy, its first year of implementation has resulted in improvements which the school is continuing to build upon. The ELA curriculum Lexia ReadingCore5 was expanded to all NCA students in grades K-5 for the 2019-2020 school year based on the success of its initial rollout to a select group of NCA students the previous year. At the beginning of the 2018-2019 school year 69% of first graders were working at or above grade level and by the end of April 2019, 83% of first graders were working at or above grade level. This, in addition to other curriculum improvements that have been instituted, allow customization to a student's academic strengths and weaknesses.

The curriculum additions adopted as part of the plan have enabled the school to provide more supports to address the specific needs of individual students. NCA has also improved its Response to Intervention (RtI) process to better identify specific needs of students so they receive the support necessary to enable them to maximize their academic proficiency. Also, as part of the plan, teachers have received more robust professional development on the curriculum and resources available so that student learning is maximized. Moreover, the NCA Board requires monthly updates on students in "alarm" and "approaching alarm" status, specifying the percent and discrete number of students that are falling behind. For students with these designations, NCA increases the number of contacts to the family to get the students caught up.

Continuing Improvements in Professional Learning Communities (PLCs)

All teachers at NCA participate in a Professional Learning Community (PLC). Teachers in each PLC spend their initial meetings studying the most recent student test data and this in-depth look at student data reveals areas of success and areas of concern. Teachers use this information to decide where they need to focus for the upcoming year (i.e., Are there areas where students performed well? Are there areas that need more concentration?) as well as develop SMART goals for these areas. SMART goals are a critical component to the program's success, as they focus on areas where students struggle and allow teachers to measure the success of their work throughout the year, which enables them to adjust throughout the year rather than waiting to evaluate the effects once the year is complete.

NCA Teacher Training and Professional Learning

NCA recognizes that positive student outcomes rely on a qualified and dedicated teaching staff equipped with the right tools, training, and motivation. As teaching in a virtual environment requires specific skills, NCA provides extensive initial and ongoing professional development for its teachers. NCA provides a systematic approach to professional learning for all teachers and each year, teachers are required to participate in ten professional development days and complete assigned professional learning activities. Professional development activities include presenters with various backgrounds and areas of content expertise conduct live tutorial sessions on a rotating basis throughout the school year. Topics for professional learning sessions support core standards for facilitating student learning, align to the school year cycle, and are driven by the belief that all students can and must learn.

Among the most significant recent professional learning opportunities for NCA's teachers have been sessions on both trauma and poverty-informed teaching. These learning opportunities have been critical in developing NCA's staff to best support the social-emotional and academic needs of its students. NCA will continue to dive even deeper into both trauma and poverty-informed teaching in the 2019-2020 school year, as these populations continue to increase at NCA. In addition, NCA's teachers have all completed training in the Math, We Got This! Program designed to foster a comprehensive culture shift in how students view math. This is a multi-faceted approach that has been used to help foster a 'growth mindset' in both teachers and students. NCA student survey data shows that for many students, math is intimidating, difficult, and causes a struggle. The vision is to create a full-scale cultural shift toward math acceptance that leads to math love.

Learning Coach Trainings

NCA families have access to a number of national Connections Academy LiveLesson sessions to Learning Coaches throughout the school year to assist in supporting their students with language arts. Continued emphasis on the use of these tools are another helpful resource for improvement. NCA also hosts regular Q&A on-line sessions for any interested Learning Coaches to pop in and ask any questions they may have. Importantly, each Learning Coach receives a personal call from a teacher at the beginning of the year to ensure the Learning Coach is equipped with the information and tools that are necessary to ensure the success of the student. Teachers and staff are also available every day throughout the year to provide support to Learning Coaches and answer any questions.

3

Response to Intervention

While NCA has been using multiple strategies to provide struggling students with effective and timely interventions for quite some time, NCA retrained all teachers on the multi-tiered instructional approach in the 2018-2019 school year to make sure that all teachers are up-to-date on all strategies and available resources for students. All students in the school receive Tier I supports, and if more are required, the supports are more target and specific to the students' needs (Tier II). If data indicate this more intense isn't effective, the students are referred to Tier III, or intensive supports/contracts provided through a Positive Behavior Support Plan (PBSP) overseen by a Board-Certified Behavior Analyst (BCBA). NCA retrained all teachers in the Response to Intervention (RtI) program and their role in helping students. Teachers also received training on interpreting data to make instructional decisions, documenting their work with students as part of the Personal Learning Plan (PLP), implementing strategies for differentiating instruction, identifying the most appropriate supplemental instructional programs (SISPs) for students, and supporting students who are not progressing or not engaged in the instructional program. Teachers work closely with Learning Coaches to discuss the needs of their students, the RtI process, and any SISPs that might be assigned. NCA will continue to refine and improve the RtI process in the 2019-2020 school year.

Authority Staff's Site Visit Conducted on Jan. 24, 2019

NCA's Amended Charter Contract provides that the Authority shall visit NCA at least once as a component of the Mid-Term evaluation as defined in the Charter School Performance Framework and that the Authority may, at its discretion, conduct formal, targeted school visits. The opportunity for feedback from the Authority and performance improvement cannot be understated. The site visit that occurred on January 24, 2019 was the first time any site visit had been conducted by Authority Staff during this charter term.[4] While the Site Evaluation Report identified areas for improvement, it should be noted that the evaluators did not attend any mandatory instructional sessions where most of NCA's students' learning takes place. Rather than observing the virtual learning experience from a student's perspective or sitting with a teacher for insight into how NCA teachers conduct mandatory lessons, Authority Staff attended optional LiveLesson sessions and based their evaluation solely on those optional instructional sessions. This is a disservice to NCA, its students and families.

The Nevada School Climate / Social Emotional Learning Survey

The Nevada School Climate / Social Emotional Learning Survey (NV-SCSEL) measures students' perspectives in two domains of school climate- engagement and safety. The NV-SCSEL Survey also measures students' perceptions of their own social and emotional competencies. NCA achieved its highest participation rate for this survey in the 2018-2019 school year at over 40%. Most impressively, NCA scores were more favorable than both state and SPCSA school averages in all domains at each of the three school levels- elementary, middle, and high school. These results indicate that, on average,

---

[4] Had Authority Staff conducted previous site visits to NCA as part of fulfilling its oversight responsibilities, the school would have had additional opportunity to receive feedback and make modifications sooner.

4

NCA students' perceptions of their engagement, safety (both physical and emotional), and social emotional competence are higher than those of their peers at other public schools.

<u>Summary</u>

The measures outlined above are some of the steps NCA has taken in the recent past to improve its performance. NCA meets the needs of families across the state for a wide variety of reasons, including students who work at a different pace than their peers, students who were bullied at a previous school, families who are looking for a different option other than their zoned public school, families requiring a great deal of travel during the year, students or parents with medical issues requiring prolonged hospital care or frequent doctor's visits, and students with accommodations that make it difficult to be successful in a traditional classroom. Given these distinguishing reasons families choose NCA, the population of students that NCA serves is highly mobile. Many students enroll with NCA for a short period of time to address a short-term issue or challenge (academically, socially or personally) and return to their previous school once they have navigated the issue; other students find NCA the perfect fit and remain enrolled.

NCA's transiency rates are more than double those of the State and the Authority.[5] Extensive research exists on the adverse effects of students moving from one school to another, with up to two years lost in transition. While NCA is continuing to grapple with the effects this has on its ratings under the NSPF, particularly the growth metrics, which account for 55% of the total score, NCA is optimistic that with the continued professional development of its staff, tailoring of the improvement plans for maximum effectiveness, and close monitoring by the NCA Board, its performance will continue to improve.

---

[5] See Transiency Report downloaded from http://nevadareportcard.nv.gov/

5

Graduation Rate Improvement Plan

Submitted to:

State Public Charter School Authority

By:

Nevada Connections Academy
Board of Directors[1]

May 16, 2016

---

[1] The final version of this plan is on the NCA Board's agenda for review and possible approval on May 17, 2016. NCA will update the Authority with respect to the action the NCA Board takes on this version of the plan.

Table of Contents

List of Figures

1. Executive Summary

The Board of Directors of Nevada Connections Academy (NCA) has taken steps to improve its cohort graduation rate. Specifically, the Board has put in place a set of policies, programs, and interventions (detailed in this plan) starting in the fall of 2015 to significantly improve the four-year cohort graduation rate for the 2015-16 cohort and beyond. The NCA Board also recognizes that graduation rate is one metric among many metrics that need to be examined in order to determine an accurate picture of school performance (See Appendix A).

The Nevada State Public Charter School Authority (the Authority) shared its concerns about NCA's graduation rate at the March 2016 Authority Board meeting and specifically expressed its desire that NCA would work with Authority Staff to develop a comprehensive plan to raise NCA's four-year cohort graduation rate.

In response to the direction received from the Authority during the March Authority meeting, the NCA Board, school leadership, and Authority Staff have held several meetings to discuss improving the NCA four-year cohort graduation rate while continuing to serve a significant population of credit-deficient high school students and helping all NCA students to academically succeed. For the 2015 graduation cohort (334 students), 143 (42.8%) were two or more credits behind when they enrolled; 56 (16.8%) were more than six credits behind when they enrolled. More information is provided in Appendix B. The plan detailed herein is the result of the collaboration between the NCA team and Authority Staff.

This plan builds on the school performance initiatives previously adopted by the NCA Board for implementation during the 2015-2016 school year. Based on current indicators, the NCA Board believes that the programs put in place during the 2015-16 school year will result in a measurable improvement in the graduation rate of the 2015-16 cohort, and thus will provide a solid base upon which to build the further improvements expected from this plan:

- The projected graduation rate for 2016 reflects a significant increase over the prior year.

- The percentage of anticipated graduates that entered behind in credits is 14.2% of the graduates compared to 10.1% for the 2015 graduates. This is an indication that NCA is doing a better job at helping students that enter credit deficient to graduate on-time for the 2015-16 school year.

- When comparing the 2016 anticipated cohort with the 2015 cohort, the percentage of students who enrolled two or more credits behind and the percentage that enrolled six or more credits behind were significantly higher in 2016. Despite having a slightly more challenging population of students this year, the projected graduation rate shows an increase, an indication that the steps taken to improve the graduation rate are showing results (See Appendix C for more details).

The NCA Board thanks the Authority Board and Staff for its collaboration in developing this plan and for its assistance in helping NCA address the four-year cohort graduation rate issue. The NCA Board believes that this plan demonstrates challenging yet achievable goals for improving the four-year cohort graduation rate.

2. 2015-16 School Year Improvements

NCA implemented significant changes during the 2015-16 school year to improve graduation rate. The changes started with a cohort analysis (described in Appendix B) that detailed every student in the 2015-16 four-year cohort with regards to their credit status. As proper academic placement and tracking within a robust, credit earning and recovery program is the foundation for success, credit deficient students were assigned programs, support, and interventions, depending on their credit status (on-track, two or fewer credits deficient, two to six credits deficient, etc), tailored to their individual needs to help them earn a high school diploma. The level of support and type of intervention is based on student need and changes as the student progresses through the program.

We have begun to see success in these improvements and implementations; for example, of all Credit Recovery courses attempted, approximately 80% were passed. Additionally, we anticipate that the 2016 four-year cohort graduation rate calculated under No Child Left Behind (NCLB) that will result from these efforts will increase at least 10% over the 2015 performance (details are included in Appendix C). The following section details the full scope of the supports and interventions implemented during the 2015-16 school year.

2.1 Internal & External Data Validation

Internal Data Validation Efforts

One of the benefits that NCA provides its students is a highly individualized approach to learning through targeted instruction, counseling, and the implementation and monitoring of individualized graduation plans. Each student in the 2015-16 graduation cohort has been individually reviewed and placed into one of three groups. Group 1 students are on track for graduation and based on performance and previous course completion and are anticipated to be counted as graduates in the 2016 cohort. Group 2 students are two to six semester-length courses behind and through remedial coursework can still potentially graduate on-time. Many of these students were credit deficient at the time of their enrollment in NCA, and through NCA's credit recovery program, they have caught up. Group 3 students are severely off cohort and are not likely to graduate on-time because they are more than six semester courses behind. Similar to Group 2 students, many of these students were credit deficient at the time of their enrollment in NCA. Students included in this group are unlikely to graduate as part of the 2016 cohort as it is not possible to graduate them and ensure that academic standards are being met. However, we are confident that with the right programming, support, and monitoring, they will graduate with a high school diploma in future years. Serving these students is an important part of NCA's mission. Because of the initiatives NCA has already implemented, progress is being made with this severely credit deficient population. One of NCA's strengths is its unique position to provide highly targeted and supportive programs which are data based and involve the participation of many school staff. Effectively harnessing that strength for the betterment of all students that NCA serves is a key focus of this plan. Appendix C provides a more detailed analysis and progress.

An important data point and influencing factor on the NCA cohort graduation rate is the high transiency of the NCA high school student population. According to the Nevada Department of Education, the transiency rate based on the 2014-2015 state report cards for NCA is 43.3% vs. the State's 26.5% and Clark County's 28.8% (see Appendix D for more details). NCA's transiency rate is significantly higher than the state and Clark County for a number of reasons. In general, virtual schools have a high transiency rate due to the various factors compelling a student to enroll in a virtual school. Many students chose NCA to solve a problem for a particular period of time such as bullying, medical issues, family situation, pregnancy, or other crisis situation or they join NCA as a "last resort" before dropping out of school. **Over <u>69% of the anticipated non-graduates</u> for 2016 have been <u>enrolled less than one year</u> – meaning NCA has had very little time to influence their on-time graduation status and that their credit deficiencies do not reflect NCA's performance but the performance of their prior school(s)**.

The Authority staff has identified as an objective for NCA to increase its efforts to identify these students and where they go after leaving NCA. As a result, the school has intensified its efforts to locate and confirm the whereabouts and programming of students who withdraw from NCA, even after being enrolled for only a short amount of time. These efforts are led by the school's reporting coordinator and use the state's reporting system, our internal Education Management System (EMS), and other sources of information as needed. A detailed, multi-step process for confirming student enrollment status and locating withdrawn students begins well before the official "validation" period in September. When needed, the school will use the services of carefully selected, experienced third party services to assist in locating students who have withdrawn and could adversely affect the cohort rate.

Ongoing communication is essential to the internal validation efforts and ultimate improvement of the NCA four-year cohort graduation rate. This includes regular tracking and research and increased internal communication about the status of each potential cohort member and his/her status upon exit and entry. Given the transiency rate of our population (referenced previously) this is particularly important. This communication also ensures that currently and newly enrolled students are not only progressing but are receiving pro-active instructional, counseling, and administrative support. We anticipate that additional tracking and data focused on these students during the 2015-16 school year will make a measureable difference in the four-year cohort graduation rate for the 2016 cohort. What is even more encouraging is that these increased data efforts are now occurring immediately after a student withdraws and will have long term impact on the graduation cohorts in future years.

External Data Validation Efforts

Based upon a recommendation by the Authority Executive Director, the NCA Board approved the identification and selection of an external evaluator at its April 2016 Board meeting. NCA seeks to engage an external evaluator by June 2016 to review both the 2015 graduation cohort and the 2016 graduation cohort. This organization (or individual) will look at not only data sources readily available through the Nevada Department of Education, but will also look at internal data to determine if it supports the conclusions regarding student body characteristics and progress that have been previously presented by the school. This resource will also be asked to address whether the graduation rate has been correctly attributed to NCA by the Nevada Department of Education, consistent with NEV. REV. STAT. ANN. § 385.347 (2016) which requires that the Authority prepare an annual report of accountability for each of the charter schools it sponsors and include information prescribed by regulation of the Nevada Department of Education including the graduation and drop our rate of pupils enrolled. NRS 385.347 mandates the dropout rate exclude pupils who provide proof of successful completion of the high school equivalency assessment, are enrolled in courses approved by the NDE as meeting the

requirements for an adult standard diploma, or withdraw from school to attend another school.[2] This review may identify students who were in the 2015 or perhaps in the 2016 cohort who were incorrectly categorized as dropouts in the 4-year cohort graduation rate being considered by the Authority.

The NCA Board and school leadership team anticipate many benefits of this external evaluation including verification of data, analysis of graduate and non-graduate trends, and recommendations for improvement. The specifics of selecting the third party, their timeline and deliverables, and the scope of their work are being discussed by and will be mutually agreed upon by NCA and the Authority. We are currently in the process of discussing the project's scope and deliverables with a reputable, national organization.

2.2 Credit Retrieval Courses for Credit Deficient Students

In an effort to bring credit deficient students to "on-track" status, NCA initiated a 2015-16 pilot using GradPoint™, a leading high quality credit recovery program used by more than 1,000 school districts in 45 states. In the pilot, the NCA Board purchased 100 licenses. In addition to increasing graduation rate for the 2016 cohort, this effort will provide high school students in other cohorts the opportunity to earn missing credits. During this school year, 150 students have benefitted from participating in credit recovery courses.

Currently, there is an 80% pass rate in the GradPoint Pilot program. This translates to over 200 semester credits being earned by students.

GradPoint offers a diagnostic-prescriptive virtual learning solution. The student-centered philosophy behind GradPoint's courses includes the necessary support features to facilitate and guide customized credit recovery:

- Prescriptive-diagnostic assessment and instructional sequencing tools that tailor and deliver personalized learning for every student.

- Engaging content and interactive, collaborative learning elements to re-engage at-risk students.

- Instruction, activities, and assessments that address diverse learning modalities and enable students to demonstrate content mastery in a variety of ways.

- Robust progress monitoring tools.

GradPoint's prescriptive courses provide a personalized pathway through the course based on needs, saving valuable learning time and increasing student motivation. Students take a pre-test and a post-test with every module. Based on their results, they are assigned lessons in areas in which they did not demonstrate mastery and are exempted from other lessons they have already mastered.

NCA is pleased with these results and looks forward to an even greater number of credits being earned before the end of the school year. NCA plans to increase its usage of credit recovery programs during the summer of 2016 and extend it into the 2016-17 school year and beyond.

---

[2] Also, NEV. ADMIN. CODE § 389.699(3) (2015) states, "A pupil who qualifies for a certificate of attendance must not be counted as a dropout." A certificate of attendance is issued to a student who is over 17 and has completed the required credits to graduate, but has not passed the required proficiency exams.

2.3 Summer School

The four-year cohort graduation rate calculation includes students who complete their high school during the summer of their graduation year. Summer school provides an opportunity for many students to "catch up" and be on track for graduation. In addition, research has shown that by enrolling in academic courses in the summer months, "summer slide" is reduced and can help students achieve academically. Students in NCA's summer school program will be closely monitored by certified teachers and counselors who will provide targeted, supplemental instruction and maintain regular contact to keep them focused on their goal of graduation. Teachers will work to ensure that students complete pre- and post-tests, progress at a pace that enables successful course completion, and participate in daily instructional and intervention activities. Summer school staff are chosen based on their familiarity with effective instructional and motivational strategies. They are focused on student success and already have relationships with many of the students, a foundation on which to build academic success. When students know that there is an adult that cares about their success, then they are more motivated to be successful. [3]

The NCA Board is committed to a successful summer school program and efforts were underway earlier this year to leverage the GradPoint and Connections program during the summer months. The NCA Board has dedicated $68,000 to implementing a summer school program for the summer of 2016 for coursework. In addition, the NCA Board has dedicated staff to support this initiative including supervision and instruction by certified teachers, administrators, and counselors.

Every student in the 2015-16 cohort who does not graduate in June will be encouraged and provided support to continue their school year into the summer, whether it is realistic for them to graduate by the end of summer or not. Summer school plans were underway earlier this year, finalized and approved by the NCA Board on April 12, 2016. It is anticipated that 150 students will be enrolled in the summer of 2016. The number of anticipated enrollments includes students from Group 2, Group 3, and future cohorts who will benefit from a summer program to put them back on track to graduate with their cohort. Students who are credit deficient will take GradPoint courses. Students in Group 2, as described in Section 2.1 of this plan, who complete their summer courses will most likely graduate with their cohort.

It is important to note that not only are we taking care of the current cohort, we are looking into the future and having future cohorts take classes as well to stay on cohort or "catch up" if they're currently off-track. Summer courses will be offered to students who are behind in their freshman, sophomore, or junior years. This will significantly help accelerate those students in ensuring their on-track graduation plans.

Based upon an analysis of the 2015 non-graduates, we anticipate that the courses most likely to be taken by students for the summer of 2016 will be English, U.S. Government, and Math (specifically Geometry). These three areas were the biggest barriers to graduation and are listed in rank order.

---

[3] Hattie, J. (2009). *Visible Learning: A Synthesis of over 800 Meta-Analyses Relating to Achievemen*t. Routledge: New York, p. 72.

2.4 Earlier and Increased Intervention

NCA has implemented a systematic Response to Intervention (RTI) program to ensure all students are receiving timely and effective instructional support and that their performance is being actively monitored. As noted by RTI Action Network: A Program of the National Center for Learning Disabilities, RTI is the practice of providing quality instruction and intervention and using student learning in response to that instruction to make instructional and important educational decisions (Batsche et al., 2005)[4]. Research and reviews of the effectiveness of RTI found that it is an effective practice for both systemic (e.g., reductions in special education referrals) and student (e.g., increased reading scores) outcomes[5].

At NCA, students who struggle with the core Math and English Language Arts curriculum are assigned appropriate instructional interventions targeted to their greatest area of need. Efforts were increased during the 2015-16 school year and are tracked on a weekly basis to ensure adequate support and monitoring is taking place. Many students require behavioral interventions to help motivate them to engage in their coursework. Part of the intervention process involves careful examination of a student's academic and behavioral record and identifying potential factors inhibiting their academic progress and perhaps influencing their decision to exit their last school. A slightly credit deficient student (or one who is on cohort) who shows weakness in math with no other risk factors will not begin with the same behavioral treatment plan that a severely credit deficient student with multiple academic or social/emotional risk factors will.

NCA has a variety of instructional resources to address academic intervention needs and uses synchronous sessions (both individual and small group) to address behavioral, social-emotional, and motivational concerns. Resources are easily accessible to students and individual plans based on student needs are created and monitored. Grade level Professional Learning Communities of teachers meet weekly and electronically communicate about student progress on a daily basis. The Student Support Team is also included when escalation is needed. Currently, approximately 70 high school students are receiving interventions in English Language Arts and 120 are receiving interventions in Math. These students require additional support and resources (described in the following sections) to ensure that they are successful in their online courses and are on-track for graduation. It is important to note that this is a fluid process as students receive interventions at the various tiers and may fluctuate between these interventions and in the regular program, depending upon their academic performance and individual student learning need.

Response to Intervention (RTI)

With this multi-tiered approach to curriculum and instruction, which ensures individual students receive the support they need, data is used throughout the school year to implement, for all students, a Response to Intervention (RTI) model. Students who may not be successful in the standard program, Tier I, receive additional support via the supplemental and alternative programs in Tier II and Tier III as detailed in the following pages.

---

[4] Batsche, G., Elliott, J., Graden, J. L., Grimes, J., Kovaleski, J. F., Prasse, D., et al. (2005). *Response to intervention policy considerations and implementation*. Reston, VA: National Association of State Directors of Special Education.
[5] Burns, M. K., Appleton, J. J., & Stehouwer, J. D. (2005). Meta-analysis of response-to-intervention research: Examining field-based and research-implemented models. *Journal of Psychoeducational Assessment, 23,* 381–394.

Students' responses to interventions are monitored, and adjustments to the type and intensity of support are made as needed. RTI efforts were increased during the 2015-16 school year to more quickly identify students who are struggling. The school began to utilize weekly PLC and Student Support Team meetings to look at student performance and behavioral data, and make programming decisions to support students who are struggling academically or are otherwise challenged. The individualized nature of NCA's program lends itself well to RTI. Through real time progress indicators, additional supports and interventions ranging from supplemental programming to targeted, synchronous instruction and even targeted counseling are assigned and monitored. Regular discussion of student progress is held between content area and specialized instructional staff, advisors, counselors, and administration. Modifications to programs are made and can be implemented quickly.

For example, NCA uses the Assessment Objective Performance Reports (AOPR), which helps teachers easily identify essential skills and standards by subject/grade level; identify how and where these essential skills and standards are assessed within the program; access and analyze real-time data to determine mastery/proficiency; incorporate data-driven decisions throughout instruction; maximize use of the instructional support programs, resources, and data; identify the need for tiered interventions for non-mastered/proficient skills and standards; and identify students' responses to the implemented interventions.

This process is further facilitated by other data from Connexus to help identify students' instructional needs that may require intervention. A teacher's Home Page shows an icon for each student indicating that interventions are needed and have been identified and provided. The teacher can use his or her professional judgment to override these indicators and log the decision and rationale within Connexus. Also, NCA has a Student Support Team (SST) and an on-going process of identifying student intervention needs; assigning those interventions; tracking their success; and escalating, if necessary, from Tier I to Tier II to ultimately Tier III (alternative placement, most of which involves the development of an IEP). Tier III interventions are provided concurrently with a special education evaluation. Data is collected as a part of the RTI process. NCA believes that the intensive focus on these Tier interventions for the 2015-16 school year will increase the graduation rate by providing students the one-on-one support that they need to be successful.

Tier I

Tier I is the first level of a multi-tiered approach to a system of instructional and behavioral supports. Tier I includes Connections' research-based core reading and math curriculum aligned with the Nevada Academic Content Standards. In addition to core coursework, the core curriculum includes teachers' use of differentiated instruction that meets the needs of all students throughout the school year. Differentiation involves thoughtful planning for the following: instructional design used to deliver content to students; lesson content used to support and extend concepts and skills; instructional practice used to provide targeted instruction and actively engage students; assessment used to evaluate student learning; and instructional activities to meet the needs of individual and small groups of students. When Tier I differentiation strategies fail to produce adequate progress, Tier II intervention is considered.

Tier II

Areas where more students struggle and require Tier II support typically include reading fluency, reading comprehension, math fluency, math computation and reasoning, and behavior. Decisions to place students into Tier II are based on formal and informal assessment data, academic progress, and behavioral observations (attendance at live lessons, work completion, etc.) The scope of Tier II interventions has been increased during the 2015-2016 school year to include a greater focus on targeted, synchronous instruction, and providing additional support to students whose behavioral concerns are impeding academic progress. Tier II increases the frequency of the interventions. NCA has implemented a Tier II instructional support program for these students and provides support two to three times a week for 20–30 minutes per session at a minimum. Tier II intervention is explicit, systematic, and targeted to the greatest area of student learning and behavioral needs. Supplemental programs provide teachers with reports for progress monitoring that can be uploaded to Connexus to ensure all student performance data is in one place.

Tier III

NCA has implemented a Tier III intervention where students receive targeted instruction for 20–30 minutes four to five days a week in order to focus more intensively on skill deficits and areas of concern. Tier III includes the most intensive and frequent level of instructional support and is the next step in the multitiered approach for students who have not been successful in the previous interventions. Tier III interventions use direct instruction through the use of LiveLesson sessions and implements other instructional strategies and research-based programs that are explicit, systematic, and targeted to specific student learning needs. Much like the decision to place a student into Tier II, academic progress, assessment data, and behavioral observations which indicate a greater need for intervention guide the placement into Tier III. This is the most intensive level of intervention.

Mentoring Program

NCA also piloted a mentoring program in the 2015-16 school year based on John Hattie's analysis of the impact of student-teacher relationships on student performance. As Hattie identified in *Visible Learning: A Synthesis of over 800 Meta-Analyses Relating to Achievemen*t, there is a strong correlation between teacher-student relationships and student learning[6]. As a pilot effort, NCA students who had two or more failing grades were assigned 1:1 adult mentors, drawn from NCA faculty and staff. Of those in the pilot, 75% are now passing all of their courses. While the development of a relationship with a caring adult is not the only factor contributing to these students' success, NCA is pleased with the results and will be expanding it to include students with the most profound academic and social emotional needs.

---

[6] Hattie, J. (2009). *Visible Learning: A Synthesis of over 800 Meta-Analyses Relating to Achievemen*t. Routledge: New York, p. 72.

2.5 2015-16 Curricular, Education Management System, and Actionable Feedback Revisions

The 2015-16 school year saw significant revisions in the Connections curriculum and in Connexus®, the school's Education Management System (EMS), to address student tracking, feedback, and curricular needs for credit deficient students.

- **Tracking Credit Accumulation:** Connections recognizes the importance of early identification of credit deficient students. There are fields in Connexus that help NCA staff to identify, track, and intervene with students behind in high school credits. In addition, a new field was added for the 2015-16 school year to the Credits and Final Grade Report Data View (example provided in Figure 1) to assist schools in identifying credit deficient students during the enrollment process. As a result, this data is now readily available to NCA counselors as they assign students their courses in Connexus, and also enables counselors to quickly identify credit deficient students so teachers can quickly design interventions. Interventions may include credit recovery courses, block scheduling of classes, additional support by teachers, and/or summer school planning.

Figure 1. Credits and Final Grade Report Data View

- **Math Focus:** Math can be a significant barrier for credit deficient students. In the 2015-16 school year, Connections released significant changes in the area of math. All Kindergarten through Algebra 2 math courses were enhanced for 2015–16 to reflect the targeted learning sciences principles of practice, feedback, and student engagement, as well as the analysis of Connections math performance improvement research and data analytics.

  These enhancements included the following:

  o Reflections engage students in assessing their comfort level with specific skills, rating their math confidence, and reflecting on their math practices and study skills.

  o Updated project based portfolio assessments are aligned to math practices and provide hands-on learning opportunities that include flexibility and choice, real-world challenges, collaboration, and application of knowledge in authentic ways.

  o Enhanced practice includes instructional support, refined assignments that target skills needing additional support for mastery, and encourage metacognitive questioning and engagement with next generation assessment type activities.

- **Actionable Feedback**: Teacher feedback is one of the most powerful influences on student learning and achievement (Hattie and Timperley, 2007).[7] However, as noted by Hattie and Timperley, the type of feedback and the way it is given can be differentially effective. Guided by these research findings, during the 2015-16 school year, NCA teachers increased their efforts to provide high quality, timely, and actionable feedback. The new process ensures that teachers provide this feedback and that students and Learning Coaches are aware of the feedback. At the start of the school year, students and Learning Coaches began receiving automatic WebMail notifications that feedback was provided by the teacher, indicating the specific assignments and assessments that contain the feedback. Through a technology-powered feedback loop in Connexus, students receive consistent, timely, tangible, and actionable feedback to guide and impact their learning. In a Connections Education survey conducted in March 2016 of student and Learning Coach response to the new feedback notification system, results indicated the following:

  o **98% indicated that they have received feedback notification messages**

  o **97% indicated that they found feedback notification helpful in keeping them informed about their student's learning (82% very helpful; 15% somewhat helpful)**

  o **92% indicated that the feedback notification was helpful in keeping their student informed about their learning.**

It is expected that both the math enhancements and the actionable feedback will improve student engagement in their courses and increase the percentage of courses that students complete successfully resulting in increased credits earned and a reduction in the number of credit deficient students, as well as the severity of students' deficiencies. In the first semester, the improvements are believed to have contributed to the 3% point improvement in successful high school Math course completion rates across Connections-supported schools.

Continued research and formative and summative data analysis will occur at the conclusion of the 2015-2016 school year and into the 2016-2017 school year to confirm these assertions and inform instructional and operational practices at NCA. We do anticipate that these curricular and technological revisions implemented in 2015-16 will make a positive difference in the second semester course completion rates and in NCA's graduation rate.

2.6 2015-16 Professional Development

NCA has also focused its professional development efforts in 2015-16 on engaging faculty in discussions directly related to the learning science principles and ensuring student success. Our efforts include training on student engagement and mindset as part of a targeted focus on school culture and student perceptions related to learning. A learning environment that promotes student engagement is characterized by connectedness between students, their teachers, and the school community, as well as a growth mindset, personalization, relevance, and the provision of a physically and psychologically safe environment.

---

[7] Hattie and Timperley, (2007). **The Power of Feedback:** Review of Educational Research. March: 77: 81-112

The professional development for 2015-16 focuses on student engagement. An engaged student is invested in his or her learning and—as a result—has a growth mindset, perseverance, and relations that support academic success. It's about seeing things in a new way. When people change to a growth mindset, they change from a judge-and-be-judged framework to a learn-and-help-learn framework. Their commitment is to grow, and growth takes time, effort, and mutual support. Focusing professional development efforts on student engagement, mindset, and culture will make a difference for credit deficient students who have had many years of failure in their previous educational environment.

Teacher professional development is critically important in ensuring that the staff is optimally effective at teaching in a virtual environment and addressing the Nevada Academic Content Standards in their daily instructional practice. Each teacher maintains an ePortfolio in Connexus that includes the dates they attended professional learning sessions and their reflection on the session. Professional Learning sessions delivered by the Connections Professional Development Team include a post-session activity that teachers complete and upload to their ePortfolio. This application activity requires teachers to describe how they will apply the information learned during the session to their work with students and to improve their instructional practices. The NCA school leadership team can access a teacher's ePortfolio, review what was submitted as evidence of their learning, and provide teachers with feedback. The review of teacher artifacts and reflective comments have shown an increase in understanding of key concepts such as "knowing your students". This is supported by observed teacher instructional activities within synchronous instructional sessions and a focus on off-track students.

The *Core Standards for Facilitating Student Learning* are:

- Provide high quality instruction resulting in student learning,

- Personalize student programs,

- Monitor student performance and provide timely feedback and intervention,

- Monitor student participation,

- Communicate frequently,

- Document and review all interactions, and

- Collaborate and develop professionally.

NCA works with the Connections Professional Development team to coordinate, plan, deliver, and continuously support Professional Learning Community activities and other professional learning initiatives through a systematic and comprehensive multi-year professional development plan that is focused on NCA's needs.

Figure 2 lists the professional development programs and initiatives that NCA targeted during the 2015-16 school year that were directly aligned with its goals of increasing student success and graduation rate.

Figure 2. Professional Development Topics in 2015-16

Topic
- Students in Distress   - Serving Special Education Students Online   - Monitoring students with attendance, participation, and contacts   - Response to Intervention: Using Intervention Indicators to review, identify, and implement interventions   - Assessment Objective Performance Report (AOPR) – real-time data showing student mastery of essential skills and standards   - Differentiating learning using resources from the Instructional Support database and Shared Content   - Analyzing and making instructional decisions for personalizing instruction   - Planning targeted instruction for groups of students   - Assessing mastery and providing opportunities for practice   - Motivating students to participate   - Encouraging Learning Coach training and participation   - Reviewing best practices for intervening with students in Approaching Alarm or Alarm status   - Helping Students Develop Grit and Take Ownership of Their Learning   - Practice > Mastery > Transfer – What Does It Mean?   - Feedback vs. Feedforward Roundtable

2.7 2015-16 Learning Coach Support

In addition to this increased focus on student engagement, NCA has recognized the need to provide increased support to Learning Coaches and to help increase their engagement and connectedness with other Learning Coaches.

New resources were provided in the 2015-16 school year to assist Learning Coaches in ensuring student success. As part of a commitment to the entire family and subsequent research, a three-part family support program was created to make the learning experience more engaging and rewarding for students, parents, and Learning Coaches. These Learning Coach Live Lesson sessions are announced in the Learning Coach Link, on Learning Coach Central, in the Monthly Newsletter, and on the Learning Coach Home Pages. The three-part family support program is described in the below sections: Get Started!, Get Coaching!, and Get Connected!

Additionally, NCA uses Facebook social media channels to connect with enrolled and interested families. Facebook is used to support a positive school community and may serve as an alternate, casual, method of communication. There are currently 2,264 people following the NCA Facebook page. The page sees interaction such as: 9 average fan likes per post, 11 average fan actions per post, and 769,962 potential friend impressions. Parents can also join the school's closed Facebook groups, in Northern and Southern Nevada, to reach out to other families. As of April 2016, more than 200 Nevada families were counted as members.

Club ORANGE is a social club for parents of enrolled students and it provides another online "space" where families can connect. This is not a formal method of communication, but rather an opt-in group for parents to meet their peers and interact. Current membership in the Nevada Club ORANGE community is 172 families (up from 28 families when the club was first established in 2011).

Get Started!

Our **Get Started!** program offers both assistance and reassurance by providing extensive information about online education. The program helps families prepare for a successful school year through the Prepare for Success website, teacher welcome calls, orientation courses for Learning Coaches, in-person orientation gatherings, and Learning Coach Success Series, a series of live webinar-style sessions that start before the beginning of each school year, and are led by currently-enrolled parents who help families prepare for their first days of school. In addition to open Q&A sessions each week, five different topics are addressed: Virtual School Basics, Roles and What to Expect, Schedules and Routines, Getting Acquainted with Connexus, and Tips and Tricks for Success. The website is provided at: http://www.connectionsacademy.com/learn-more/events/online-orientation

Get Coaching!

The **Get Coaching!** program is dedicated to helping Learning Coaches understand their role, providing them with easy access to resources, and ensuring that they are equipped with the tools and strategies needed to motivate and assist their students. Also, Connections provides additional training and support for parents.

Learning Coaches will complete an online orientation designed to familiarize them with the important role they play in supporting their student as a learner. We also support Learning Coaches through:

- **Learning Coach Central** – A convenient one-stop-shop site with access to social networking opportunities, information, and multiple resources to assist Learning Coaches in their role and providing instructional support to their student.

- **Learning Coach Link –** An online monthly communication sent to Learning Coaches with articles on instructional best practices and topics relevant to their families, Connexus updates, tips and strategies supporting students, announcements and reminders. NCA reaches out to Learning Coaches through increased social media, increased communication via message boards, and student outreach activities at school events to share this information.

- **National Learning Coach Resource Sessions –** These online, LiveLesson sessions are designed to assist Learning Coaches with an understanding of their role and responsibilities, and provide strategies for working with and supporting their student. All Learning Coach sessions are recorded and available in the Virtual Library for Learning Coaches to view if they are not able to attend the session live. They are announced on LC Link, LC Central, and LC Home Pages. Topics of specific interest are also shared via direct communication to families from counselors and advisors.

  A wide range of topics are offered. Examples of sessions that support Learning Coaches of high school students include:

  o College Applications and Your Student: What to Expect and How to Help!
  o Understanding Financial Aid and the Importance of Completing the FAFSA
  o How You Can Help Your Student Become College and Career Ready!
  o Embracing Struggle through a Growth Mindset
  o The Adolescent Brain
  o Nurturing Student Motivation

Get Connected!

The **Get Connected!** program was developed to assist students and parents who are interested in finding opportunities to connect with other school families. In addition to in-person field trips and online clubs and activities, this program offers socialization tips for online school families, increased opportunities for students to interact online with classmates and teachers, and in some areas, private Facebook groups where parents and Learning Coaches can "meet" to arrange study groups and other informal gatherings.

3. 2016-17 School Improvement Plan

The plan for the 2016-17 school year will be based upon the changes implemented during the 2015-16 school year with increased efforts on the areas of improved graduation rate and academic success, and the results of these efforts. In addition, the following additional improvements will be implemented.

3.1 Internal & External Data Validation

Internal Data Validation Efforts

The school registrar, reporting coordinator, and administrative assistants will maintain accurate and complete records in Connexus and physical files of withdrawn high school students concerning information on their next school of attendance or other educational decision. The school has already taken a more pro-active approach to identifying challenging placements and will continue to dedicate the resources to doing so. NCA is taking an additional step to locate students who withdraw (formally or informally) and, therefore, can potentially negatively impact the school's current and future four-year cohort rate. At the Authority Executive Director's suggestion, the school will consider working with an independent, external contractor to attempt to confirm the subsequent educational settings in which students enrolled after withdrawing from NCA. Currently, there are over 200 students who have withdrawn from NCA sometime in the past four years that are not confirmed to have transferred to another public school, private school, or home school. We will actively target this group and focus efforts on locating their current school.

The school will also increase its scrutiny of students enrolled in the school who are truant and those who withdraw or stop attending without providing required evidence that they have withdrawn to another program. Specifically, Nevada provides schools with an avenue to penalize students for habitual truancy—either in the form of written citation issued to the habitually truant student, or suspension of the habitually truant student's driver's license. This administrative sanction is pursuant to NEV. REV. STAT. ANN. § 392.148 (2016). This has not been used in the past but plans are in place for the 2016-17 school year. Parents will be clearly notified upon enrollment that this will be pursued if students are habitually truant. This is a mechanism for keeping students engaged and for providing proper incentive to students not remaining engaged to promptly share with the school to what high school program they are transferring. This would minimize "lost" students being counted as dropouts; given the proper information, they could be counted as transfers out, therefore raising NCA's graduation rate.

As referenced, the school will also carefully review all records to ensure, for example, that any student who qualified for a certificate of attendance or who transferred to an adult education program was not incorrectly coded as a dropout (pursuant to NEV. ADMIN. CODE § 389.699(3) (2015) – and to ensure the same for transfers out-of-state, to private schools, to homeschooling, etc. Data is provided in Appendix B.

Notification will be provided to families and parents when they enroll that this process will be followed – it will be on everyone's home pages – so that they are fully informed on the consequences of not filling out the withdrawal form.

External Data Validation Efforts

NCA will conduct an external validation study for the Class of 2017 as it did for the Class of 2015 and the Class of 2016 if the Authority finds it necessary. If it does, NCA will pursue the same process for identifying and working with a third party.

3.2 Freshman Focus/Senior Success

The use of a freshman specific initiative was piloted in other schools supported by Connections during the 2015-16 school year and resulted in a positive difference in 9th grade promotion rates between schools. As a result, Connections is building a universal course entitled Freshman Focus for the 2016-17 school year which will be implemented at NCA. The new freshman focus course will orient students to resources available to them, introduce strategies for success in high school course-level work, emphasize the importance of academic integrity and producing authentic work, and build college and career readiness.

Based on the initial positive results of the Freshman Focus Course, a course that addresses needs specific to seniors, Senior Success, will also be offered as a formal part of the program beginning in 2016-17. The NCA Board and school leadership team are very excited about the Freshman Focus course, and the upcoming Senior Success course, and anticipate that both of these approaches will help many students achieve success and graduate on-time.

3.3 Every Student Succeeds Academy Program and Plan

In order to increase the school's efforts to support off-cohort students, NCA is implementing an academy approach to address the needs of its off-cohort students. Highlights of this mandatory program, to be called the Every Student Succeeds Academy, include:

"Success" seminars for off-cohort students offered synchronously to highlight successful practices, habits, and to help students acclimate to the online environment. Additionally, participation in these sessions upon enrollment will set the foundation to encourage accountability and participation in other required instructional sessions.

- Regularly required attendance at virtual or face-to-face synchronous instructional sessions. The frequency, format, and content will be tailored to student needs and tied to academic outcomes. By requiring attendance, we are still providing the flexibility that a fully virtual model provides while still adding a level of accountability.

- Dedicated instructional, administrative, counseling and advisory staff. Staff that are involved in this program will be selected based on their prior success in engaging with this population and will focus all of their efforts on increasing these students' success under the watch of school administration.

- Lower staff/student ratios. This will further establish accountability, provide support, and ensure that students are in constant contact with the school. As students complete credit recovery courses, it is critical that they are then placed into additional courses to maintain progress towards exiting Group 2 or Group 3 and graduating on time.

To assist the school, an internal Data View field will be added to the Cohort Information Data View and a required timeline. Additionally, the proprietary Connections IssueAware system is used to monitor students, track staff accountability, and document progress. **For 100% of students who have a current final grade of 11th or 12th and are off-cohort (student does not have adequate credits to be in the grade they should be), NCA will outline a plan in their Cohort Information Data View that details efforts to rejoin their correct grade level or graduate on time within the first 45 of days of school or 30 days of enrollment for late enrollees. Overall progress will be tracked through a calculated field in Connexus that monitors whether a student is currently predicted to graduate on time, and students who are "off cohort" will have progress in their courses and other programming tracked weekly.** Another benefit of NCA's program is the ability to adapt programming quickly to match student needs and modifications to programming, supports, and interventions will be made as needed.

3.4 Curricular Changes

GradPoint

Based upon the success of the GradPoint Pilot in 2015-16, it will be expanded and all credit deficient students will be placed into the appropriate courses to recover needed credits and to move closer to an on-time graduation. The targeted, user-centered approach of GradPoint is especially beneficial for transient populations—many of whom have been out of school, are disengaged, and have been unsuccessful in their first attempt at assigned coursework.

Additional Math Instructional Resources

An additional resource in Math has been added into the intervention resource library for 2016-17. Think Through Math helps students develop higher order thinking and problem-solving skills, preparing them for success on state exams, as well as a smooth transition to college or a career. Think Through Math includes instructional support for students in Algebra I, Geometry, and Algebra II, along with foundational math skills, and allows teachers to create customized learning pathways for students based on their individual needs. This additional resource helps motivate students using contests, points, avatars, and games. A pilot was held in other schools supported by Connections and results were very positive and it is expected to result in similar positive outcomes for NCA in 2016-17.

Automatic Feedback

The 2016 plan is to build on the success of the Automatic Feedback feature that was new in 2015. NCA is committed to ensuring that parents and students are fully informed of this feature and how to employ it for student success in the 2016-17 school year by including in webmail messages, welcome calls, and training to parents. This new feature provided an automatic alert that went to both students and Learning Coaches when a teacher left feedback for a student. To support this increased visibility of feedback, teachers ensure that feedback on student work is targeted, meaningful, and includes suggestions for improvement. Teachers received specific training on providing effective, actionable feedback to students (ex. Session 103: Why Do Students Need Feedback?; Session 205: Feedback vs. Feedforward Round Table; and Session 302: The Power of Feedback). A recent survey of Learning Coaches indicated that 97% of Learning Coaches found the notifications helpful in keeping them informed of their student's learning. For example, parents stated that:

- "The feedback helps my student immediately know what he needs to improve on and if he has time to correct his mistakes on assignments. It also gives a confidence boost on a job well done."

- "We really appreciate the feedback notifications! There were times where my daughter wouldn't see her teacher's feedback requesting correction via webmail for quite some time, but now with the notification, she gets the feedback right away! Very useful upgrade. Thanks!"

- "I just want to take a moment to thank you. Your positive feedback on assessments and (our school's) multiple choice reflections really have made a difference for my child this year. He was having trouble with math last year. I am so thankful for (our school) in general, because it has helped my child take his time and become more confident in his abilities."

Increased Math Focus

Math is a continued focus at Connections. Targeted activities and discussions will focus on Math in student's day-to-day lives and a growth mindset toward Math, including increased Math awareness in the Connections Speaker Series, Fireside Chats, and Student Clubs and Activities experiences. New student experience opportunities included RobotC, in which students are able to program Lego® Mindstorms® robots virtually, and the James Webb Space Telescope Project, which provided students the opportunity to collaborate virtually and create a project which demonstrates understanding and information about the James Webb Space Telescope.

There are additional Math dedicated resources for Learning Coaches including resource sessions such as Born to Learn – Embracing Struggle through a Growth Mindset and What Was Broken with Math and Why Did They Need to Change It?; Learning Coach Link newsletter articles including math tips and guides; an article on math reflections; and a Learning Coach book study on the book Old Dogs, New Math by Rob Eastaway and Mike Askew.

Course and Connexus Enhancements 2016–17

The curriculum offered to NCA students is updated and enhanced annually. In addition to the updates made to address Math performance, accessibility, and feedback and course ratings received through the StarTrack lesson rating and feedback system, course enhancements are also focused on school-based requests for course unit reranking. Unit reranking requests are in response to a school's review of the content and sequence of a course. While the content is appropriately aligned to state standards, the sequence of the units may be better aligned to the school's school year and timing of state assessments. The enhancements for 2016-2017 include the following:

- **Unit Reranking** – Throughout all Connections schools there were 106 school-based requests for unit reranking to optimize alignment of course content and instruction order and pacing to the requirements of state testing. NCA requested four additional reranked courses for 2016-17 and will then have a total of 14 reranked courses in the 2016-17 course catalog. A course that has units reranked enables NCA to cover critical content before state testing dates.

- **Interventions from Prior Year** – Beginning with 2016-2017 school year, teachers will have immediate access to returning student data that indicates whether they were receiving intervention support during the prior school year. This access to historical tier code data, within Connexus, will allow teachers to quickly identify an appropriate intervention for students and provide the student with the type of targeted support that he/she needs at the start of the school year.

- **Math Performance** – Course enhancements focused on Math discourse and students' oral and written communication of math thinking, reasoning, and problem solving. These efforts will be evidenced in the reflection, discussion, and portfolio activities, and in the new Time to Talk lesson component.

- **Accessibility** – Enhancement efforts continue to focus on replacing or enhancing legacy content and instructional resources to meet the Web Content Accessibility Guidelines (WCAG) 2.0 standards. This work is primarily focused at the middle and high school level for 2016–17.

All of these curricular changes are focused on improving student learning, retention, and graduation rates. These curricular changes are based upon research and efforts from the 2015-16 school year and will make a measurable difference in learning in 2016-17.

3.5 Professional Development

NCA is in the midst of defining its 2016-17 Training and Professional Development Plan, which will be as substantive and robust as the 2015-16 one described previously. An additional focus on standardizing teacher course expectations and grading practices, as well as implementing "relearning" policies to support student academic engagement and success, will be implemented through the training, professional learning sessions, and related Professional Learning Community work. It will also focus on ensuring the success of the Every Students Succeeds Academy designed for off-cohort students and a school-wide focus on graduation rate and tracking students.

Professional learning sessions facilitated by the Connections Professional Development team during the 2016-2017 school year will focus on specific learning themes throughout the year. Whether teachers are participating in the 100 (1st year teachers), 200 (2nd year teachers), or 300 (3+ year teachers) series, the theme will be the same, while the session objectives will increase in level of rigor and application based on teacher experiences. Themes, based on learning science research, include: student reflection, making connections, ownership of learning, effective questioning, feedback, practice/reteaching, and improving student outcomes. This thematic approach will allow all teachers to focus, and build on, the same topics throughout the year and enable PLCs to delve deeper into how learnings from professional development sessions impact teaching practices and student learning.

In addition to the Professional Learning sessions described above, NCA school leadership can recommend or require teachers to participate in any of over 20 additional nationally facilitated professional development sessions that support NCA school goals and/or teacher development goals. School leadership monitors participation and portfolio completion at least monthly, and provides feedback on teacher artifacts. Additionally, observation of teacher instruction includes "look-fors" derived from topics covered within PD. NCA will ensure that active participation in internal professional development is carefully monitored and that topics are reinforced through regular inclusion in PLC meetings and staff meetings, and the rates of participation in professional development will increase from 2015-16 to 2016-17. Additional resources which specifically target working with this population have been identified and will also be included.

Teachers at NCA had the following to say about their experiences participating in professional learning sessions during the 2015-2016 school year, and how the session will help them to improve their instructional practices.

- *I found it extremely helpful to learn about all the different risk factors and to learn how easy they are to locate. I will definitely be taking note of these moving forward when interacting with my students.*

- *In this PD session, we learned about ways to increase the effectiveness of instructional practices. We learned about Gagne's 9 events of instructions and how to implement them in our virtual environment. I learned some new strategies and ways to really engage students in the LL room by using attention grabbing questions, recall, practice, feedback, and retention just to name a few. Using tools like the poll pods, screen shares, breakout rooms, and exit strategy ideas can help assist in pulling students into the instruction and helping them to become more active learners.*

- *I like this idea of grit and teaching students to appreciate improvement in their work when they have taken risks and maybe failed, but then got up and tried again. I can model that myself as I am in my second year teaching in an online environment. Even though there is still a lot I don't know, I have made tremendous progress since last year with the technology.*

- *I really want to focus on self-reflection of my own teaching practices and find my strengths and weaknesses. This will help me to improve as a teacher and also help my students with their own self-reflection process.*

- *I think this session was a good reminder for me that my high-end students need better feedback than what I am providing them. I do a good job of providing detailed feedback for my struggling-learners, but I think I rely on praise too much with the other end of the spectrum. I will spend more time challenging them and encouraging them to go beyond, dig deeper, etc. and provide that in my feedback to them.*

Efforts to assess the impact of professional development efforts are underway.   There are several layers of such assessment: Design, Implementation, and Impact. Teacher responses on an annual employee satisfaction survey indicate progress in design and implementation – staff positive responses to 7 professional development related questions increased an average of 3.2% points, and teacher participation in PLCs increased to 100% from 97% last year. Assessment of impact is a work in progress.

3.6 Board Governance Training

The NCA Board is committed to the success of the school. This is demonstrated in their high participation during regular and special Board meetings. The NCA Board meets regularly nine (9) times throughout the school year and calls additional meetings as needed. The Principal reviews performance data and trends with the Board during each meeting, which Board members discuss and make recommendations as appropriate. The Board is focused on strategic planning and increasing the graduation rate at NCA. An external consultant will be engaged to collaboratively work with the Board on strategic planning and implementation for the 2016-2017 school year and subsequent years. The Board will continue to work closely with the Authority to evaluate effectiveness of the improvement strategies and also seek input from external experts in this area.

 The NCA Board routinely participates and is committed to Board governance training opportunities throughout the school year, including conferences provided by the National Association of Charter School Authorizers (NACSA), Charter School Association of Nevada (CSAN), National School Boards Association (NSBA), International Association for K-12 Online Learning (iNACOL), National Alliance for Public Charter School (NAPCS) as well as a Board Academy provided by their Education Management Organization (EMO). In addition, materials from previous trainings are made available to all Board members within their online Virtual Library. Also within this Virtual Library, Board members have access to review all governance documents for the school including but not limited to, Bylaws, Charter Agreement and materials from all previous Board meetings. All core foundational documents are reviewed regularly and revised as necessary.

The Board will be actively monitoring the graduation rate and progress and effectiveness of the strategies outlined in this Plan through monthly reports from the school leader detailing the progress made with the strategies outlined in the plan. The Board will be provided detailed updated reports on the cohort to evaluate student growth under this Plan. The Board will continue active involvement in collaborating with the Authority to ensure the Plan is effective or make necessary adjustments as the Board and school leadership work to monitor the success of the strategies outlined.

3.7 Staff and Placement Decisions

The students in the Every Student Succeeds Academy will be taught by a select group of staff who will serve as their teachers and "graduation coaches." This approach is being piloted now with students in Groups 2 and Group 3 of the current year's cohort, and it allows teachers the opportunity to work with a small group of students who they "own." The number of students assigned to each staff member is purposely kept low (less than 10) so the appropriate amount of regular contact and support can be given.

The staff of the Every Student Succeeds Academy (ESSA) will be comprised of teachers who are passionate about and dedicated to working with the population of credit deficient students who often also are also faced with non-academic challenges which further impede their progress towards graduation. By combining high quality, targeted instruction delivered by experienced and caring educators with the appropriate social and emotional supports provided by counselors and advisors, NCA is confident that this will truly be a program in which every student will succeed.

The selection of staff members who understand and embrace the importance of this work is only one step in the overall process. Staff members will be evaluated regularly on outcomes related directly to student success and engagement, and will be held accountable by school administration through the use of tangible, relevant student data. The frequency and quality of contacts with students and the efficacy of instructional practices will be judged on student outcomes.

3.8 Face-to-Face Support

NCA is committed to ensuring that students are successful by creating additional face-to-face opportunities in the 2016-17 school year dedicated to credit-deficient students. Currently, there are field trips and state testing opportunities for face-to-face interaction and many students take advantage of these opportunities. NCA knows that these opportunities provide valuable time for students and teachers to generate a relationship and discussion about coursework and school. It is also an opportunity to develop the success strategies needed to be successful in an online school.

NCA plans to increase these opportunities and pilot an additional series of face-to-face tutoring and intervention opportunities in Clark and Washoe Counties. NCA will use venues already selected for state testing, and will target additional opportunities based on student location, need, and scheduling preferences. Sessions will be focused on targeted academic support. Results will be carefully monitored and if it's determined that these pilots yield significant results, NCA will work to reprioritize its budget to expand this effort in future years with more sessions and a wider geographic reach.

3.9 2016-17 Learning Coach Support

Learning Coach support and training was increased in the 2015-16 school year as outlined previously. However, it is also evident that many of our older high school students have challenging home situations with limited Learning Coach involvement. The school remains committed to increasing Learning Coach involvement through social media, face-to- face events, training, and other individualized supports. In an effort to improve awareness of these sessions to NCA families, including families with limited Learning Coach involvement, NCA is committed to promoting the availability of these support sessions to families for the 2016-17 school year. For example, notifications from the school will be sent by the school leader to invite and encourage participation by families. In addition, the 2016-17 plans include sending the links to recorded sessions to families via the School Counselor or other school leader when it is evident that additional support is needed from a Learning Coach and staff believes that additional training will help increase the expertise of the Learning Coach to more successfully monitor progress and provide support. Counselors also work with Learning Coaches and families to identify and utilize community-based resources to address the many unique situations and challenges presented by this population of students.

4. 2017- 18 and Beyond

Future plans will be developed during the Board's strategic planning session during the summer of 2016 and will be focused on achieving a cohort graduation rate of 60% and ultimately higher. Some ideas under consideration are 1) providing drop-in centers where students who need face-to-face interaction with a teacher in reading or mathematics could receive this support; 2) enhancing curriculum to provide teachers even more flexibility to personalize courses for students; 3) providing specific professional development for teachers and counselors to increase student engagement; and 4) being increasingly persistent with and continuing our deliberate and focused efforts working with credit deficient students.

NCA, in partnership with Connections, has begun the multi-year improvement effort to increase four-year cohort graduation rates, and recognizes that because 9th grade drop-outs have a significant impact on graduation rates four years later, the greatest effect of these multi-year efforts will be seen in the graduation rates for 2020 and beyond. Like the specifics of the plan presented in this document for the coming year, this multi-year improvement effort addresses a number of basic issues, but with steps that take longer to realize.

1. **Onboarding:** Work to ensure that the students who enroll in the high school program fully understand and are prepared to take full advantage of what it offers. The high school program is a rigorous college preparatory program and students often say they initially struggle to rise to the expectations of the curriculum. In addition, full-time online school, while tremendously advantageous for many students trying to adapt their high school experience to their personal needs, does require a level of commitment and discipline to learning a new approach. While NCA is a public school and cannot turn away students who apply, it will continue to make efforts to improve its outreach programs to ensure that students and Learning Coaches are prepared for the rigor and expectations of being a virtual school student.

2. **Connexus®, the Education Management System, Rebuild:** Connexus, the software and technology platform on which the program is served, is in the middle of significant improvement which is expected to be implemented in the 2018-19 school year. It is anticipated the new platform will allow students who are thinking about enrolling to more directly experience the program. We anticipate that students can be offered trial courses that will give them a better sense of what to expect, and perhaps a legislative or regulatory solution can be found to require successful completion of an orientation or trial course as an enrollment prerequisite. See additional policy recommendations in Appendix D.

3. **Support-Engage-Intervene-Escalate:** Work to ensure that students, once enrolled in the high school program, are fully engaged in the program. Students who experience success and gain momentum in their course of study (e.g., completing requirements in a timely and gratifying way) are more likely to engage, succeed, and graduate on time. Conversely, research shows that overage 9th graders, 9th graders who attend more than one school, and/or 9th graders not earning credits on a pace that would lead to on-time graduation are at highest risk for dropping out. NCA will make fuller use of this information and student-specific data related to it to design support, engagement, intervention, and escalation activities. While the school has made and continues to make substantial efforts in this area, future activities may include:

   a. **More Robust Freshman Academy Approach:** Building on the Freshman Focus effort in 2016-17, efforts will be furthered to organize teachers across disciplines and around students to help ease the transition to high school and develop the behaviors and habits that will help them successfully complete high school.

b. **More targeted information**. Again, building on 2015-16 and 2016-17 efforts, information made available to teachers and other school staff will be further refined to enhance their efforts to support, engage, intervene, and escalate. The new Connexus will provide additional improvements to the teacher dashboard, including more automated integration of information about student engagement and success with their curricular and instructional resources. Simple things like the system's ability to monitor when the student is typically active in the system and where the student seems to be getting stuck will help teachers better time and frame their efforts to reach out to support and intervene.

c. **Social Platform Integration:** Today's students communicate on social media platforms and Connections does not currently offer NCA a robust and secure platform for communicating with students that mimics the style and availability of social platforms. It is anticipated future improvements to Connections' education management system (Connexus) will support better use of such tools, as well as the potential to more easily automate messages that research has shown will help many students engage, such as automated reminders to complete an assignment or messages of encouragement. In an upcoming update to Connexus, Connections is intending to build a chat feature to enable students to collaborate with each other more organically. The updates will include blogs and wikis that students can create and write. Also, the updated system will allow for project based learning, which allows students and teachers to work collaboratively. Badges can be awarded for progress in the system by their teacher

   NCA's Connexus Education Management System provides an internal "closed" email system for students, parents and teachers to connect. The school community also leverages message boards to interact. Although this is not "social media" it does offer a closed online environment for communication. Future versions of Connexus are expected to include chat functionality in addition to email and message boards. Other enhancements to Connexus will be announced.

d. **Integration of Additional and External Supports:** Many students have non-academic challenges that interfere with their ability to be successful. It takes time to identify and make available physical-world supports for students and/or to build partnerships with programs that might help them be better prepared to be successful in school. NCA is piloting some efforts in 2016-17, and the results will inform its exploration of a range of options for future school years, including mandating face-to-face instructional time for particular behavioral or academic issues that have been shown to respond to that intervention, as well as deeper partnerships with social welfare related agencies to help students address family situations, chemical addiction, mental health concerns, and other issues that might be interfering with their ability to be successful in school.

4. **Increase Curricular and Instructional Offerings:** Continue to work to strengthen and broaden the curricular and instructional offerings of the high school program to better address the academic and non-academic needs and interests of its students. On a continuing basis, NCA will evaluate the effectiveness of its strategies identified to increase the graduation rate and adjust those strategies in collaboration with the Authority.

a. While NCA continues to strengthen and increase the breadth and quality of its program (Career and Technical Education and GradPoint credit recovery offerings being recent examples), there is more to do. CTE courses that are offered are based on student interest and demand, and include courses that focus on the following general career areas: health and medicine, general business, and computer programming. Connections will continue to work to find and/or develop the best curricular resources to address the needs of students, and to improve the level of student engagement and the quality of accessibility and various pathways to success that are built into its existing curricular resources. This is a multi-year effort spanning hundreds of course offerings, but it is expected that the roll-out of the new Connexus platform in the 2018-19 school year will significantly accelerate the benefits to students and their learning.

b. While training, professional development, and teacher participation in Professional Learning Communities (PLCs) have been underway for some time, the development of teacher beliefs and practices takes time. NCA will continue to develop and refine shared practices for basic practices like student grading to maximize academic integrity without unwittingly alienating or disengaging students. Experience in other schools supported by Connections has shown that full implementation of a relearning policy takes several years but can substantially improve the rate of successful course completion by students without undermining academic integrity.

5. **Increased Data Integrity:** Work to strengthen NCA's ability to track and properly record where students withdraw to when they leave without graduating. As previously noted, the ability of students to quickly and easily access NCA when they have a problem to solve (e.g., enroll because of an insurmountable transportation problem) also makes it easy for students to leave easily and without adequate notice. One student counted as a dropout in 2015 had been enrolled in the school for two weeks several years earlier, and was counted as a dropout largely because the school could not find out where the student went and report that back to Nevada. Similarly, 14 students who dropped out in 2015 were reported by the National Student Clearinghouse to be enrolled in two- or four-year colleges or universities in the fall of 2015. NCA and its board will continue to strengthen their database management to track withdrawals, and its ability to research the whereabouts of students who withdraw and do not adequately report their next steps. NCA will also work with regulators to try and strengthen definitions and technical capabilities around the effort to help ensure, for example, that students enrolled in a legitimate Adult Education option are not counted as non-graduates as they currently are, and that NCA has sufficient access to the data sources maintained by Nevada to "look for" students who have withdrawn without fully reporting their next steps.

5. Conclusion

A school's graduation rate is one of many important school performance measures. NCA wants every student who enrolls to graduate with a Nevada high school diploma. The NCA Board and school leadership team recognize that NCA's four-year graduation rate, using the federal cohort methodology, is not at the desired level. NCA is effectively serving a significant population of credit deficient students and understands that under the current method of calculation this has an adverse effect on its graduation rate, reflecting on the students' experience before enrolling in NCA. NCA is committed to re-engaging these students and graduating them career and college ready. We want higher achievement and as can be seen in the steps outlined in this plan are committed to making it a reality. There is some context around the graduation rate that we have explained in this plan that will also be backed up through the third party validation process. Ultimately, we recognize the concern about the current graduation rate and are working to improve it. Like any organization with a plan for improvement, we need time to faithfully implement improvements, evaluate their efficacy, address any implementation concerns, and address any unintended consequences. We are confident that students will be served well and the graduation rate will improve through an open and collaborative dialogue with the school and the Authority. We also are confident that the many factors that impact graduation will become apparent through this process.

Appendix A

History and Accomplishments

A.1 Overview

There are many areas in which Nevada Connections Academy (NCA) has made great gains. This section will highlight these achievements.

Students benefit from a top-quality curriculum that meets all Nevada Academic Content Standards (Common Core State Standards). Each student has a Personalized Learning Plan and one or more highly qualified Nevada-credentialed teachers working with expert curriculum specialists to tailor the curriculum to meet that student's individual learning needs.

NCA is a virtual learning community that connects students, teachers, and families through unique technology tools as well as synchronous instruction and one-on-one interaction. Students and their families receive sophisticated support for their curriculum, technology, special education, and digital learning platform needs. Students and families use an educational management system that combines learning management, student information, and content management systems. This allows students and families to maintain a focus on achievement.

As a result of its effective and innovative educational approach, NCA is accredited by the Northwest Accreditation Commission (NWAC), an accrediting division of AdvancED.

One of the most significant benefits the school provides is being able to serve students who are underserved or not being served within the larger community. Students benefit from instruction that is individualized, personalized, and flexible. NCA is tailor-made for a diverse array of students who benefit from a quality alternative to the traditional brick-and-mortar classroom. These include:

- Students whose families seek direct involvement in their education,
- Students who are medically homebound due to illness or disability,
- Exceptional students who are far ahead of or far behind their peers in school,
- Students pursuing artistic or athletic careers,
- Students who require a flexible school schedule,
- Students in group homes or institutions,
- Students who have been bullied, and
- Students at risk of academic failure, who may particularly benefit from intensive, personalized instruction.

The Board of Directors partners with Connections Education, a leading virtual school provider for curriculum, technology, and school support services including:

- Curriculum,

- Curriculum support personnel,

- Connexus®, a comprehensive Educational Management System (EMS),

- Professional development,

- Student, parent, and teacher technical assistance, and

- Additional consulting and support.

In the 2015–2016 school year, Connections is supporting 30 virtual public schools in 26 states, serving over 65,000 students. Connections is accredited by AdvancED[1] and was re-accredited in June of 2015. With the overall scores exceeding AdvancEd's average score for all of the schools and corporations they accredit, AdvancED reviewers noted that "Connections Education's quality assurance processes and data-driven culture leads to systemic, systematic, and sustainable continuous improvement."

The ultimate focus of this "high-tech, high-interaction" instructional model is student achievement. Students master the core subjects of reading/language arts, mathematics, science, and social studies through a challenging curriculum that meets Nevada Academic Content Standards (Common Core State Standards).

The developmentally appropriate curriculum increases its integration of technology as students advance through the grades. Each Connections course includes active learning elements, including online and/or offline activities that address diverse learning styles and preferences, ranging from textual, visual, auditory, and/or hands-on.

Connections' courses include 1,800 Teachlet® proprietary instructional movies and more than 1,000 primary source and instructional videos. Integrated "i-text" electronic textbooks are licensed from a variety of leading publishers including Pearson®, Perfection Learning, and others, while non-proprietary technology-based content is licensed from "best-of-breed" providers such as Grolier Online™, Houghton Mifflin Harcourt, and Discovery Education.® The instructional design includes interactive LiveLesson® sessions and threaded discussions.

The highly trained and experienced teachers are integral to student and school success. Highly qualified, Nevada-credentialed teachers are a key part of the program. Teachers are in regular contact with students via WebMail (Connections' proprietary, closed-system email program), telephone, LiveLesson® sessions, discussion boards, message boards, and other channels. Teachers instruct, motivate, monitor and evaluate student progress, personalize the curriculum, intervene as needed to ensure student success, lead field trips, and clarify the curriculum for the students.

---

[1] Accreditation agency serving 32,000 public and private schools and districts http://www.advanc-ed.org/

NCA provides integral tools to help teachers ensure students are successful including ongoing and comprehensive professional development in online learning pedagogy, curriculum with a focus on Common Core instructional shifts, data-driven instructional decisions, and Connections' own *Core Competencies for Facilitating Student Learning*. Additional Nevada- focused professional learning events are also offered throughout the year.

NCA integrates school, community, and home. A Learning Coach (a parent or guardian) may work with the student to ensure successful engagement in the program by providing motivation, collaboration, scheduling, and record keeping. Other links between home, school, and the community are created via both asynchronous and synchronous online activities. In addition, school staff members or Community Coordinators facilitate enriching in-person community activities and field trips to round out the comprehensive learning experience.

Students also have access to more than 25 clubs and activities that encourage students to explore interests beyond the classroom, develop leadership skills, and make friends within their school and with students from other schools supported by Connections. The school has also established chapters of the National Honor Society and National Junior Honor Society, providing students with additional opportunities for developing social, leadership, and community involvement skills.

A.2 History

NCA was launched in the fall of 2007 to provide a complete virtual school program to Nevada public school students. NCA has worked hard to fulfill its mission and original charter goals. NCA has experienced significant growth during the term of the charter, which speaks to the demand for this option, and also to NCA's overall success in fulfilling the mission and vision described in the charter.

The school was originally chartered by the Nevada State Board of Education. The charter was renewed unanimously in 2013 by the State Public Charter School Authority. It was supported for renewal by then SPCSA Director Dr. Steve Canaverro. In Dr. Canavero's words, at the charter renewal hearing in 2013, the school was a success. It appears that at that time the Authority recognized the school was effectively serving its students, perhaps giving careful consideration to the challenges faced in serving a mobile population. There have been minor amendments over the years such as charter facility relocation, grades offered, and Governing Board by-laws. Overall the school is still focused on its mission: *to help each student maximize his or her potential and meet the highest performance standards through a uniquely individualized learning program.*

The last official communication from the State Public Charter School Authority stated that Nevada Connections Academy was in "Good Standing" for its performance in 2013-14.

Enrollment and Demographics

Since opening, the school has drawn students from throughout Nevada. NCA has experienced a steady increase in enrollment almost every year. NCA now serves slightly over 3200 students in grades K-12. Figure 1 demonstrates the growth trends since its inception.

Figure 1. Enrollment Growth

School Year	Count Day Enrollment
2015-16	2,702*
2014-15	2,593
2013-14	1,945
2012-13	1,599
2011-12	1,715
2010-11	1,563
2009-10	1,322
2008-09	873
2007-08	420

* As of the 2015-16 school year, enrollment is not reported as a Count Day. The number reported is the enrollment as of September 30, 2015 and will be reported four times throughout the year. At the time of this report, NCA is serving over 3,000 students.

NCA serves a diverse population. Figure 2 provides information on the composition of the student body in January 2016.

Figure 2. Student Body Composition of NCA –January 2016
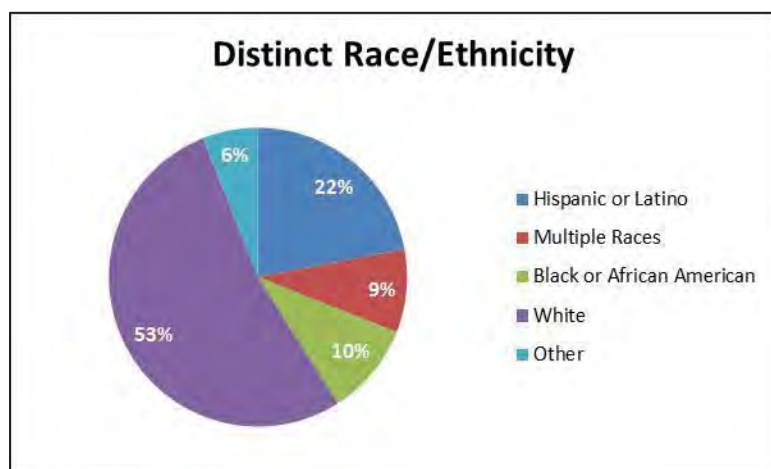
The students are currently 46% male and 54% female. Figure 3 illustrates the grade distribution as of January 2016. Students in 9th and 10th grades represent the largest percentage of students.

Figure 3. Grade Distribution as of January 2016
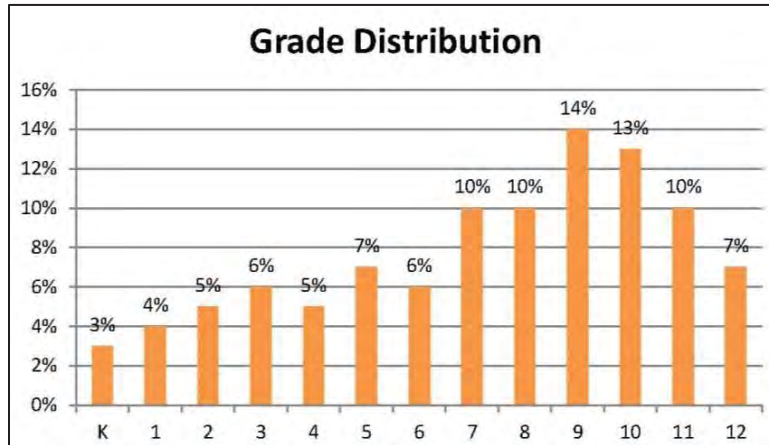
As of January 2016, **approximately 41% of the students served are socioeconomically disadvantaged**, measured by family income eligibility meeting federal guidelines for free or reduced lunch.

NCA also serves special populations through Individual Educational Plans (IEP), Section 504 plans, and gifted programs. The Special Education/504 population is approximately 12% of the total student population. The Gifted population is approximately 3% of the total student population.

Parent Satisfaction

NCA has consistently received high ratings on annual parent surveys. Parents are surveyed annually; the results are compiled by an independent third-party research firm, and presented to the school staff and Governing Board. Parent surveys provide quantifiable data by which the school leadership can work towards improving various aspects of the school. Over the past several years, the percent of parents who have responded to the survey has varied from 35% to 50%. Therefore, these results are considered reflective of the overall experience of the NCA families. More detailed results from parent surveys are included in annual reports to the Governing Board and are always available upon request.

Figure 4. Parent Satisfaction Survey Results for NCA for 2014-2015
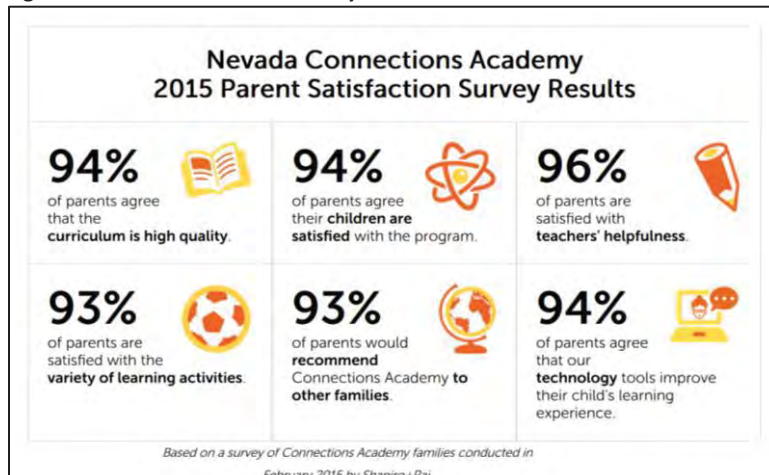
The following testimonials are from NCA students and their parents. The testimonials were unsolicited and represent a sample of the kudos that the teachers and school receive on an ongoing basis.

- *My son LOVES you! We love NCA and will be moving our other child here because NCA "has it together!" We love NCA because of the teacher interactions.*

- *I am very happy with Melissa Pugh. She has really helped my daughter and she has brought her grades up. I would like to say Thank You.[2]*

- *Our family is new to NCA but so far we are having a positive experience. I find all of my questions and concerns are addressed in a timely and thorough fashion. We are very excited to start in a few days!*

- *Tiffany Grant has done great work with my son. Thank you.*

- *Thank you very much Ms. Lapidus. I'm so grateful. I have been working hard on this for at least three days.*

- *Fantastic. Way better than traditional institutions for numerous reasons. Love the brand new UPS'd textbooks, too!!!! Yet another plus! Thanks for accommodating to 2015!*

- *Over all this is a great school. Love the set up and everything.*

- *Ms. Murphy, You are our favorite teacher and the best thing about NCA. You are always in contact and it is so appreciated.*

A.3 Accomplishments

Academic and Educational Achievements

- In 2014-2015, NCA's composite ACT and SAT score averages were higher than both the state and national average scores.

- The class of 2015 valedictorian was awarded a prestigious U.S. Army pre-med/medical school combined program scholarship.

- The 119 graduates in the class of 2015 earned a total of $562,065 in scholarship money.

- Two 8th grade students both won 1st place at the Western Nevada Regional Science Fair.

- Students who graduated from NCA in 2015 were accepted at colleges such as:

  o Antioch University McGregor
  o Arizona State University
  o Arkansas State University
  o Art Institute of Las Vegas
  o Art Institute of Portland
  o Berea College
  o Biola University
  o Brigham Young University-Idaho
  o California Institute of the Arts
  o Central Bible College

  o Seattle Pacific University
  o Southern Oregon University
  o St. Mary's College of California
  o Suffolk University
  o University of Hawaii at Manoa
  o University of Idaho
  o University of Mobile
  o University of Nevada: Las Vegas
  o University of Nevada: Reno
  o University of North Texas

---

[2] **Melissa Pugh is an NCA graduate who went onto graduate from the University of Nevada, Las Vegas.**

- o Chapman University
- o Colorado Christian University
- o Corban University
- o Dominican University
- o Drake University
- o George Fox University
- o Gonzaga University
- o Lake Forest College
- o Nevada State College
- o Northern Arizona University
- o Oregon State University
- o Saint Peter's College
- o Santa Clara University

- o University of Oregon
- o University of Portland
- o University of San Diego
- o University of Southern Mississippi
- o University of the Pacific
- o University of Utah
- o Utah State University
- o Utah Valley University
- o Westmont College
- o Whitworth University
- o Willamette University
- o William Jewell College

Other Achievements

- NCA is accredited by the Northwest Accreditation Commission (NWAC), an accrediting division of AdvancED.

- In 2015, an NCA High School Student was national Runner-up for the national Prudential Community Spirit Award.

- NCA has ongoing community service programs with the Foodbank of Northern Nevada and other regionally recognized agencies.

- A 9th grade student was recently chosen to serve on the global Pearson Student Council and will have the opportunity to represent his school and interact with peers from around the world.

- Our school counseling program presented some of its successes at the recent Nevada Association of School Counselors conference.

- Principal Steve Werlein participated in a business leaders' roundtable with the presidents of three state universities and other educational leaders in 2014.

- NCA recently hosted a "Read for the Record" event which included participation from US Congresswoman Dina Titus (virtually from Washington, DC) and Reno's Chief of Police. Approximately 900 people attended "live" at one of the in-person venues or virtually.

- NCA hosts career and college fairs in both southern and northern Nevada. This year's events included participation from a variety of public safety, post-secondary, and vocational agencies and had record numbers of attendees.

A.4 Academic Accountability

It is important to note that scores may fluctuate from year to year. Student mobility and growth rate are important factors in analyzing academic performance. Many students and families choose a virtual school program to serve a unique need for a particular period of time, i.e. medical reasons, sports or performing arts/acting, family move, bullying, and so forth. Their intent is to solve a family issue and enroll in a virtual school for a limited time. As a result, virtual schools experience student turnover both during the year as well as from year to year. As such NCA is particularly susceptible to enrollment fluctuations and the subsequent impact on academic performance data.

Student academic achievement is the highest priority for NCA. Over the last year, NCA has put in place several significant interventions and enhancements to ensure that student performance exceeds the growth targets, especially among the subgroup populations. These include:

- Ongoing in-depth assessment and performance data on individual students, which is available to teachers and administration in "real time" and used to modify and individualize programming;

- Targeted , individualized remedial courses for students who are underperforming, and a wide selection of Gifted, Honors, and Advanced Placement (AP) courses for advanced students;

- Addition of staff who specialize in working with at-risk, credit deficient students in core areas, and a literacy specialist dedicated to providing intervention type instruction;

- Addition of highly qualified and trained teaching staff to teach AP courses;

- Expansion of existing counseling and support programs to address the diverse and often profound social emotional needs of our students;

- Expansion of teacher-led Professional Learning Communities (PLCs) that establish goals, meet regularly, and focus on student data to guide their actions. These are tracked and monitored by school leadership;

- Additional internal and external targeted professional development for teachers in critical areas such as mathematics instruction and student engagement;

- Identification and targeted use of supplemental resources and strategies to support struggling students in the areas of literacy, mathematics, and study skills.

The regular evaluation of the academic performance of students, the use of student performance data to drive changes and improvements to the school program, the increasing use of PLC's, and the development of annual goals and plans to increase student academic achievement all demonstrate a dedication and focus on student performance.

The following represents NCA's most recent performance on state assessments in 2013-14 as the 2014-15 data was not publicly reported. NCA is proud of its performance on the 11th grade proficiency test. NCA significantly exceeded the state performance in Reading and Science and was within 1-2% points from the state proficiency average in math and writing. There is still room to improve but NCA's performance on the state proficiency test demonstrates that it is successfully teaching students in the key content areas. Figure 5 provides more detailed information on NCA's performance on state assessments.

NCA receives separate ratings on the School Performance Report for elementary, middle school, and high school. Nevada did not compute new ratings for 2014-15, but instead carried over the 2013-14 ratings. NCA's middle school rating was 4 out of 5 stars for both 2013-14 and 2012-13, while the elementary and high school received a rating of 2 stars in 2013-14. Both the elementary and high school fell two points short of receiving a 3 star rating, which both had achieved in 2012-13.

Figure 5. 2013-14 Reading and Math Scores versus State Average
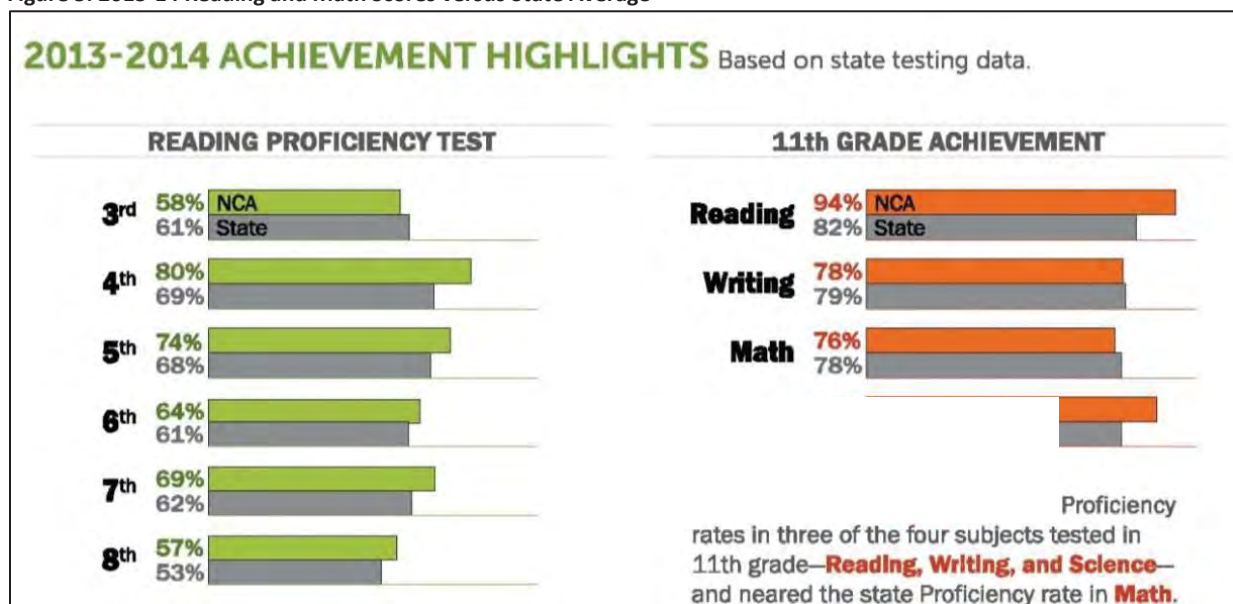
For the elementary school, the strongest ratings were for English Language Arts (ELA) for proficiency and even stronger performance in growth, receiving 80% of the possible points for ELA growth. The middle school had solid performance with all indicators, but also excelled in ELA proficiency and growth, earning 80% of the possible points for both measurements. **The high school performance was strongest in closing achievement gaps, earning 90% of the possible points in this area**. All grade spans met the minimum testing participation rates and also had very strong performance on Average Daily Attendance.

A.5 NCA Board of Directors

Governing Board

The Governing Board is a knowledgeable, well-educated, and active Board. The Board has been successful in maintaining a prominent role in the direction of the school via policy and oversight. The Board receives regular reports at Board meetings from the school leadership on all aspects of the school's operations, including budgets, funding, staffing, enrollment, and growth. In addition, the Board is apprised of school-wide state test and other assessment results, and the results of the annual parent and staff surveys. The Board is therefore able to engage in ongoing evaluation of the school's effectiveness and able to participate in the review and refinement of the school's vision, purpose, and goals. School leadership works with school staff and stakeholders to develop specific annual goals. These goals are then presented to the Board for final approval prior to implementation. School-specific goals align with the Board goals outlined in the charter and mission/vision for the school. The Board has been actively engaged in efforts to improve the graduation rate, cognizant of the challenges given the high mobility of students and significant credit deficient population. The Board has shown a commitment to both continuous improvement in the high school program and working with the State on policy to ensure schools are incentivized —not punished — for serving the most at-risk students who come to NCA as a last resort before dropping out.

The Board successfully provides oversight by reviewing and approving the school's policies and procedures. All Board members are invited to provide feedback on new programs, such as webinars with curriculum experts and designers, and content that will be provided to students including providing a designee to participate in an in-depth study of the curriculum to be offered by the school. Board members have attended several trainings and conferences to fully understand their roles as Board members and maintain their knowledge of charter school governance best practices and trends. These trainings include a Connections-hosted all-Board member training in Nevada, as well as the annual Board Academy offered by Connections. Board members have also been able to attend conferences such as the iNACOL conference, the National Charter School conference, and other training opportunities and conferences held by the Nevada Department of Education. The Board has consistently maintained all required regulatory parameters of the governing body's membership. The following members currently serve on the Board:

- **Dr. Jafeth Sanchez, Board President**
  Dr. Jafeth Sanchez earned a Ph.D. from the University of Nevada, Reno's College of Education in Educational Leadership, with an emphasis on Higher Education Administration. She is an assistant professor and focuses on developing high quality school leaders in K12 education. Her research agenda is on educational leadership practices, organizational change efforts, diversity initiatives, outreach, student resiliency, P16 alignment, and GEAR UP outcomes. She has actively managed and attained grant funding as a principal investigator or co-investigator for approximately $1.6 million since the fall of 2012. She also serves as a cost-share match for the Nevada State GEAR UP project, which has approximately 5,500 students and has served 36 middle and high schools in Nevada; GEAR UP is a competitive U.S. Department of Education grant program that increases the number of low-income students who are prepared to enter and succeed in postsecondary education by providing states and local community-education partnerships with six- to seven-year grants to offer support services to high-poverty, middle and high schools. Sanchez previously taught mathematics and was awarded Northern Nevada Math Teacher of the Year 2012 by the Northern Nevada Math Council. She was also a Bill and Melinda Gates Millennium Scholar and serves as a mentor for its current scholars throughout the country. Her passion for educational improvement and access to higher education are embedded in all aspects of her work in teaching, research, and service.

  She has been a part of NCA since 2011 and currently serves as President of the Board.

- **Dr. Scott Harrington, Board Vice President**
  Dr. Scott Harrington is currently the Clinical Supervisor for Mosaic Rehabilitation-Blueprints Division. He has been working with people with disabilities since 1990, when he earned his Bachelor's degree in Psychology at CSU Long Beach. He earned his Master's degree in Psychology (Behavior Analysis) at the University of the Pacific in Stockton, California, and his Doctorate, also in Psychology (Behavior Analysis), at the University of Nevada, Reno (UNR). Dr. Harrington has written and directed multiple projects to help individuals with disabilities live more independent lives. He is a founder of the first elementary charter school in Nevada, Sierra Nevada Academy, and a former middle school mathematics teacher. He has presented over 40 papers on data-based interventions to assist persons with disabilities, has several publications across multiple areas, and currently teaches at UNR. His research interests include inclusion, integrated employment, transition, intrinsic motivation, attitudes about disabilities, and interagency collaboration. Dr. Harrington is a Board Certified Behavior Analyst (BCBA-D), a member of the Association for Behavior Analysis (ABA), and on several advisory boards.

  He has been a Board member since 2010 and currently serves as Vice President of the Board.

- **Kelly McGlynn, Board Treasurer**
  Kelly McGlynn graduated from the University of Nevada, Reno, in 1998, with a Bachelor of Science degree in Business Administration. She is a Certified Public Accountant with more than 14 years of experience in public accounting. Ms. McGlynn is currently president of her own company specializing in tax preparation and bookkeeping services. She is a member of the American Institute of Certified Public Accountants and a member of the Nevada Society of Certified Public Accountants. Ms. McGlynn became involved with Connections in 2011 while searching for an alternative to public school for her then eight-year-old daughter. She feels that education is extremely important but that all children learn in different ways. She is happy to serve on a Board that provides children alternatives to brick-and-mortar schools.

  McGlynn has been on the Board since 2013 and currently serves as Board Treasurer.

- **Marisa Delgado, Board Secretary**
  Marisa Delgado earned her Master's degree in Educational Leadership from the University of Cincinnati, and currently holds her administrative certification with the state of Nevada. She is currently the Math Department Chair at Bishop Gorman High School. Ms. Delgado has spearheaded the new 1:1 iPad program at Bishop Gorman High School. Integrating technology into the classroom and having students use technology for higher levels of thinking is one of her goals. She also runs the senior internship program where she places around 20 high school seniors each year with different companies around the Las Vegas Valley, allowing them to get real life work experience prior to leaving for college. Ms. Delgado co-chaired the teacher mentor program for new and transitioning teachers into Bishop Gorman High School, to assure an easy transition focusing on teacher retention. Ms. Delgado is currently the chair of the Teaching and Learning Leadership committee for accreditation through WCEA. Ms. Delgado is involved in the student leadership program on her campus running the Link Crew freshman orientation where students are greeted by upperclassman that she has trained to run small group activities that will prepare students for life in high school. Continual education and building a better future for children today motivates her to remain engaged in providing new opportunities for children.

  Ms. Delgado has been a part of NCA since 2013 and currently serves as Board Secretary.

- **Mindi Dagerman, PE, Board Member**
  Mindi Dagerman, PE, earned her Master's in Business Administration from the University of Nevada Reno. She also holds her Professional Engineering License in Mechanical Engineering in Nevada. Ms. Dagerman is the Engineering Supervisor/Design at Southwest Gas for the Northern Nevada Division. Her department manages new business, replacement, system improvement, and meter set projects for natural gas distribution to customers throughout the division.
  Ms. Dagerman is passionate about all children having access to high quality education. She loves to see more school choice available for parents and wants to see students find a school program that supports their learning style.

  Ms. Dagerman has been on the Board since 2008, and she currently serves as the business sector representative on the Board.

- **Tessa Rivera, Board Member**
  Tessa Rivera earned her Master of Arts in Educational Counseling from San Jose State University following her Bachelor of Arts studies in Communication from San Diego State University. She was an AVID (Advancement Via Individual Determination) Program English teacher, Student Advisor, and varsity athletic coach in California from 2000 through 2010. Additionally, Mrs. Rivera enjoyed her work with San Jose State University as a mentor teacher collaborating with the school's teacher credential program while also employed as a GEAR UP and Upward Bound Pre-College programs counselor and test preparation instructor. Currently, Mrs. Rivera serves as the Dean of Students for the freshman class, moderator of the Dance Team, and Jewelry Club advisor at Bishop Gorman High School all the while diligently pursuing an Ed.D at Northcentral University engaged in researching the impact of organizational leadership on new teacher attrition rates throughout the United States. Mrs. Rivera's educational philosophy is dedicated to promoting life-long learning in addition to supporting and motivating all students to reach their full potential, specifically utilizing the elements of Bishop Gorman High School's Freshman PRIDE (Prepared for class, Respect for self and others, Integrity in Academics, Determination to do well, Effort in all pursuits) Program.

  Mrs. Rivera has been on the Board since 2015.

- **Gene Stewart, Board Member**
  Gene Stewart is a seasoned business professional and entrepreneur. He received his MSc in Comparative Pathology from the University of California, Davis in 1983. He has held positions in global marketing with SmithKline Beckman and others commercializing new technologies in bioinstrumentation. In 1996, Mr. Stewart launched Knotty Bear Development building and selling luxury resort mountain homes. In 2005, he founded a new company, Biophoretics, Inc. focused on the research and development of a new automated technology for the discovery of biomarkers. In 2010, he commercialized Biophoretics for the global distribution, marketing, and sales of high value tools for life science research. He has also served on the Board for Center Street Mission helping the homeless regain their foothold in life. He believes in the triad of family, education and the desire to help every child reach for the sky.

  Mr. Stewart has been on the Board since 2015.

School Leadership

- **Steve Werlein, Principal**
  Steve Werlein's career as an educational leader has taken him not only across the geographic spectrum of the country, but across the diverse public and private educational landscape as well. Mr. Werlein has proven that when given a rigorous and relevant curriculum, high expectations, and caring, nurturing adults, all students can find success.

  As a high school world language teacher, he created a home study program for non-native speakers of Spanish in Mexico, and an intensive Spanish course for native speakers. While teaching, he was also the leader of one of the first one-on-one technology initiatives in the state of Illinois. As a school administrator, Mr. Werlein has served as Assistant Principal of a large, urban middle school near Chicago where he and his team successfully rebuilt the school culture and created an inclusive, positive environment.

After leaving this role, Steve assumed his first principalship which entailed leading a vocational school for students with severe behavioral challenges. His efforts there led to the creation of a unique, blended curriculum which fused practical vocational skills with core academic content and led to many students entering skilled trades and other post-secondary options.

Next, Mr. Werlein was privileged to serve as the Director of Curriculum and Instruction and Principal at Henry Ford Academy in Chicago, which is housed in part of the original Sears Headquarters on the city's west side.

Mr. Werlein moved to suburban Austin, Texas where he started a charter high school with 35 students that has since grown to an exemplary rated, K–12 campus with 1,000 students.

Throughout his career, he has been passionate about finding creative, engaging ways to hold students to high standards and feel connected to their learning communities.

Education:

o   Bachelor of Arts Degree in international political economy and Spanish from DePaul University

o   Master of Education Degree in secondary teaching and curriculum from DePaul University

o   Certificate of advanced study in school leadership from National Louis University

o   Currently a doctoral candidate at the American College of Education

Appendix B

NCA's Federal Four-Year Adjusted Cohort Graduation Rate (2015) Calculated Under NCLB

Nevada Connections Academy (NCA) is committed to the students it serves. At least weekly, we review and analyze data down to the individual student level and use the data to make informed decisions to maximize each student's chance of success. NCA's 2015 Cohort Graduation Rate identifies a percentage of students who did not graduate. NCA leadership is learning from these students and applying lessons learned to the graduation improvement plan. However, there are also lessons still to be learned about:

- How to identify students at risk to not graduate and how to best address risk factors.

- How schools with higher than average mobility rates are impacted by the current four-year cohort method of calculating graduation rate.

- Factors outside of the school's control which often lead to students being counted as non-graduates, even when they continue their education.

NCA is confident that through its ongoing analysis of data and implementation of targeted, individualized programming, its graduation rate will improve.

B.1 Detailed Look at the 2015 Graduation Cohort

In an effort to fully understand the challenges that NCA faces relative to the current NCLB four-year cohort calculation of the graduation rate and to gain insights on areas to target for improvement, an analysis was conducted of the 2015 graduation cohort. The final cohort consisted of 334 students – 119 graduates and 215 non-graduates - for a four-year cohort graduation rate under NCLB of 35.6%. For the entire cohort (334 students), 143 (42.8%) were two or more credits behind when they enrolled; 56 (16.8%) were more than 6 credits behind when they enrolled.

When looking at this cohort at the individual student level, some interesting patterns became apparent. For the non-graduates in the cohort (215 students), 137 of them (63.7%) were behind two or more credits when they enrolled. Figure 1 provides a breakdown of the grade level at which these non-graduating students enrolled and their level of credit deficiency.

Figure 1. Non-Graduates Grade Level Upon Enrollment

Credit Status	Non-Graduates' Grade Level upon Enrollment			
	9th grade	10th grade	11th grade	12th grade
0 – 2 Deficient	30	10	18	20
2 – 6 Deficient	1	20	24	36
> 6 Deficient	0	2	22	32

As the data shows, non-graduates were likely to enroll later in their high school career, thus providing a shorter period for NCA to catch them up to graduate in their cohort: 152 or 70.7% of the 215 non-graduates enrolled in the 3rd or 4th year of high school, and 114 or 75% of these students were two or more credits behind when they enrolled.

Of the students who graduated on time in the 2015 cohort, a much different picture emerges, as illustrated in Figure 2. Graduating students tended to enroll earlier and with significantly less credit deficiency.

Figure 2. Graduates Grade level Age Upon Enrollment

Credit Status	Graduates' Grade Level Age upon Enrollment			
	9th grade	10th grade	11th grade	12th grade
0 -2 Deficient	30	17	26	40
2 – 6 Deficient	0	2	2	2
> 6 Deficient	0	0	0	0

Of the students who graduated, 59% enrolled in the 11th or 12th grade, and 6% of them were two or more credits behind when they enrolled.

Another important consideration is the group of students enrolled in an institution of higher education but were not counted as graduates for NCA. In this cohort, seven students enrolled in 12th grade, were not counted as graduates from NCA, but have enrolled in college. Additionally, eight students enrolled as seniors who were expected to graduate on-time with their class but did not graduate. The story behind each of the students warrants further analysis. The overall graduation rate improvement plan also focuses on maintaining the progress of our students who enroll in the school and should graduate on-time with their class.

B.2 Concentration of Credit Deficient Students

It is also interesting to view the data for the concentration of students in the graduation cohort that arrived at NCA credit deficient. In Figure 3, Credit Deficient is defined as having fewer credits than expected at the time of enrollment. For example, a student enrolling at the beginning of 10th grade would be expected to have earned 5.0 credits during the student's freshman year. If a student enrolled with less than 5.0 credits, the student would be considered credit deficient. Figure 3 provides this information about students enrolling as 10th-12th graders at NCA.

Figure 3. Percentage of Students Enrolling Credit Deficient

Grade Upon Enrollment	# of Students in Cohort	# Credit Deficient	NCA % Credit Deficient
10th grade	51	28	54.9%
11th grade	92	58	63.0%
12th grade	130	79	60.8%

Clearly, the percentage of credit deficient students enrolling at NCA is significant. This includes 60% of the students enrolling as 12th graders when NCA only has one year or less to catch the student up for on-time graduation. NCA is fulfilling a unique niche in serving students who are struggling.

B.3 Where Did the Non-Graduates Go?

When hearing the term "non-graduate" it is easy to assume that these students are no longer in school. However, that isn't the case for many of the non-graduates included in the NCLB calculation of the NCA 2015 cohort. Of the 215 students in the 2015 cohort who are included in the calculation as "non-graduates" , 146 of them either enrolled for a 5th year of high school or continued their education after withdrawing from high school:

- 63 transferred to an adult education program (and, therefore, would have been excluded from the State's calculation of drop-outs for annual accountability reporting but are still considered non-graduates)

- 59 re-enrolled for a 5th year at NCA. Based on current achievement, it is likely that between 20 and 25 will graduate by July of 2016, in addition to the 8 already who have graduated.

- 24 transferred to a GED program (and, therefore, would have been excluded from the State's calculation of drop-outs for annual accountability reporting but are still considered non-graduates)

Unfortunately these students while still enrolled in school are counted as non-graduates according to the NCLB four-year cohort calculation currently being considered by the Authority. Appendix D provides policy recommendations to address this issue, and NCA is seeking further evaluation of this calculation in light of Nevada statutory requirements for annual accountability reports to exclude some of these students from the drop-out rate. If a student is not considered in the drop-out rate calculation, they should not be considered a non-graduate in the four-year cohort calculation. **NCA estimates that if the students who entered a GED program and transferred to an adult education program were not counted as drop-outs in NCA's 2015 four-year cohort graduation rate, that rate would be 48.18%.**

If students who enrolled for a 5th year, go into Adult Ed, or entered a GED program are removed from the cohort, then the graduation rate for NCA would be 63.3% for 2015.

B.4 Lessons from the Data

Although NCA is not officially designated as a credit recovery/alternative school, many students enroll in the school after falling behind in credits during their prior schooling. Discussions of NCA's graduation rate and NCA's performance should consider that NCA is not responsible for the student's experience prior to enrolling in NCA and that NCA often times helps students who have struggled in other schools re-engage and find a path to graduation. NCA has shown that it helps some students recover credits (10.1% of the students who graduated in 2015 were credit deficient when they enrolled), but the school continues to diligently strive to improve its efforts and bring more urgency in the task of credit recovery for credit deficient students, while continuing to provide a rigorous academic program.

Conversely, for those students who enroll in their 11th or 12th grade and are severely behind in credits, it is simply not realistic to expect that many of them will catch up by the end of their 12th grade year. In the 2015 cohort, 54 students entered in the 11th or 12th grade more than six credits behind. NCA welcomes these students even though it is highly unlikely they will graduate on cohort. NCA's job is not done with these students after their cohort graduates; it works hard to encourage them to continue their schooling. NCA's success with these students is not reflected in the four-year cohort calculation of the graduation rate under NCLB but clearly it is in the student's, the State's and the school's best interest to continuing enrolling and effectively serving these students.

Short of turning away these students (which NCA has no desire to do, and is not statutorily allowed) serving these students in the 2015 cohort created a **16 percentage point handicap for NCA**. That is, regardless of how effective NCA is with every other student including these students who enrolled two to six credits behind, the school's graduation rate for those students will still be reduced by **16 percentage points**.

In the 2015 cohort, more than two-thirds of NCA's non-graduating students continued to pursue an educational certificate of some kind. The state should consider monitoring these students' progress through robust data systems to see how many completed their certificate, whether it is a GED, diploma, or an adult education certificate, because such certificates are important demonstrations of college and career readiness. This is consistent with existing State law which excludes students who continue on to adult education or receive a GED from calculation of the drop-out rate for the State's annual accountability reporting requirements. Given the State's recognition that these students should not be considered dropouts, the State data systems may want to consider adjusting accounting for these stories as success versus failure to graduate. **As stated earlier, the graduation rate for NCA would be 63.3% for 2015 which exceeds the threshold of the State Public Charter Authority if students who enrolled in a 5th year, go into Adult Ed or entered a GED program are removed from the cohort.**

Appendix C

NCA's Anticipated Four-Year Adjusted Graduation Rate (2016)

NCA is actively monitoring the progress of the students who are anticipated to be part of the federal four-year adjust cohort for the class of 2016. Students from the anticipated cohort have been placed in one of five categories:

- **Group 1:** Those students that are currently enrolled at NCA and on-track for an on-time graduation.

- **Group 2:** Those students that are currently enrolled at NCA and with additional support and completion of credit recovery courses are anticipated to graduate either at the end of the school year or after a summer term and counted as an on-time graduate.

- **Group 3:** Those students that are currently enrolled at NCA but are not anticipated to graduate on-time. Students are typically placed in this category because they are significantly credit deficient. However, there are other possibilities such as a student that enrolled as a second-semester Senior that while on-track credit-wise, still is unable to graduate on-time because accreditation standards require a student to earn at least five credits from NCA.

- **Early Graduates:** Students that have already graduated from NCA, either after three years of high school or after the first semester of their Senior year.

- **Withdrawn Students:** Students that have withdrawn from NCA and have not yet been verified to have transferred to another school or meet other criteria that would remove these students from the cohort.

C.1 Detailed Look at the Anticipated 2016 Graduation Cohort

When analyzing the data about the anticipated 2016 graduation cohort, there are many similarities to the 2015 graduation cohort. The anticipated cohort size is larger (518 compared to 334), but the percentage of students that were two or more credits behind at the time of enrollment is very similar (43.1% compared to 42.8%) and the percentage of students that were more than six credits behind at the time of enrollment is slightly larger (20.3% compared to 16.8%).

Figure 1 shows a breakdown of the anticipated graduates and non-graduates as far as credit status upon initial enrollment, based on the grade level at the time of enrollment.

Figure 1. Anticipated Non-Graduates Credit Status by Grade Level Upon Enrollment

Credit Status	Anticipated Non-Graduates' Grade Level upon Enrollment			
	9th grade	10th grade	11th grade	12th grade
0 – 2 Deficient	27	20	27	19
2 – 6 Deficient	6	23	43	37
> 6 Deficient	0	0	65	40

Similar to the 2015 graduation cohort, where 70.7% of the non-graduates enrolled in the last two years of high school, 75.2% of the anticipated 2016 non-graduates enrolled in the last two years, as well, thus providing a shorter period for NCA to catch them up to graduate. Of these students, 80% were two or more credits behind when they enrolled (compared to 75% for the 2015 non-graduates). This is a significant increase in the percentage of students who are two or more credits behind and creates questions about why this is the case. Are more students not meeting Nevada's standards and are looking for additional options? Are students being referred to NCA because of its open enrollment policy?

Of the students who are anticipated to graduate on time for the 2016 cohort, the data is also similar to the graduates from the 2015 cohort which again shows a stark difference from the anticipated non-graduates. Slightly over one-third of these students enrolled in 9th or 10th grade, and just 5% of the students arriving in the last two years were two or more credits deficient when they enrolled (2015 comparison is 41% enrolled in 9th or 10th grade and 6% of the students that enrolled in the last two years were two or more credits deficient upon enrollment.)

Figure 2. Anticipated Graduates Grade level Age Upon Enrollment

Credit Status	Anticipated Graduates' Grade Level Age upon Enrollment			
	9th grade	10th grade	11th grade	12th grade
0 -2 Deficient	34	37	62	69
2 – 6 Deficient	0	2	5	2
> 6 Deficient	0	0	0	0

C.2 Additional Information Regarding Withdrawn Students

The students who have already withdrawn make up the largest segment (44.6%) of the projected 2016 cohort. Of the 231 students in this category, 141 (61%) of them withdrew prior to the current school year. Thus one of the largest impacts on the eventual final graduation rate had already been determined prior to when the efforts began in 2015-16 to improve graduation rate. However, increased data reporting efforts instituted during the 2015-16 school year will have long term positive effects in ensuring that increasing immediate efforts are made to identify where students transferred.

It is possible that some of these withdrawn students will be documented as having transferred to another school and thus removed from the final cohort. However, the majority of these students appear to have transferred either to an adult education program (39.4% of the current withdrawals) or a GED program (13.4% of the current withdrawals). Thus the fate of 122 students as "non-graduates" appears to already be determined according to the cohort graduation rate calculation even though these students are persisting in school and receiving other academic credentials that better meet their needs. Under current Nevada law, these students must not be counted as drop-outs for purposes of annual accountability reporting and, therefore, should not be included in the calculation of the graduation rate for the school relative to the Authority's consideration of potential closure under SB 509. *See* NRS 385.347.

C.3 Improvements Made This Year

There are positive signs that the school is on the right track:

- The projected graduation rate reflects a significant increase over the prior year.

- The percentage of anticipated graduates that entered behind in credits is 14.2% of the graduates compared to 10.1% for the 2015 graduates. This is an indication that NCA is doing a better job at helping students that enter credit deficient to graduate on-time.

- When comparing the 2016 anticipated cohort with the 2015 cohort, the percentage of students who enrolled two or more credits behind and the percentage that enrolled six or more credits behind were significantly higher in 2016. Despite having a slightly more challenging population of students this year, the projected graduation rate shows an increase, an indication that the steps taken to improve the graduation rate are showing results.

The initial indications are that the school is headed in the correct direction. With the additional actions outlined in this plan, we are confident that the improvement in graduation rate will accelerate.

Appendix D

Policy Considerations – Application of Existing Law and Potential Regulatory Changes

The federal four-year adjusted cohort graduation rate was created to provide a consistent way for the graduation rate to be calculated across all schools and states. A cohort includes the students that start in the school in 9th grade, plus all that transfer into the school in later years, minus the students who leave for another school (unless confirming documentation of where the students went is unavailable, in which case the students remain in the cohort under the current method of calculation as discussed in Appendix C). After four years, the number of graduating students from the cohort is divided by the total number remaining in the cohort to get the four-year adjusted cohort graduation rate.

In practice, consistency has not been achieved, due to differences among states in the way they gather, code, and validate the data provided by schools. But more importantly, the cohort graduation rate calculation was designed with traditional schools in mind – schools with low mobility and a fairly consistent student population. This way of calculating the graduation cohort is not a very accurate measure of the performance of a school that has a high percentage of students who were credit deficient when they enrolled in the school or of a school with high student mobility.

To understand why this is so, consider the following example:

> *Imagine a school in which half the students enrolled as 11th graders and were severely credit deficient when they enrolled. Assume that from the date they enrolled, every single student in the school accumulated credits at a normal on-track pace of three to four credits per semester. Would anyone say this school is a failure? Of course not – every student in the school is accumulating credits on pace.*
>
> *But its four-year cohort graduation rate could not be higher than 50%.*

For most high schools, a significant majority of students remain enrolled during all four years, and so the four-year cohort graduation rate is a more accurate measure of these schools' performance.

But for high schools that are characterized by high mobility rates and a high percentage of students who are deficient in credits when they enroll, the four-year cohort graduation rate is heavily reflective of these students' prior high school experience where they became credit deficient, and not reflective of the performance of the school into which they transferred.

This is true for any school that has a high percentage of incoming students who are credit deficient – whether it is a virtual school, a brick-and-mortar charter school, an alternative school, or a traditional district school. For these schools, further analysis beyond the four-year cohort graduation rate, such as the actual credit accumulation rate of the students, is necessary to reveal how the school has performed.

This is the reason why alternative high schools are typically measured by different criteria. They have high percentage of credit deficient enrollees by design.

D.1 Transiency Rate and Impact on Learning

According to the Nevada Department of Education, transiency is defined as "the percentage of students who do not finish the school year at the same school they started."[1] Figure 1 represents transiency rates for the state, Clark County, Washoe, the State Charter Authority, and Nevada Connections Academy (NCA) from the Nevada Department of Education.

Figure 1. Transiency Rates

District/School[2]	Transiency Rate
State	26.5%
Clark County	28.8%
Nevada Connections Academy (NCA)	43.3%
State Public Charter School Authority	22.6%
Washoe County	22.0%

Virtual schools have a high mobility rate due to the various factors that lead students to choose to enroll in a virtual school. As is illustrated in Figure 1, NCA has a significantly higher mobility rate than the state average as well as the average of the State Public Charter School Authority – over 20 percentage points higher.

Many students choose NCA to solve a problem for a particular period of time such as bullying, medical issues, family situation, pregnancy, or other crisis situation.[3] According to a report by Nevada Kids Count Children on the Move (2005)[4], transiency has an adverse effect on student learning and "student mobility decreased the chance of students completing high school." They also reported that "students' school performance declined when they moved during the later years of high school" and that "educators believe it takes children four to six months to adjust academically after a school change" (NAEHCY, 2002).

Arizona recognizes the effect of transiency on student learning and created a policy that values a "persistence" factor in calculating school performance for alternative and virtual schools. An academically persistent student is "any student who is eligible to re-enroll at the end of the previous fiscal year and re-enrolls in any Arizona public school by October 1 of the current fiscal year. Students in grades 6 through 12 are included in the persistence rate calculation."[5] If students "persist" in learning, then schools receive points for student persistence in school. The Persistence Rate is equal to the

---

[1] http://www.nevadareportcard.com/DI/Help/Glossary#PT
[2] http://nevadareportcard.com/PDF/2015/00.E.pdf
[3] http://kidscount.unlv.edu/newsletters/Feb_2016KCNewsletter.pdf
[4] http://kidscount.unlv.edu/newsletters/childrenonthemove.pdf
[5] http://www.azed.gov/accountability/files/2014/11/grad-do-persistence-rate-tech-manual-nov26.pdf

number of students who re-enroll in the current year divided by the number of students eligible to re-enroll based on prior year. Nevada may want to consider a similar policy for recognizing that students who persist in their educational endeavors are important for the economic and long term future of Nevada.

NCA is committed to helping all students when they enter the school and to providing additional support and interventions when necessary. It is important to identify the issues facing enrolling students and examine the data. We know that many students enroll in NCA because of a temporary crisis or a family issue for which virtual schooling is the only solution, and when the situation is resolved, they return to their traditional school and graduate. The success that these students achieve during their time at NCA is not reflected in NCA's graduation rate calculation. In addition, many students in NCA enroll credit deficient especially in 11th and 12th grade. Therefore, the four-year cohort model is not an accurate measure of school performance.

Mobility is a challenge for state data systems to accurately track student enrollment. Accurate data reporting is the foundation by which metrics like graduation rate are built and it is imperative that state reporting systems accurately identify and report this population of students. Nevada may want to consider ensuring more robust state reporting mechanisms and resources that not only track transiency but assist schools in locating and properly reporting this highly mobile and transient population.

D.2 ESSA Changes to Four-Year Cohort Calculation

The Every Student Succeeds Act (ESSA) signed into law this past December changed how the four-year adjusted cohort graduation rate is calculated. A withdrawn student must have been enrolled "at least a half year" in the school (states are free to make this minimum attendance period longer) in order to be counted in the school's four-year cohort. Students who withdraw from a school prior to meeting the minimum attendance period are assigned either to the cohort of the school where the student spent the majority of grades 9-12 or to that of the previous school attended.

This solved the common problem of students dropping out after spending only a short time at a school and being counted in that school's cohort. ESSA recognizes transiency as an important factor in attributing a student's cohort graduation statistic to the appropriate school.

Under the new ESSA calculation, NCA's four-year cohort graduation rate will improve because many students enroll for short periods of time. As mentioned, states can define the minimum attendance period for inclusion in a schools cohort to be longer than half a year.

If this provision had been in place for the NCA 2015 graduation cohort, the effect on NCA's measured four-year cohort grad rate at different minimum attendance period levels is as follows:

- **If minimum enrollment period was set to the lowest allowed, which is 50% of a year: 63 non-graduates would be removed from NCA's cohort and the graduation rate would increase 8 percentage points**.

- **If minimum enrollment period was set to 75% of a year: 86 non-graduates would be removed from NCA's cohort and the graduation rate would increase 12 percentage points.**

This illustrates how volatile a measurement like four-year cohort graduation rate is dependent on simple definitions and calculation methods.

D.3 Pupil Accounting Policies

Under No Child Left Behind, states had some flexibility defining how pupils were to be accounted for in state accountability systems. Some states used this flexibility to lessen any disincentive to serve at-risk students. Under ESSA, states have even more flexibility to ensure schools are held accountable for student success while at the same time not penalizing those who serve challenging or at-risk populations.

North Carolina has for many years had a program for students with disabilities that led to a standard high school diploma. Nevada should consider adding such a pathway so these students will have every opportunity to gain the knowledge and skills necessary to be self-sustaining adults in their communities and earn a diploma which counts as a graduate for the cohort rate calculation.

In Nevada, the adult education program has three options, only one of which can be considered as a diploma. For purposes of calculating the four-year cohort graduation rate, students are automatically coded as dropouts when in fact all of them may not be, as they might have received a diploma. Nevada should consider a more accurate reporting method to properly account for these graduates. Nevada has an opportunity both to strengthen its adult education program to increase the percentage of students earning a diploma, and adjust the calculation to limit the number of students counted as dropouts and properly record students who earn a diploma.

D.4 Full Academic Year Definition

Each state has the ability to define a full academic year (FAY) student for purposes of state accountability. Recent trends, possibly due to the expansion of educator evaluation systems that incorporate student performance measures, have included expanding the definition of FAY out of sense of fairness to education professionals and schools. This year Georgia passed legislation requiring a student to be enrolled 90% of the school year to be used in educator evaluations, which may become the standard for school accountability in that state under new provisions of ESSA. Vermont also uses a very simple definition: students must be continuously enrolled from the first day of school until the last day of the school year. Closer to Nevada, Utah established a standard of 160 days of continuous enrollment; Indiana uses 162 days that represents 90% of the school year. As Nevada considers its new flexibility under ESSA, it should revisit the definition of a FAY student to ensure fairness in the system and remove some of the effects of transient students in a fast-growing state and ensure the proper schools are held accountable for a particular student's performance. The following represents a sample of policies in other states that define FAY in a way that properly allocates performance with the school who served the student for the majority of the school year.

Figure 2.State Definitions of FAY

State	Statutory Language
Georgia	Continuous enrollment from the fall FTE count through the spring testing window.
Vermont	Continuously enrolled from the first day of school to the last.
Utah	Continuous enrollment for no less than 160
Indiana	October 1, for 162 days

D.5 Alternative School or Virtual School Classification

As the state considers policies for accountability, Nevada may also want to increase its efforts to develop a separate accountability system for alternative schools and/or virtual schools. Arizona, for example, created a separate virtual school accountability system in 2015 and also has an alternative school accountability system.

According to the National Association of Charter School Authorizers (NACSA), states should include "clear, measurable performance standards to judge the effectiveness of alternative schools, if applicable—requiring and appropriately weighting rigorous mission-specific performance measures and metrics that credibly demonstrate each school's success in fulfilling its mission and serving its special population." Alternative and virtual schools want to be held accountable for their performance but on metrics that recognize where students come from and their growth over time enrolled in the school.

Just like district schools establish alternative schools within a district, charter schools and authorizers may want to consider allowing charter schools that serve highly mobile and credit deficient students to establish an alternative school within, or separate from, an existing charter where students who meet identifiable criteria are placed. The 2015 Nevada Legislature adopted an alternative performance framework for schools that meet a minimum 75% student population requirement for serving at-risk students. NCA does not qualify for this alternative framework, in part, because it is not just a high school but a K-12 school. The intent of SB 509 in providing the Authority discretion in the "may" provision for closure was to ensure that this discretion was reasonably exercised and that compelling evidence, such as that discussed herein, would be considered relative to the graduation rate considered for a school's performance. This allows a concerted effort and focus on a specific subset of a population, creates accountability metrics that accurately and fairly measure student performance, and creates a program targeted to student needs.

D.6 Multiple Accountability Measures

Graduation rate is one metric among many metrics that determine a success of a school. State proficiency, student growth, and college and career readiness are some measures that states are using to determine school performance. ESSA allows for additional flexibility in determining school quality such as a qualitative measures including parent satisfaction. Policies should consider multiple measures of student performance when considering quality of schools.

According to the Association Supervision Curriculum and Development (ASCD) "any comprehensive determination of student proficiency, educator effectiveness, or school quality must be based on more than just standardized test scores and should use a variety of measures appropriate to the individual or entity being measured."[6]

---

[6] http://www.ascd.org/ASCD/pdf/siteASCD/publications/policypoints/Multiple-Measures-of-Accountability.pdf

Nevada is currently in a transition period and has stated that multiple measures will be considered in a new accountability system including growth, science proficiency and other measures of student achievement. A circular from the Nevada Department of Education stated "A new school rating system is being developed and is expected to be in place after the 2016-2017 school year. Academic growth is an important factor when determining school ratings. Based on input from Nevada Stakeholders, growth will remain a measure in the next rating system. Other measures of student achievement from the current rating system are under review. Needed and exciting improvements are to come for Nevada's school ratings and will include the addition of measuring science proficiency."[7]

One recommendation presented to the Legislative Education Committee in April 2016 by an alternative school principal proposed that Nevada's Graduation metric include two measures of accountability so schools could be compared. One measure would be the federal cohort calculation and the other would be a four year continuously enrolled measure that would capture the graduation rate of students who are enrolled in a school for all four years. **For example, 79% of the students graduate at NCA who entered in 9th grade and stayed all four years in the 2013 and 2014 graduation cohorts**. Since mobility and transiency are significantly above the state average for NCA, this is a more accurate measure that demonstrates the effectiveness of NCA. Nevada could consider a policy that reports both measurements. Consideration of this is critical and essential under any proceedings, considering the potential for closure under SB 509 and the exercise of discretion based solely on the school's graduation rate. Additionally, the Authority held a regulation workshop in December 2015 and discussed drafting regulations to implement SB 509 relative to, among other things, closure proceedings and reconstitution. This regulation workshop should be completed to ensure the Authority has clear procedures and standards adopted in accordance with the Nevada Administrative Procedures Act, NRS Chapter 233B, and that all schools understood those procedures. In proper regulatory workshops and hearings, issues such as those raised herein could be considered.

Charter-authorizing best practices also value multiple measures in evaluating charter school performance. According to NACSA, "A quality authorizer designs and implements a transparent and rigorous process that uses comprehensive academic, financial, and operational performance data to make merit-based renewal decisions."[8] NACSA defines the academic data, which should include: "state-mandated and other standardized assessments, student academic growth measures, internal assessments, qualitative reviews, and performance comparisons with other public schools in the district and state." Ranking schools in the state based solely on the four-year cohort graduation rate, calculated under NCLB with no accounting for transient rates or mobility, penalizes schools such as NCA for a student's experience in the system for years prior to entering. It can be viewed as an unreliable metric and should not be used as the sole reason to suggest that NCA should be considered for closure, despite all of its success in student growth rates and re-engagement of students who otherwise would dropout and never graduate. Multiple measurements should be considered to fully evaluate quality of a charter school which is a key best practice in charter school authorizing.

---

[7] http://nspf.doe.nv.gov/Content/PDF/six%20things.pdf
[8] http://www.qualitycharters.org/for-authorizers/principles-and-standards/

NCA Elementary School Improvement Plan

Submitted to:

State Public Charter School Authority

By:

Nevada Connections Academy
Board of Directors

May 4, 2018

Table of Contents

EXECUTIVE SUMMARY

The Board of Directors of Nevada Connections Academy (NCA) has taken steps to improve its performance rating on the Nevada Department of Education School Performance Framework (NSPF). Specifically, the Board has put in place a set of policies, programs, and interventions (detailed in this plan), starting in the spring of 2018, to improve the school's overall performance on the NSPF. The Nevada State Public Charter School Authority (the Authority) shared its concerns about NCA's performance rating through a Notice of Breach, received in March 2018.

This plan builds on the school performance initiatives previously adopted by the NCA Board for implementation during the 2017-18 school year, including a new K-5 curriculum in both English Language Arts (ELA) and mathematics. Based on strong evidence from independent research and results from other online schools serving similar subsets of students, the NCA Board believes that the new curriculum, combined with initiatives and programs put forth in this plan, will result in measurable improvement in student proficiency and growth over the next three years.

For each of the described steps of the plan, the following issues have been addressed (as requested by the Authority):

- A thorough description why these approaches were taken, and how NCA data supports these selections;

- How these approaches are different from those previously implemented;

- A thorough description of how these approaches will effectively serve all students across achievement levels, including those that are not proficient; and

- Solid evidence from independent research that meets the strong evidence standard set forth in section 8101 (21)(A) of the ESEA.

Additionally, the plan clearly outlines interim and annual performance and growth goals in order to meet or exceed SPCSA performance expectations under the NSPF including how the baseline performance was set, an explanation of how NCA will measure academic progress throughout the school year for all students and subgroups, and evidence as to how the primary interim academic assessment is strongly correlated with the predictive results of the Smarter Balance Assessment. NCA will consistently monitor the plan and adjust it as needed for it to remain effective. NCA is also working in consultation with a "Turnaround Specialist" on targeted interventions and expects to receive the Turnaround Specialist's preliminary findings at the end of May 2018. NCA will work with the Specialist to tailor this plan to achieve optimum results.

The plan detailed herein is not only a response to that Notice, but also an outline of efforts that have been ongoing for over a year as NCA has been making every effort to improve the overall performance of students (as calculated on the NSPF). A key part of that effort has been focused on better understanding how the high levels of student mobility potentially affects the overall measurement and outcomes.[1] Understanding the impact student mobility has on NCA's student population's overall performance is of elevated importance because NCA has the highest mobility rate of any school in Nevada. In 2015-16, the overall mobility rate at NCA increased from 47% to 73% (vs. 27% for the state and 26% for schools sponsored by the SPCSA). More information on the statistical effects of student mobility and its effects on academic growth measurement can be found in Appendix A.

The NCA Board thanks the Authority Board and Staff for its collaboration in developing this plan and for its assistance in helping NCA address the four-year cohort graduation rate issue. The NCA Board believes that this plan demonstrates challenging yet achievable goals for improving the performance rating on the NSPF and continuing to serve a highly mobile population.

2016-17 NEVADA PERFORMANCE FRAMEWORK RESULTS FOR NEVADA CONNECTIONS ACADEMY

In December 2015, the 1965 Elementary and Secondary Education Act (ESEA) was reauthorized as the Every Student Succeeds Act (ESSA). Under ESSA, states are tasked with the responsibility to create or revise their current accountability systems to ensure that states "meaningfully differentiate" schools based on:

- Academic Proficiency on State assessments

- Graduation rates for high school

- English Language Proficiency

- Growth or other state wide academic indicator for K-8 schools

- At least one other State set indicator of school quality or student success

- 95% assessment participation rate.

According to the SPCSA, NCA has received a 1 or 2 star rating for two consecutive ratings periods, based on the 2016-17 Nevada Department of Education School Performance Framework (NSPF). This determination was made based on four components: academic performance, growth, closing the opportunity gap, and student engagement.

---

[1] Alexander, K. L., Entwisle, D. R., Dauber, S. L. (1996). Children in motion: School transfers and elementary school performance. The Journal of Educational Research, 90, 3-12.

Academic Performance

Student Proficiency is the measure used to determine student academic performance. Students who earn a passing score on the state assessment are deemed proficient. Proficiency calculations will be determined based on the assessed population of students at each school. In order for student results to be included in the school's proficiency rate, students must be continuously enrolled at the school on or before validation day until the start of the state assessment window (YIS=1). Additionally, the testing conditions must have been regular, and the test score must not have been invalidated.

Growth

Student growth is a measure of student achievement over time. Student growth is sometimes more generally referred to as student progress. Nevada has adopted the Nevada Growth Model of Achievement (NGMA) to measure student progress. The NGMA yields two measures of student progress, a Student Growth Percentile (SGP) and an Adequate Growth Percentile (AGP). These measures require at least one score on a prior assessment and so are determined for grades four through eight. Since there are too few students who participate in the Nevada Alternate Assessments, growth is not calculated for this assessment. Growth will not be determined for high schools and so will not factor into the high school accountability model. Student Growth Percentiles are a norm-referenced measure which compares individual student achievement against the achievement of students with a similar score history. The median SGP for each school is the measure used for school accountability. Adequate Growth Percentile (AGP) is a criterion-referenced measure which compares the student's SGP against the percentile needed to become proficient or stay proficient on the state assessment in the next three years or by the end of the eighth grade.

In this way, the percentage of students who met their AGP target can be determined for each school. The AGP, therefore, is the percent of students meeting their SGP targets. In order to compute SGPs and AGPs, current year student performance on the state assessments must be matched to at least one prior year student performance record. Only students who are continuously enrolled in a school on or before validation day to the start of the state assessment window (YIS = 1) and who have a valid test administration for the current year are included in the growth calculation for an accountability school.

Closing the Opportunity Gap

Opportunity gaps will be measured for elementary and middle schools and are determined for students in need of improvement. Students in need of improvement are those who scored in the lowest two achievement levels (i.e. not proficient) on the state assessments from the previous year. The opportunity gap measure is the percentage of the students in need of improvement from the previous year who meet their Adequate Growth Percentile target for the current year.

Student Engagement

Student Engagement includes measures of chronic absenteeism, climate survey participation, academic learning plans, and high school readiness. Research shows that attendance matters and that chronic absenteeism places students at risk of negative academic consequences. Chronic Absenteeism is a measure showing the percentage of students missing ten percent or more of school days for any reason, including excused, unexcused and disciplinary absences. Students who are absent due to school sponsored activities are not considered absent for the purposes of this calculation.

Only students at the end of the school year that have been enrolled at the school for 30 days or more are included in the Chronic Absenteeism school rate. In the future, this methodology may be changed to agree with new federal Chronic Absenteeism reporting requirements.

The Climate Survey Participation measure is included in the Nevada Accountability System as a bonus. Schools meeting or exceeding the state participation threshold can receive up to two bonus points. Although most districts have opted to administer the State Climate Survey, there are some districts administering a district climate survey closely aligned to the State Climate Survey. Grade levels included in the administration of a climate survey vary by district.

Overall Assessment of NCA Performance

In school year 2013-14, NCA's elementary school was rated as a 2 star school under the previous Nevada School Performance Framework. During that rating year, the school served 607 students including special populations of 6.8% of students with an IEP and 44.5% of students eligible for free and reduced lunch. The school was considered a Title I school for the period. The NCA transiency rate for the entire school was 47.6%. Understanding the impact student mobility has on NCA's student population's overall performance is of elevated importance because NCA has the highest mobility rate of any school in Nevada. In 2015-16, the overall mobility rate at NCA increased from 47% to 73% (vs. 27% for the state and 26% for schools sponsored by the SPCSA).

NCA's elementary school in school year 2016-17 was rated as a 1 star school under the new Nevada School Performance Framework. During the rating year, the school served 760 students and was considered a Title 1 school for the period. In school year 2016-17, 56.1% of NCA students in grades 1-5 were new students. The transiency rate for the elementary school was 63.5% in 2016-17. This constitutes the highest transiency rate for a school in Nevada during the time.

One ongoing challenge for virtual schools like Connections is the high level of student mobility or transiency rates as calculated in Nevada. Research indicates that "even one non-promotional school move [transferring to a different school] both reduced elementary school achievement in reading and math and increased high school dropout rates."[2] Studies showed that "the more often students moved, the lower they scored on both the state standardized math test and on teacher observations of the students' critical thinking."[3] In like manner, when students transfer into a school, there is an impact on that student's performance on standardized tests.

More information on the statistical effects of student mobility and its effects on academic growth measurement can be found in Appendix A. While NCA is diligently working to improve performance and outcomes for all of its students NCA respectfully requests to work collaboratively with SPSCA to ensure that school performance measures consider the student's growth while at NCA and avoid penalizing a school for serving a highly mobile population.

---

[2] Rumberger, Russell W. (2015). Student Mobility: Causes, Consequences, and Solutions. Boulder, CO: National Education Policy Center. Retrieved 4/27/2018 from http://nepc.colorado.edu/publication/student-mobility.
[3] Alexander, K. L., & Entwisle, D. R. (1996). Children in motion: School transfers and elementary school performance. The Journal of Educational Research, 90(1), 3- 12.

Ratings Calculation Breakdown for NCA

The ratings on the framework for the elementary school are primarily based on the performance on the state assessments in grades 3-5—either proficiency ratings or growth ratings (requires a state assessment score from the previous year). Of the available 100 points, only ten points plus an additional two bonus points are not related to performance on state assessments. Of the 90 points related to state assessments, ten points are specific to the assessment for English Learners measuring English Proficiency (NCA did not have enough students so this measurement was not used.). Another 25 points are based on straight proficiency scores, while 55 points are based on various growth measures.

Grade 3 ELA is counted in two different ways for proficiency. Due to the way growth is calculated, students that scored non-proficient last year are also counted an additional time under Closing Opportunity Gap.

The school did not meet the 55% target for participation in the climate survey which means the two bonus points were lost. For the 2016-17 school year, NCA achieved 47% participation in the survey. For the 2017-18 school year, the survey will be administered and additional communications/efforts to increase participation to meet the required 75% mark will be implemented by the school.

Finally, there were also a number of instances where the school's performance fell just short of where it needed to be in order to reach the next level of points. A slight increase in performance, along with earning the bonus points from survey performance would have easily gotten the school to a 2 star rating. For example, increasing the grade 3 ELA by 1.4 percentage points and meeting the survey participation rate would have been enough to go from a 1 star to a 2 star rating.

The following breaks down the rating points in detail.

Academic Achievement

NCA received 6 out of a possible 25 points. There are two components to this rating:

- **The pooled average (same as weighted average) on the grade 3-5 state assessments.** This item is worth 20 points. The pooled proficiency rating was 34.8% which earned 4 of 20 points. The number of points is based on a table established by NDE. With a proficiency rating of 60% all 20 points are received and one point is lost for every 2 to 3 percentage points below 60%. If NCA had a pooled proficiency rating of 35% instead of 34.8% they would have earned 5 points, and then 1 more point for every 2 to 3 percentage points increased after that.

- **The percent of students proficient on the grade 3 ELA test.** This item is worth 5 points. This means grade 3 ELA gets counted twice, once for the pooled average and once for this measure. The grade 3 ELA proficiency was 36.6% which earned NCA 2 points. This is based on a table established by NDE as follows:
  - o   >= 63%: 5 points
  - o   >=51% but < 63%: 4 points
  - o   >= 38%, but < 51%: 3 points
  - o   >= 25%, but < 38%: 2 points
  - o   < 25%: 1 points

Growth

NCA received 5 out of a possible 35 points. There are four components to this rating:

- **Math SGP.** <u>This item is worth 10 points.</u> This is based on the median value of the student growth percentile for those students where growth can be calculated (i.e. state has previous year state assessment score). Thus, growth scores are limited to students in grades 4 and 5 that had a NCA state assessment score the previous year, a measurement that is greatly impacted by a high student mobility rate.[4] NCA has a value of 31% which resulted in 1 point. A value of >= 65 gets 10 points, and the points go down based on an NDE table. To earn 2 points, NCA would have had to have a value of >= 35%

- **ELA SGP.** <u>This item is worth 10 points.</u> This works exactly like the math SGP, including the table mapping values to points. NCA had a value of 38.5% which earned 2 points. NCA would have had to receive at least 40% to get to 3 points.

- **Math AGP.** <u>This item is worth 7.5 points.</u> This is another growth percentile that is based on students having sufficient growth in the past year to be on track to eventually be proficient. NCA had a value of 18.0% which earned the school 0.5 points. Again, there is a table assigning values, and to get 1 point, NCA would have had to earn at least 23.0%. A value of 52% earns the maximum points.

- **ELA AGP.** <u>This item is worth 7.5 points.</u> This works similar to the math AGP, but the table mapping percentages to points is different. For ELA 63% is required for the maximum points. NCA had a value of 40.7% which earned 1.5 points. A value of 41% would have received 2 points.

English Language Proficiency

This area is worth 10 points but NCA did not have sufficient students to be rated in this area. The ratings are based on English Learners and a growth measure (AGP) based on the performance of the state assessment measuring English proficiency for English Learners.

Closing Opportunity Gap

NCA received 2 out of a possible 20 points. There are two components to this rating:

- **Math growth of non-proficient students.** <u>This item is worth 10 points.</u> This is another growth measure, specifically the AGP for those students that did not score proficient last year. NCA had a value of 14.0% which earned 1 point. NDE developed a table to convert percentile to points. A value of 42% gets all 10 points. To get at least 2 points, NCA would have had to have a value of 16%.

- **ELA growth of non-proficient students.** <u>This item is worth 10 points.</u> This is the same as the math ratings except the table values have changed with 52% being required for 10 points. NCA had a value of 26.2% which earned 1 point. A value of 27 would have received 2 points.

---

[4] Dunn, M. C., Kadane, J. B., & Garrow, J. R. (2003). Comparing harm done by mobility and class absence: Missing students and missing data. Journal of Educational and Behavioral Statistics, 28, 269-288.

Student Engagement

NCA received 9 out of 10 points. There are two components to this rating:

- **Chronic Absenteeism.** This is worth 10 points. This is based on the percentage of students that are considered chronically absent. If less than 3% are chronically absent, then all 10 points are earned. NCA had a value of 4.3% which earned 9 points.
- **Participation in climate survey.** This is worth 2 bonus points. In order to earn the bonus points participation has to be at least 55%. For the 2016-17 school year, NCA achieved 47% participation in the survey. For the 2017-18 school year, they survey has been added to additional communications and efforts to increase participation to meet the required 75% mark to achieve these points.

Overall Rating

The total points earned by NCA was 22 of 90 points. This was translated to a 100 point scale since the school didn't qualify for an English Proficiency rating. The translated valued was 24.4 points. The minimum value for two stars is 27 points, so slight improvements should get the school to the 2 star rating. The minimum score for a 3 star rating is 50 points (or 45 out of the 90 points NCA is expected to qualify for again in 2017-18). Very slight improvements would have likely earned 6.5 more points and meeting the survey participation rate another 2 points.

1. PROPOSED ACADEMIC CHANGES

1.1 School Improvements – Programs

NCA has implemented numerous strategies tied to school improvement efforts including additional teacher training on the use of data to inform math instruction and implementing multiple student engagement efforts. In addition, our curriculum provider, Pearson Online and Blended Learning K-12 USA (Pearson OBL), is also modifying its curriculum to better meet students' needs. Pearson OBL has rebuilt its K-5 math and ELA curriculum, utilizing the McGraw Hill Wonders ELA and enVisionMATH curricular models. Each of these models were chosen based on considerable research containing base alignment with the Smarter Balance standardized testing protocol.

NCA is committed to utilizing evidence-based interventions as defined in Sec. 8101(21)(A) of the Elementary and Secondary Education Act. Under the changes by ESSA to the ESEA, interventions for school improvement should be supported by evidence from studies or through a demonstrated rationale.[5] The school has chosen a variety of interventions based on research that demonstrates improved student outcomes in key core subjects.

New Math Curriculum (enVisionMATH)

The Math Performance Improvement Project (enVisionMATH) for grades K-5 included modifications to grades 3-5 for the 2017-18 school year. In order to more fully prepare students with the skills they need to become successful in higher level math courses, as well as their futures, Pearson released enVisionMATH (2016). Aligned to curriculum focal points suggested by the National Council of Teachers of Mathematics (NCTM), this core elementary math curriculum incorporates a blended approach of traditional and investigative learning techniques that emphasizes problem-based interactive learning opportunities, visual learning strategies, embedded assessment, and data-driven remediation.

Differentiation from Previous Approach

While the previous math curriculum was aligned to the standards set forth by the Common Core initiative, the enVisionMATH curriculum was chosen based on considerable research containing base alignment specific to the Smarter Balance standardized testing protocol. As part of this project, NCA and Pearson OBL:

- **Created introductory units** for math courses that prepare students for success in the course.

- **Added reflection questions** to math courses that encourage students to think about and rate their attitudes toward and self-confidence in math, as well as consider their work and study habits.

- **Updated Portfolio assessments** for math courses to ensure they are project-based, hands-on, and aligned to Standards for Mathematical Practice.

- **Revised practice** and instruction and added virtual practices to math courses to promote mastery of skills.

- **Modified course scope** to allow students to focus on fundamental skills and concepts.

---

[5] Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments. US Department of Education. Sept. 16, 2016. https://www2.ed.gov/policy/elsec/leg/essa/guidanceuseseinvestment.pdf

- **Added interactive reviews** that simulate Next Generation Assessment functionality and provide guided, specific feedback.

- **Added a review unit** that allows teachers to reteach areas that have been identified by benchmark testing as areas of deficiency for students.

Levels Served

All NCA students in grades K-5 will utilize the enVisionMATH curriculum.

Rationale for Initiative

It is important that programs such as enVisionMATH be examined carefully to determine the extent to which they help students attain critical math skills. Planning, Research, and Evaluation Services (PRES) Associates, Inc. conducted a two-year study designed to examine the effectiveness of the enVisionMATH program in helping elementary students improve their math skills and understanding. This national randomized control trial (RCT), which commenced in the Fall of 2007, was conducted in the grade 2 and grade 4 during the 2007-08 school year and followed these students through the grade 3 and grade 5 in 2008-09.

Results showed significant growth over the two-year period in math knowledge and skills among enVisionMATH students across all grade levels and assessments. EnVisionMATH students showed significant improvement in math concepts and problem-solving, math computation, and math vocabulary. Moreover, there is evidence of accelerated growth rates during the second year of usage of enVisionMATH in the areas of math concepts and problem solving, and math vocabulary skills. This suggests that the cumulative effects of enVisionMATH are getting stronger over time.

In response to student performance on NSPF and to better serve the students of NCA, the school has worked with Pearson OBL to integrate enVisionMATH with the new Pearson OBL curriculum, which is more aligned to the Smarter Balance assessment tool. The new curriculum was introduced to NCA students for the 2017-18 school year.

Please see Appendix C for the study.

MATH, We Got This!

NCA is implementing a new program to foster a comprehensive culture shift in how students view math. This multi-faceted approach is called, "Math, We Got This!". NCA student survey data shows that for many students, math is intimidating, difficult, and causes a struggle. The vision is to create a full-scale cultural shift toward math acceptance that leads to math love.

Differentiation from Previous Approach

For the 2018-19 school year, NCA will be implementing the facets of the "Math, We Got This!" campaign, which:

- Expands work on student engagement;

- Focuses on a culture of learning;

- Begins to create a cultural shift in how students, teachers, and Learning Coaches think about math; and

- Unveils the hidden math in the world and put its power in students' hands.

Specific Math, We've Got This! initiatives to support students, teachers, and Learning Coaches include the following:

- **Math Curriculum Enhancements** – Grade 3-5 course enhancements are based on the latest learning science research in the areas of practice, feedback, student reflection and engagement, and intervention.[6] Course enhancements focus on students' oral and written communication of math thinking, reasoning, and problem solving.

- **Additional Math Instructional Resources** – NCA will provide ImagineMath (an intervention resource previously known as Think Through Math) to elementary school students who have been identified through the ItR process as a Tier 2 or 3, based on formative assessment. Imagine Math is an evidence-based intervention shown in research to increase math proficiency.[7]

- **Teachers** – Pearson OBL will provide teachers with professional learning related to math through Brown Bag meetings, trainings, and sessions focused on math mindset, resources, and teaching practices.

- **Students** – NCA will provide students with targeted activities and discussions focused on math in our day-to-day lives and a growth mindset toward math, including increased math awareness in the Connections Speaker Series, Fireside Chats, and Student Clubs and Activities experiences, which will be new initiatives for the 2018-19 school year.

- **Learning Coaches** – NCA will provide Learning Coaches with targeted activities and discussions conducted throughout the year focused on math in our day-to-day lives and a growth mindset toward math, which will be new initiatives for the 2018-19 school year. We encourage all Learning Coaches to attend these optional sessions.

Levels Served

All NCA students in grades 3-5 will participate in the "Math, We got This!" Initiative.

---

[6] Shute, V. J. (2008). Focus on formative feedback. Review of Educational Research, 78(1), 153-189.

[7] Imagine Math users were over three times more likely than non-users to be categorized as proficient on a statewide mathematics assessment. Snyder, M., Eager, K., Juth, S., Lawanto, K., Williams, T. (2016). STEM Action Center Grant Program Annual Evaluation Report: 2015-2016. Logan, UT: Utah State University, Department of Psychology. https://stem.utah.gov/wp-content/uploads/2016/03/STEM-Action-Center-Annual-Report-FINAL-2015-16.pdf

Rationale for Initiative

Grade 3-5 course enhancements are based on the latest learning science research in the areas of practice, feedback, student reflection and engagement, and intervention.[8] Course enhancements focus on students' oral and written communication of math thinking, reasoning, and problem solving. NCA will provide ImagineMath (an intervention resource previously known as Think Through Math) to elementary school students who are struggling. Imagine Math is an evidence-based intervention shown in research to increase math proficiency.[9]

Math Time to Talk

Math Time to Talk is a synchronous math session that encourages students to engage in math discourse, discussion and problem solving. Math Time to Talk consists of small group LiveLesson® sessions that appear in student courses approximately every seven lessons. NCA data demonstrates a need to focus on increasing students' ability to engage in math discourse in such a way that promotes an increase in conceptual understanding.

Differentiation from Previous Approach

For the 2018-19 school year, NCA will be implementing the Math Time to Talk program as part of the new Pearson OBL curriculum. When students get to the Time to Talk lesson component they will move to a virtual classroom for a 30-minute Time to Talk session focused on increasing students' ability to engage in math discourse in such a way that promotes an increase in conceptual understanding. Research has identified that "talking about math" is a key activity to support students' active engagement in math thinking, reasoning, and problem solving.[10]

When students talk about math and exchange ideas with teachers and other students, it helps them deepen their understanding, take ownership of their math knowledge, and improve their math confidence

The tasks used during Time to Talk LiveLesson sessions are specially designed to reinforce key math skills, improve problem solving, and strengthen math vocabulary and communication skills. Trained Math Specialists will pose a task that has either multiple solutions, or multiple solution paths, and give students 3-5 minutes to work through the problem. The remainder of the 30-minute session involves students sharing their solutions and methodology while engaging each other with questions that seek clarity or understanding of the variety of approaches to the task. After each Time to Talk session, students will complete a brief reflection activity within their math course.

---

[8] Shute, V. J. (2008). Focus on formative feedback. Review of Educational Research, 78(1), 153-189.

[9] Imagine Math users were over three times more likely than non-users to be categorized as proficient on a statewide mathematics assessment. Snyder, M., Eager, K., Juth, S., Lawanto, K., Williams, T. (2016). STEM Action Center Grant Program Annual Evaluation Report: 2015-2016. Logan, UT: Utah State University, Department of Psychology. https://stem.utah.gov/wp-content/uploads/2016/03/STEM-Action-Center-Annual-Report-FINAL-2015-16.pdf

[10] Thompson, Lindsey, "The Effects Improving Student Discourse Has on Learning Mathematics" (2007).Action Research Projects. 23. http://digitalcommons.unl.edu/mathmidactionresearch/23

Math Time to Talk includes:

- Trained Math Specialists to facilitate thirty-minute discourse sessions throughout the semester;

- Participation grade added directly to the student Grade Book by the Math Specialist;

- Monthly attendance updates; and

- General information, guidance, and support throughout the program to include best practices for program promotion amongst parents/guardians and students.

Teachers will receive training from Pearson OBL in effective strategies for promoting math discourse and understand that students make most sense of math when they participate in the sense making process through conversation.

Levels Served

All NCA students in grades 3-5 will participate in the "Math, We got This!" Initiative.

Rationale for Initiative

Research has identified that "talking about math" is a key activity to support students' active engagement in math thinking, reasoning, and problem solving.[11] During the 2016-17 school year, students in grades 3-5 at two Connections Academy schools participated in a pilot of the Math Time to Talk Program. The outcomes of this pilot were closely studied and verified in order to decide whether the program was successful and should be used in other schools. The program was a success. The following outcomes were discovered.

- Among students who participated in the sessions regularly, their belief that math learning and ability can grow over time with practice significantly increased

- Students' math confidence and self-efficacy increased as well (but did not reach statistical significance).

- This pattern was true for both the fall and the spring semesters. After controlling for final Math course scores in the previous year, grade level, and engagement level, it was discovered that students that participated in at least six sessions of Math Time to Talk had significantly higher final math course scores than the group that did not (see Figure 1).

---

[11] Thompson, Lindsey, "The Effects Improving Student Discourse Has on Learning Mathematics" (2007).Action Research Projects. 23. http://digitalcommons.unl.edu/mathmidactionresearch/23

Math Course Performance

Fall 2016: High Participation 85.3, Low Participation 80.6
Spring 2017*: High Participation 88.1, Low Participation 71

■ High Participation ■ Low Participation

Figure 1. Math Course Performance for Math Time to Talk Students

In response to student math performance on NSPF, the school has worked with Pearson OBL to integrate Math Time to Talk with the new Pearson OBL math curriculum, which is more aligned to the Smarter Balance assessment tool. Math Time to Talk will be administered to all students in Grades 3-5 for the 2018-19 school year and beyond.

NEW ELA Curriculum

In response to the needs of NCA and its continuous efforts to improve elementary student proficiency, Pearson OBL revamped its ELA courses (McGraw Hill Wonders) for students in grades K-5 for the 2017-18 school year.

Differentiation from Previous Approach

While the previous math curriculum was aligned to the standards set forth by the Common Core initiative, the Wonders curriculum was chosen based on considerable research containing base alignment specific to the Smarter Balance standardized testing protocol.

These new courses align to four research-based design principles:

- The learning environment for students must be engaging.
- Students must have the opportunity to practice, review, and revisit concepts.
- Assessments must be varied, relevant, and frequent.
- Course and lesson structure must be consistent to facilitate optimal student learning.

New animated Learning Buddies guide students through lessons, review key concepts, and encourage students to apply their new knowledge in a variety of ways. All five literacy components (reading, writing, language, speaking, and listening instruction) are blended together. In grades 3, 4 and 5, the curriculum builds on this foundation with weekly phonics, spelling, and fluency instruction.

- Writing assignments include analytical writing opportunities and long-term genre writing portfolios. Units are written around a common theme or topic and include a balance of engaging informational and literary texts from different subject areas and cultures.

- Assessments in the ELA courses are designed to familiarize students with the more rigorous, technology-enhanced item types found on next generation assessments and there is increased support for assessment follow-up and re-teaching opportunities.

Although these are already being implemented, the results and improvement to be gained are not yet reflected in the performance data that was considered in issuing the Notice of Breach. Continued implementation will result in improvement of student performance.

Levels Served

All NCA students in grades K-5 will utilize the Wonders curriculum.

Rationale for Initiative

In an effort to find the most effective reading instruction for elementary students online, it is worth noting that NCA and Pearson OBL opted to utilize curriculum from a Pearson competitor, McGraw Hill, based on research and the best option for Nevada students.

NCA is incorporating this highly-regarded ELA program, supported by the Common Core State Standards to incorporate evidence-based practices and content extracted from the most academically rigorous models across the state to ensure that students possess the literacy skills necessary for success.

It is vital that existing curricula incorporate the rigorous content and knowledge encapsulated within the Standards. The majority of presented research was obtained from the following sources:

- **Developing Early Literacy: Report of the National Early Literacy Panel (NELP).**[12] This study synthesizes research on the development of early literacy skills for children from birth to age five. It was conducted by the National Center for Family Literacy under the auspices of the Partnership for Reading (a collaborative effort of the National Institute for Literacy, the National Institute for Child Health and Human Development, the U.S. Department of Education, and the U.S. Department of Health and Human Services). The purpose of NELP was to provide information to help teachers and parents support young children's early literacy development and to contribute to educational policy decisions (National Early Literacy Panel, 2008). The report examines the early correlates of later reading achievement, and meta-analyzes the data on instructional studies focused on young children.

---

[12] Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH, DHHS. (2010). Developing Early Literacy: Report of the National Early Literacy Panel (NA). Washington, DC: U.S. Government Printing Office.

- **Report of the National Reading Panel: Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction—Reports of the Subgroups (National Institute of Child Health and Human Development [NICHHD], 2000).**[13] The National Reading Panel was appointed by the Secretary of Education and the Director of the National Institute of Child Health and Human Development at the request of the U.S. Congress to determine what research had to say about the teaching of reading. The NRP report presents an extensive, detailed research review related to phonemic awareness, phonics, vocabulary, reading comprehension, and oral reading fluency.

- **Preventing Reading Difficulties in Young Children, A Review of Research on Early Childhood Reading Commissioned by the National Research Council (Snow, Burns, & Griffin, 1998).**[14] This source represents a broad-ranging research summary and review, but without inclusion of specific details of the research. It is aimed at identifying those school factors that would allow for the successful prevention and remediation of reading problems.

- **Reading for Understanding: Toward an R& D Program in Reading Comprehension (2002).**[15] This review of the research on reading comprehension instruction was conducted by the Reading Study Group for the U.S. Department of Education's Office of Education Research and Improvement.

- **Writing to Read: Evidence for How Writing Can Improve Reading. A Report from the Carnegie Corporation of New York (Graham & Herbert, 2010).**[16] This document provides a meta-analysis of research on the effects of specific types of writing interventions found to enhance students' reading skills.

- **Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High Schools. A Report from the Carnegie Corporation of New York (Graham & Perin, 2007).**[17] This report provides a review of research-based techniques designed to enhance the writing skills of 4th to 12th grade students.

- **Improving Reading Comprehension in Kindergarten Through 3rd Grade: A Practice Guide. (Shanahan, Callison, Carriere, Duke, Pearson, Schatschneider, & Torgesen, 2010).**[18] This publication contains recommended instructional practices in reading, based upon a review of research evidence by the What Works Clearinghouse of the U.S. Department of Education's Institute of Education Sciences.

---

[13] Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH, DHHS. (2000). Report of the National Reading Panel: Teaching Children to Read: Reports of the Subgroups (00-4754). Washington, DC: U.S. Government Printing Office.

[14] Catherine E. Snow, M. Susan Burns, and Peg Griffin, *Editors* Committee on the Prevention of Reading Difficulties in Young Children. Commission on Behavioral and Social Sciences and Education National Research Council. NATIONAL ACADEMY PRESS Washington, DC 1998

[15] Snow, C. (2002). Reading for Understanding: Toward an R&D Program in Reading Comprehension. Santa Monica, CA: RAND.

[16] Graham, S., and Hebert, M. A. (2010). *Writing to read: Evidence for how writing can improve reading. A Carnegie Corporation Time to Act Report.* Washington, DC: Alliance for Excellent Education.

[17] Graham, Steve; Perin, Dolores, *Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High Schools*

[18] Shanahan, T., Callison, K., Carriere, C., Duke, N. K., Pearson, P. D., Schatschneider, C., & Torgesen, J. (2010). *Improving reading comprehension in kindergarten through 3rd grade: A practice guide* (NCEE 2010-4038). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from whatworks.ed.gov/publications/practiceguides.

In response to student performance on NSPF and to better serve the students of NCA, the school has worked with Pearson OBL to integrate Wonders with the new Pearson OBL ELA curriculum, which is more aligned to the Smarter Balance assessment tool. The new curriculum was introduced to NCA students for the 2017-18 school year and is another important resource that is part of NCA's improvement strategy which it began working on last summer when results first came out under the new standards.

Please see Appendix D for the complete study.

Lexia Reading Core5

Lexia Reading Core5 provides a personalized, data-driven approach through a system of student-driven learning online, and targeted instruction by a teacher or paraprofessional. It empowers students of all abilities in grades K-5 to build their fundamental literacy skills through technology and direct instruction.

NCA data shows a need to increase student proficiency in the six areas (phonological awareness, phonics/phonemic awareness, structural analysis, fluency, vocabulary, and comprehension) of reading instruction, including activities focused on academic vocabulary through structural analysis. This begins with oral language and listening comprehension, building to reading comprehension.

Differentiation from Previous Approach

Lexia Reading Core5 will be implemented for the 2018-19 school year. Lexia's assessment without testing technology provides teachers and administrators ongoing progress monitoring data without a test event. Student data monitoring helps support teacher effectiveness; predict students' overall likelihood of reaching end-of-year, grade-level benchmarks based on the students' monthly performance; as well as track performance on rigorous reading standards, such as the Common Core State Standards. The assessment system provides a universal screener to place students at their appropriate level of instruction as well as progress monitors as frequently as daily providing both norm-referenced and criterion referenced data that are highly correlated with DIBELS, AIMSweb and MAP. The assessment system is diagnostic and will pinpoint specifically where each student struggles and provides a profile of both strengths and weaknesses.

Levels Served

All NCA students in grades K-5 will participate in the Lexia Reading Core5 initiative.

Rationale for Initiative

In multiple studies published in peer-reviewed journals,[19] Lexia Reading Core5 has been found to accelerate the development of reading skills, improve standardized test scores for elementary school students and help close the reading gap for targeted populations such as students that have been identified as low performers as well as English Learners.[20] Please see Appendix B for the complete study.

---

[19] Lexia's Reading Core5 program is proven to improve learning outcomes in 15 externally-reviewed research studies including 8 studies under the "strong" standard of evidence in ESSA. https://www.lexialearning.com/why-lexia/research-proven.

[20] Students who used Lexia Reading in addition to core reading instruction showed greater gains than a control group in overall reading, phonological awareness, and word reading. The Group Reading Assessment and Diagnostic Evaluation (GRADE), Level K, was used as the reading measure. Macaruso, P., & Rodman, A. (2011). Benefits of computer-assisted instruction to support reading acquisition in English Language Learners. Bilingual Research Journal, 34, 301–315.

Learning Coach Training

Pearson OBL also provides a number of nationally-facilitated LiveLesson sessions to Learning Coaches throughout the school year to assist in supporting their students with language arts. Continued emphasis on use of these tools will be another helpful resource for improvement. Sample session titles include:

- Exploring the Six Traits of Writing
- Tips for Supporting Writing at Home
- Using Writing Strategies & Rubrics
- Taking Noteworthy Notes
- Reading Comprehension Strategies for Students in Grades 4-5

NCA data shows that only 34% of K-5 Learning Coaches took advantage of this training for the 2017-18 school year.

Differentiation from Previous Approach

In the past, these trainings have been available to Learning Coaches, but have not been promoted specifically to parents of K-5 students. NCA will promote these sessions through WebMail messages, home page announcements, and Learning Coach Link, the monthly newsletter for Learning Coaches.

Levels Served

All NCA Learning Coaches supporting students in grades K-5 will receive the appropriate communications regarding Learning Coach Training.

Rationale for Initiative

Research has shown that parents who fully understand the challenges and competencies of writing and how to best support their K-5 student at home provide students with a positive attitude toward the traits and components of writing in an academic setting.[21] In addition, qualitative feedback from Learning Coaches who have completed the training has been very positive.

Response to Intervention Model Training

Students who are in need of additional support may be identified using LEAP formative assessments and other data collection tools which enable teachers to better diagnose the greatest area of need (GAN). Teachers offer students whose performance on the universal screener indicates a need for intervention or who struggle with the core curriculum, appropriate research-based instructional interventions (including differentiated learning activities designed to reinforce key skills and concepts) that are progressively more intensive and targeted at the student's identified GAN. The goal is to identify and begin supporting these students within the first 30 days of enrollment.

---

[21] U.S. Department of Education. Office of Educational Research and Improvement, Archived Information. "Help Your Child Learn to Write Well." http://www.ed.gov/pubs/parents/Writing/index.html.

Differentiation from Previous Approach

While NCA is already using multiple strategies to provide struggling students with effective and timely interventions, NCA is retraining all teachers on the multi-tiered instructional approach for the 2018-19 school year to make sure that all teachers are up-to-date on all strategies and available resources for students. NCA is retraining all teachers in the Response to Intervention (RtI) program/protocols and their role in helping students. NCA is also retraining teachers to interpret data to make instructional decisions, document their work with students as part of the Personal Learning Plan (PLP), implement strategies for differentiating instruction, identify the most appropriate SISPs for students, and support students who are not progressing, or not engaged, in the instructional program. Teachers also work closely with Learning Coaches to discuss the needs of their students, the RtI process, and any SISPs that might be assigned. Learning Coaches are our partners and are involved with their students throughout the school year.

Levels Served

All NCA teachers and staff members supporting students in grades K-5 will receive the appropriate Intervention training.

Rationale for Initiative

The data collection process can often take time to truly target specific areas of need and allow teachers to personalize intervention plans to the individual student's learning style, integrate academic instruction with appropriate behavioral supports. Progress monitoring (data collection) is continuous, on-going and an integral piece of the Response to Intervention (RtI) process. Monitoring growth on a specific area allows teachers to determine the effectiveness of an intervention and either continue (if growth is shown), change (if the intervention is not working) or stop if student has reached a level of mastery.

Student support and interventions may include enrollment in Supplemental Instructional Support Programs (SISPs) such as Study Island[22], Raz-Kids, Reading Eggs, Reading Eggspress, SuccessMaker Reading[23], Headsprout[24], Reading Plus[25], Math Whizz[26], and ImagineMath[27]. The intervention may also be in the form of targeted LiveLesson (synchronous virtual instruction) sessions.

---

[22] Study Island is an evidence-based intervention that increases student outcomes. http://www.edmentum.com/sites/edmentum.com/files/resource/media/Study%20Island%20Quasi-Exp%20Executive%20Summary%20Web.pdf

[23] Strong evidence for significant growth in reading based on two studies by Gatti Evaluation, Inc. https://assets.pearsonschool.com/asset_mgr/current/201751/GFFly_581J064-ESSA-2pgsmread_MED.pdf

[24] Headsprout is an evidence based intervention that improves early reading skills. Huffstetter, M., King, J. R., Onwuegbuzie, A. J., Schneider, J. J., & Powell-Smith, K. A. (2010). Effects of a computer-based early reading program on the early reading and oral language skills of at-risk preschool children. Journal of Education for Students Placed at Risk, 15, 279-298. https://charts.intensiveintervention.org/chart/academic-intervention-chart/13829

[25] Reading Plus is an evidence-based intervention that improves reading comprehension and fluency. Reading Plus. (2008). Reading improvement report: Miami-Dade regions II and III. Huntington Station, NY: Taylor Associates/ Communications, Inc. https://eric.ed.gov/?id=ED511804

[26] Studies show math improvement for students who use Math Whizz. https://www.whizz.com/wp-content/uploads/2013/02/Math-Whizz-Proof-Pack.pdf

[27] Snyder et al., STEM Action Center Grant Program Annual Evaluation Report: 2015-2016.

NCA's RtI program also includes the use of a Student Support Team (SST) – generally comprised of teachers, administrators, counselors and reading/math specialists – to review and discuss student performance data. Once a teacher makes a recommendation for a student to move through the RtI tiers, the SST will evaluate the strategies that have been used to support the student, along with reviewing student progress monitoring data, to determine whether the student should receive increased Tier 2 or Tier 3 level intervention or continue with Tier 1 strategies. An SST member provides support to both the teacher and student by bringing together the collective knowledge of pedagogy and intervention effectiveness to determine the best way to help each student show growth.

1.2 School Improvements – Structures

Implementing Improvement Specific Professional Learning Communities (PLC)

All teachers at NCA participate in a Professional Learning Community (PLC). Teachers in each PLC will spend their initial meetings digging into the most recent student test data. This deep data dig highlights areas of success and areas of weakness. Teachers will use this information to decide where they need to focus for the upcoming year (Are there areas where students performed well? Are there areas that need more concentration?). This leads to creating SMART goals. SMART goals focus on standards with which our students struggle and allows the PLC to measure the success of their work throughout the year; determining if changes in strategy or action are needed during the year, rather than after the year is complete, and are a critical component to success.

Differentiation from Previous Approach

For the 2018-19 school year, these PLCs will focus on two main areas: Elementary Math achievement and Elementary English Language Arts achievement. Teachers in the PLCs will also develop common grading practices, assignment expectations, and re-teaching and relearning policies. All students should have multiple opportunities to learn the material and to demonstrate their knowledge. Teachers understand that not all students learn at the same rate or pace, and it is acceptable to allow students to retake tests to show their mastery. The teachers' job is to reteach students the material in the learning method that works best for them. This takes time and planning for effective differentiation, and is a non-negotiable expectation for all staff members, per their annual evaluation competencies.

For the 2018-19 school year, NCA is planning to use professional development funds to have more teachers trained in how to create, work in, and get academic achievement from Professional Learning Communities. NCA is committed to making this a priority as part of this plan.

Levels Served

All NCA teachers and staff members supporting students in grades K-5 will focus on two main areas: Elementary Math achievement and Elementary English Language Arts achievement in their Professional Learning Communities.

Rationale for Initiative

Considerable research has been completed on the benefits of PLCs and the benefits of teachers being properly training to collaborate through the use of SMART goals to analyze targeted student data. Empirical studies explore the impact on teaching practice and student learning[28]. The collective results of these studies suggest that well-developed PLCs have positive impact on both teaching practice and student achievement. Implications of this research and suggestions for next steps in the efforts to document the impact of PLCs on teaching and learning are included as part of this overall plan.

---

[28] Roberts, Mindy L., "Improving Student Achievement Through Professional Learning Communities" (2010).Educational Administration: Theses, Dissertations, and Student Research.

2. INTERIM AND ANNUAL PERFORMANCE GROWTH GOALS

2.1 Annual Performance Goals

Annual Performance and Growth Goals

NCA is committed to meeting or exceeding the SPCSA performance expectations under the Nevada School Performance Framework. As outlined in the analysis portion of this plan, NCA received a calculation of 24.44 points for the 2016-17 school year.

Based on this four-year plan, NCA expects to increase its overall score on the NSPF by an average of 20% across the areas of Academic Achievement, Student Growth, Closing Opportunity Gaps and Student Engagement in each of the next four years, reaching the score necessary to achieve a Three Star rating by the 2020-21 school year.

YEAR	Star Calculation	Point Increase from Previous Year	% Increase from Previous Year	Star Rating
2016-17	24.44	BASELINE	BASELINE	ONE STAR
2017-18	29.32	4.88	20.0%	TWO STAR
2018-19	35.18	5.86	20.0%	TWO STAR
2019-20	42.21	7.04	20.0%	TWO STAR
2020-21	50.7	8.44	20.0%	THREE STAR

The baseline performance was set using the calculations and ratings from the 2016-17 NSPF results for NCA. While many of the initiatives outlined in this plan will not be introduced until the 2018-19 school year, sufficient improvements and efforts have been in place for the 2017-18 school year to support the initial year of this plan. Student data for the 2017-18 school year will have already been collected by the timeline provided by the SPCSA as part of the Notice of Breach.

2.2 Interim Performance Goals

Monitoring Subgroups for Proficiency and Growth

In the analysis of the NSPF data and results, NCA has identified three additional student sub-groups to monitor as part of the formative assessment, interim measurement process:

- **Lowest Performing –** students who have not been deemed proficient based on previous NSPF performance and (where available) previous formative assessment data.

- **Grade 3 Reading –** as this grade level is heavily weighted on the NSPF and NCA students have struggled to achieve sufficient ratings, this is an important subgroup on which to focus.

- **New to the School (current school year) –** Students will be identified as "New to the School" if they have enrolled as a new student to NCA at the start of or during the current school year. NCA has the highest mobility rate in Nevada. In 2015-16, the number jumped from 47% to 73% (vs. 27% for the state and 26% for the SPCS).

MAP Formative Assessment

Measures of Academic Progress (MAP) is a computer-adaptive assessment utilized to monitor student growth to inform and personalize instruction. MAP was officially adopted by the State Board of Education to assess Nevada students as a part of the Read by Grade Three (RBG3) program. SB 391, Nevada's Read by Grade 3 Act, became effective on July 1, 2015. This statute was designed to dramatically improve student achievement by ensuring that all students will be able to read proficiently by the end of the 3rd grade. NCA began offering MAP assessments for the 2017-18 school year at grades K-3 and will be expanding its use to include grades 4 and 5 for the 2018-19 school year.

NCA Grade-level teachers are responsible for the instruction and identification of students who need additional interventions based on various academic factors, and will work closely with NCA Administration to carefully monitor the academic growth of all students in all sub-groups. Subject-specific Professional Learning Communities (PLCs) will structure SMART goals that assist in the monitoring of the identified sub-groups (Lowest Performing, Grade 3 Reading, New to School) that have the greatest impact on the NSPF.

NDE has identified the 40th percentile rank on the MAP Growth Reading Assessments as its Read by Grade 3 Indicator. K-3 students who score at or below the 40th % mark on the MAP Reading assessment will be identified as "struggling readers" in Nevada's Read by Grade 3 Program. The 40th percentile was already in use in some Nevada districts as the indicator for struggling readers and is a common threshold across the country for identifying students in need of additional reading support.

To measure Satisfactory Progress on this assessment we use the mean normative RIT scores and the expected growth measures provided by the testing company, NWEA. This is defined as students who make the expected RIT gain score from pretest to posttest or who score one standard deviation above the mean RIT score on the posttest. The cut-score chart by grade level is provided here.

LEAP Formative Assessment

NCA utilizes the Longitudinal Evaluation of Academic Progress (LEAP) as the school's Pre-, Mid-, and Post-Assessment. All students in grades K–5 take the LEAP Math and English/Language Arts assessments. These assessments are given in the fall, winter, and again at the end of the school year. Kindergarten and first grade students take the online LEAP Math test and their teachers conduct separate reading assessments individually with these students.

LEAP is an invaluable assessment tool. It helps NCA teachers understand the academic strengths and weaknesses of each student, which will then be used to individualize students' academic programs. After completing the pretest in the fall, teachers and parents have access to a report that provides academic information to assist in identifying skills, strengths, and weaknesses of their student. The report enables teachers and parents to develop and create a personalized instructional plan (i.e. the student's PLP). The mid-test results provide teachers, parents, and students invaluable information on academic progress. The posttest results provide teachers and parents with additional information about students' growth throughout the academic year. It also helps to plan for the next school year's academic program. These tests have also proved very useful in identifying state standards and objectives that students may need to work on to be successful throughout the school year.

Teachers utilize the data provided by LEAP for use in their PLC analysis and goal setting. Teachers use this information to decide where they need to focus for the upcoming year (Are there areas where students performed well? Are there areas that need more concentration?). Teachers in the PLCs will also develop common grading practices, assignment expectations, and re-teaching and relearning policies. Teachers understand that not all students learn at the same rate or pace, and it is acceptable to allow students to retake tests to show their mastery.

In order to gauge student growth on the Formative Assessments, Connections Education has defined a measure of Satisfactory Progress for Math and English Language Arts Reading. The calculation of this measure varies based on the test that the student is assigned, which can differ by school and by grade. Here are the following definitions for each assessment that Connections uses in the Formative Assessment Cycle.

Students receive a score of percent correct on the pretest and posttest LEAP assessments. Students have made satisfactory gains if they score a minimum of 75% on the posttest assessment and/or if they increase their score from the pretest to the posttest by 10 percentage points.

NCA Grade-level teachers are responsible for the instruction and identification of students who need additional interventions based on various academic factors, and will work closely with NCA Administration to carefully monitor the academic growth of all students in all sub-groups. Subject-specific Professional Learning Communities (PLCs) will structure SMART goals that assist in the monitoring of the identified sub-groups (Lowest Performing, Grade 3 Reading, New to School) that have the greatest impact on the NSPF.

2.3 Independent Evidence of Correlation and Predictive Ability

Independent Research of LEAP

NCA and Pearson OBL utilized an independent assessment analysis of the effectiveness of the LEAP assessment in terms of the relationship between student achievement on a formative assessment and their proficiency on a state assessment, such as Smarter Balance. The analysis was done by grade (3-8), subject (reading and math) and test type (pre, mid and post). The aim of the analysis is to validate whether LEAP scores are predictive of the result a student ultimately achieves on the state assessment.

The analysis validates that there is a positive, statistically significant relationship between students' results of the LEAP assessment and the proficiency level they achieve on the State assessment.

In general, negative accuracy rates (the proportion of those who were "Unlikely to Succeed" in the LEAP assessment and ultimately "Below Proficient" in the state assessment) are higher than positive accuracy rates (the proportion of those who were "Likely to Succeed" in the LEAP assessment and ultimately "Proficient" in the state assessment), indicating that the LEAP assessment is more effective at predicting those who will not be proficient than those who will be proficient.

Overall (for students in all grades), negative accuracy rates range from 72 percent to 82 percent, while positive accuracy rates range from 55 percent to 76 percent for specific subjects and tests.

Overall accuracy rates (i.e. a combination of positive and negative accuracy rates) are typically lower due to the existence of the "May be Successful" category, which does not clearly predict the outcome of the state proficiency test and as such was not considered accurate for either proficient or not proficient. Overall accuracy rates range from 55 percent to 64 percent.

When considering the LEAP assessment band results, students who score in the "Likely to be Successful" or "May be Successful" range are significantly more likely to be "Proficient" than those who score in the "Unlikely to be Successful" range.

- This is true across all grades, tests, and subjects. In general, the effect sizes are larger for those who are "Likely to be Successful" than those who "May be Successful," but there are exceptions (such as in the Grade 5 Math Pre Assessment).

- When controlling for demographic variables, students who score in the "Likely to be Successful" range are between 13 and 52 percent more likely to be "Proficient" than those who are "Unlikely to be Successful."

- When controlling for demographic variables, students who score in the "May be Successful" range are between 11 and 32 percent more likely to be "Proficient" than those who are "Unlikely to be Successful."

NCA uses LEAP as a tool to identify students who need additional assistance and are committed to maximizing the use of LEAP to provide support at all levels of intervention.

We have included the entire study in Appendix E.

3. SUPPORTING GOALS AND BENCHMARKS

3.1 Teacher and School Leadership Support

NCA Teacher Training and Professional Learning

Positive student outcomes rely on a qualified and dedicated teaching staff equipped with the right tools and training. Teaching in a virtual environment is a specific skill and NCA provides extensive initial and ongoing professional development. School leadership expects teachers to annually participate in ten professional development days and to complete assigned professional learning activities.

Research on effective professional development provides evidence that professional development should be intensive, ongoing, and connected to practice. Teachers are not effective when they are provided stand-alone professional development workshops. Teachers need to try out new ideas and strategies with their students and to reflect on the results of these strategies. Intensive professional development, especially when it includes application of knowledge to planning and instruction, has a greater chance of influencing teaching practices, and in turn, leading to gains in student learning. NCA provides teachers with ongoing professional development activities throughout the year. Presenters with various backgrounds and areas of content expertise conduct live tutorial sessions on a rotating basis throughout the school year. NCA provides a systematic approach to professional learning for all teachers. Topics for professional learning sessions support core standards for facilitating student learning, align to the school year cycle, and are driven by the belief that all students can and must learn.

Each series is:

- **Intensive –** Participants will identify the purpose of educational practices, examine how they can be implemented in the virtual or blended environment, and collaboratively discuss strategies that can be implemented with students.

- **Ongoing –** New instructional strategies and the latest learning research will be connected to topics presented and discussed in prior sessions to demonstrate how specific educational practices form the "big picture" of effective instruction. Further discussion and exploration at the school level strengthens these connections.

- **Connected to practice –** Following each session, participants will apply what they have learned to their professional practice. They will integrate precise, targeted strategies into their planning and instruction, and reflect on the outcomes through the Teacher ePortfolio Data View.

Through the utilization and monitoring of the benchmarks and assessments outlined in this plan, NCA will utilize a comprehensive teacher training and development offering from Pearson OBL to equip teachers with the following:

- Working knowledge of the Pearson OBL curriculum and how to facilitate student learning in a virtual environment

- Strategies and effective practices for virtual instruction

- Ability to effectively use the tools in Connexus®, the education management system (EMS), to communicate, monitor progress, and use data to support student learning

- Multiple forms of assessment and skills to interpret performance data to guide instruction, determine appropriate differentiation strategies, and develop personalized learning plans

- Guidance on how to use instructional resources and identify the appropriate intervention tools based on student needs

- Strategies for implementing the "instructional shifts" for increased rigor in state standards and next generation assessments

- Identification of at-risk students and instructional strategies to engage and motivate them

- Knowledge of required school year cycle teacher tasks, school processes, and policies

- Techniques to foster socialization and connectedness in a virtual school community

Teachers also value collaboration and learn from one another through PLCs. PLC meeting agendas, meeting notes, and to-do's are tracked in Connexus. The primary purpose of PLC work in the past was to identify and monitor the progress of at-risk students and to place those students in interventions. This year, we plan to revamp PLCs to focus on SMART goals focused on the components listed in this plan that can be tracked consistently throughout the school year.

PLCs will develop SMART goals to track students' successful attainment of the academic standards. Teachers access real-time data to see how many assessment items the student has completed for each objective and whether the student has demonstrated mastery. This allows the teachers to measure the success of their teaching and their SMART goals throughout the school year rather than waiting until the state assessment.

3.2 Additional Steps – Corrective Actions

NCA is confident that the coursework, interventions and initiatives outlined in this improvement plan will meet the needs of students at the elementary level and will lead to growth and achievement on the NSPF, as proposed by the outlined goals, targets and timeline. In the event that any of the improvement plan components result in underperformance for individuals or sub-sets of students, the school will utilize the following process:

- Identify the individual students or sub-groups within the most immediate and appropriate formative assessment timeframe.
- Identify the area(s) of underperformance for the identified individuals or sub-groups.
- Work closely with the "Turnaround Specialist" mandated by the Authority to create appropriate, targeted interventions.
- Create more frequent, customized formative assessments to ensure that the individuals or sub-groups are improving in the identified areas.

The appropriate grade-level teachers, working alongside the intervention specialists and the elementary and school administrators, are responsible for the identification, intervention and ultimate success of all students.

APPENDIX A – STUDENT MOBILITY, SEGREGATION, AND ACHIEVEMENT GAPS: EVIDENCE FROM CLARK COUNTY, NEVADA

Article

Student Mobility, Segregation, and Achievement Gaps: Evidence From Clark County, Nevada

Richard O. Welsh[1]

Abstract

Student mobility and school segregation are two important issues with significant equity implications for urban school districts that are often addressed separately. This article examines the relationship between student mobility and school segregation. The findings indicate that more segregated schools typically have smaller within-school achievement gaps, a lower proportion of proficient students, a higher proportion of low-income and minority students, and higher nonstructural mobility rates (especially within-year mobility) than less segregated schools. The results also suggest that, regardless of the timing of school changes, high levels of achievement segregation are a significant predictor of student mobility. Policy implications are discussed.

Keywords

student mobility, school segregation, achievement gaps, urban school districts, educational equity

In the past decade, increasing focus has been placed on education in urban contexts (Milner & Lomotey, 2014).[1] Racial, ethnic, income, and achievement segregation is a critical concern in urban school districts nationwide.

[1]University of Georgia, Athens, USA

Corresponding Author:
Richard O. Welsh, Department of Lifelong Education, Administration, and Policy, University of Georgia, 850 College Station Road, 327 River's Crossing, Athens, GA 30602, USA.
Email: rowelsh@uga.edu

Even though the 1954 landmark *Brown v. Board* decision resulted in the desegregation of schools in the 1970s, there has been persistent resegregation (Frankenberg, Lee, & Orfield, 2003; Orfield, 1983; Orfield & Yun, 1999). Moreover, court decisions in recent decades have made it more challenging for districts to maintain integrated schools (Condron, Tope, Steidl, Freeman, & Colleges, 2013; Orfield & Lee, 2007). Student mobility, or the sorting of students across schools, is also an important issue facing urban school districts. Although student mobility is pervasive across the United States, it is especially prevalent in urban school districts (Institute of Medicine & National Research Council, 2010; U.S. Government Accountability Office, 2010). Frequent student mobility is most common and has adverse educational outcomes for low-income and minority students (Hanushek, Kain, & Rivkin, 2004; Reynolds, Chen, & Herbers, 2009; Schwartz, Stiefel, & Chalico, 2009; Xu, Hannaway, & D'Souza, 2009). Student mobility has acquired greater importance in recent decades as districts have expanded open enrollment options. School choice policies provide an alternative way of assigning students to schools by giving parents the freedom to choose which schools their child attend and is viewed as a potential mechanism for promoting integration in school districts (Finn, 1990).

Both student mobility and school segregation concern the equality of educational opportunity. Segregation in urban districts is a prominent educational equity issue (Orfield, 1983). School segregation and student mobility may be a cause and consequence of each other. Students may switch schools because of school segregation, and student mobility may maintain or expand segregation. This has significant policy implications as prior research has highlighted the benefits of desegregation for all students. Moreover, the organizational perspectives of student mobility, or how changing schools shape how learning occurs in schools and districts may help policymakers utilize student mobility to promote desegregation. Student mobility and segregation are particularly concerning in light of ongoing demographic shifts. The influx of minority students in urban school districts has had adverse effects on desegregation (Bifulco & Ladd, 2007; Frankenberg et al., 2003; Orfield & Lee, 2007). Although there is much to learn about how student mobility and segregation phenomena interact and how both affect education equity in urban school districts, the relationship between school segregation and student mobility in urban school districts has been largely overlooked by researchers and policymakers. The resegregation of American schools coupled with the growth of school choice policies nationwide make it important to learn more about the relationship between educational inequality, student mobility, and school segregation.

Clark County School District (CCSD) in Nevada provides an exemplary case study. Clark County is one of 16 counties in Nevada and consists of five major cities (Las Vegas, North Las Vegas, Boulder City, Henderson, and Mesquite) and a number of surrounding smaller jurisdictions. Currently, Clark County has the largest population in Nevada with more than 2 million people, and CCSD has 70% of Nevada's public school students. CCSD is similar to most urban districts with a traditional governance structure (a locally elected school board operating most public schools), low-performing schools, and a high concentration of low-income and minority students. In recent decades, there has also been a marked demographic shift characterized by the growth of English language learner (ELL) and Hispanic students. Whether defined by size or the presence of economic and educational inequality, CCSD meets the criteria of an "urban" school district. The geographically diverse nature of the district—the interesting mixture of central-city, suburban, and rural schools, coupled with the presence of attendance zones—makes CCSD a rich setting to explore the relationship between student mobility and school segregation.

This article examines the relationship between student mobility and school segregation across racial, achievement, and income groups within CCSD. This study employs the dissimilarity index and school-level indicators to provide a descriptive analysis of racial, income, and achievement school segregation. The analysis moves beyond the Black–White comparisons and includes several racial and income groups to reflect the multiethnic nature of an urban school district. The association between school-level mobility rates across the timing of school changes and school segregation is also analyzed. Following this, I use linear probability models to predict the likelihood of making a school change based on prior schools' segregation. This is one of the first studies to examine the relationship between intradistrict student mobility and school segregation. Specifically, I ask the following research questions:

Research Question 1: How does school segregation and schools' characteristics differ by schools' student mobility rates?
Research Question 2: To what extent does school segregation affect the likelihood of making a school change?

The focus of this study fits nicely with the sociological perspectives and the policy and reform areas of urban education (Milner & Lomotey, 2014). This article contributes to an expanding literature examining the relationship between student assignment and segregation. The findings provide a critical and empirical assessment of the challenges faced by urban school districts by examining the intersection of two prevalent and important

phenomena. A better understanding of the relationship between student mobility and school segregation offers valuable insights about the educational equity. The results may also help shape effective strategies to improve urban schools. The rest of the article proceeds as follows. I first provide a brief overview of the literature on student mobility and school segregation. Following this, I describe the data and methodological approach employed in this study. Next, I present results and conclude with a discussion of policy implications and directions for future research.

The Causes and Consequences of Student Mobility and School Segregation

Student Mobility

Intradistrict student mobility is important for three main reasons.[2] First, the majority of student mobility occurs within the same school district as opposed to switching to schools in a different school district (Hanushek et al., 2004; Kerbow, 1996; Pribesh & Downey, 1999; Xu et al., 2009). Second, intradistrict mobility is generally limited to poor and minority students who tend to switch schools frequently within an urban school district (Alexander, Entwisle, & Dauber, 1996; Hanushek et al., 2004; Mao, Whitsett, & Mellor, 1997; Xu et al., 2009). Alexander et al. (1996) found that lower income students transferred within the school district more often while rich, White students were more likely to move across districts (Alexander et al., 1996). Hanushek et al. (2004) highlighted that African American and Hispanic students were at least twice as likely to switch schools within a district than White students and attributed some of the difference to the concentration of minority students in large urban districts (Hanushek et al., 2004). Third, intradistrict student mobility, especially for frequent movers, is typically not linked to improvements in school quality (Hanushek et al., 2004; Xu et al., 2009).

Although student mobility can be initiated by families or schools, the majority of school changes is initiated by families (Rumberger, 2015). Student mobility is driven by a confluence of social and economic factors, including residential mobility, family circumstances and income, economic opportunity, or the preferences for higher quality or better matched schools (Kerbow, 1996; Kerbow, Azcoitia, & Buell, 2003; Pribesh & Downey, 1999; Rumberger, 2003; Rumberger & Larson, 1998; Rumberger, Larson, Ream, & Palardy, 1999; Swanson & Schneider, 1999). Although students may change schools for many different reasons, the majority of student mobility overlaps with residential mobility (Institute of Medicine & National Research Council,

2010; Reynolds et al., 2009; Rumberger, 2003). Historically, this is largely due to the presence of attendance zones that link school assignment to a student's residence. In urban areas and densely populated cities, residential mobility is even more likely to result in student mobility (Temple & Reynolds, 1999). However, not all school changes are caused by residential mobility, and about 40% of student mobility is due to school-related factors (Kerbow, 1996; Rumberger et al., 1999). Typically, administrative data provide little information about the exact reasons why students change schools (Grigg, 2012; Hanushek et al., 2004; Institute of Medicine & National Research Council, 2010; Xu et al., 2009). A substantial proportion of intradistrict student mobility is generally associated with negative reasons such as job loss or family disruption ("reactive") rather than transferring to a higher quality or a better fit school ("strategic"; Alexander et al., 1996; Hanushek et al., 2004; Rumberger et al., 1999; Xu et al., 2009).

Nonstructural mobility may occur at different points throughout the course of a given school year. For instance, students may switch schools between school years (in the summer) or during the academic year. Student mobility during the school year may be more disruptive than moves between academic years (Alexander et al., 1996; Burkam, Lee, & Dwyer, 2009; Grigg, 2012; Hanushek et al., 2004; Schwartz et al., 2009). The timing of school changes may reflect the reasons for student mobility. It is presumed that strategic school changes are more likely to occur in the summer whereas reactive school changes are more likely to occur during the school year. In addition, some school policies such as student discipline policies may also induce school changes.

Student mobility has consequences at the student (for mobile and nonmobile students), school, and district level. Although changing schools is typically associated with lower test scores, increased grade retention, and higher rates of school dropout (Institute of Medicine & National Research Council, 2010; Mehana & Reynolds, 2004; Reynolds et al., 2009; U.S. Government Accountability Office, 2010), changes to higher quality schools may result in positive effects (de la Torre & Gwynne, 2009; Engberg, Gill, Zamarro, & Zimmer, 2012; Hanushek et al., 2004; Rumberger et al., 1999; Temple & Reynolds, 1999). Student mobility affects schools by influencing the school climate and creating burdens in the classrooms of both sending and receiving schools. For instance, teachers may be overwhelmed by the demands of providing attention to both movers and nonmovers, resulting in "reteaching," "backtracking," and reduction in the pace of instruction to accommodate mobile students (Kerbow, 1996; Lash & Kirkpatrick, 1990; Rumberger et al., 1999). Student mobility may maintain or expand stratification within a school district as students of different achievement levels and

racial and income groups are increasingly unevenly distributed within a district and have less interactions with each other. Although the lack of a formal definition of segmentation makes it difficult for one to determine how differentiated an educational system has to be to label it as "segmented," evidence of differential mobility patterns imply changing schools may lead to unintended consequences over time, such as maintaining or expanding segmentation of student populations by students' backgrounds, achievement, or school quality (Kerbow, 1996; Welsh, Duque, & McEachin, 2016).

School Segregation

Although there are various conceptualizations and operationalizations, segregation refers to the physical separation of different racial, ethnic, income, and achievement groups (Massey & Denton, 1988; Reardon, Yun, & Kurlaender, 2006). Racial segregation across schools within an urban school district is significantly higher than racial segregation within schools (Conger, 2005). School segregation separates children and stratifies the type of school they attend, leaving minority children in inferior schools (Orfield & Yun, 1999). Orfield and Lee (2005) also found that Black or Hispanic students are more likely to attend urban and high-poverty schools compared with White and Asian students (Orfield & Lee, 2005). Although White students are the most racially isolated racial/ethnic group, segregation is rising for African American and Latino students (Frankenberg et al., 2003). Prior studies have highlighted the isolation of Black students in segregated schools (Berends & Penaloza, 2008; Vigdor & Ludwig, 2008).

The causes of school segregation can be broadly classified into two categories: structural and systemic inequities, and preferences. Structural reasons include economic conditions, residential segregation, and student assignment policies. Segregation is caused by institutional mechanisms such as lending discrimination, restrictive zoning, and mortgage redlining (Meyer, 2001). Differences in location preferences based on race or class lead to segregation in housing, schools, and churches (Saporito, 2003). Prior research has shown that school choice increases in racial school segregation in urban districts (Bifulco & Ladd, 2007; Sohoni & Saporito, 2009). Sohoni and Saporito (2009) found that public schools are more segregated than the neighborhoods in their attendance zones as White students attend private schools outside the area and exit integrated neighborhood public schools at a greater rate than non-White children (Sohoni & Saporito, 2009).

There is a growing body of research evaluating the effect of racial segregation on student and school performance (Bifulco & Ladd, 2007; Logan, Minca, & Adar, 2012). The Coleman report, published in 1966, highlighted

the prevalence of school segregation in the United States and its adverse effects on the equality of educational opportunity and students' educational outcomes (Coleman, Campbell, & Hobson, 1966). Coleman and colleagues (1966) found a negative association between the concentration of poverty within a school and student performance, which has been confirmed by several studies in recent decades (Coleman et al., 1966). Numerous studies indicate that racial integration has direct and independent effects on student performance (Kahlenberg, 2001; Logan et al., 2012). Racial isolation of minorities in majority-minority school concentrations are associated with lower academic achievement and inferior educational opportunities (Coleman et al., 1966; Logan et al., 2012). There is evidence of the positive influence of desegregation on educational and labor market outcomes of minority as well as nonminority students (Johnson, 2011; Kurlaender & Yun, 2001; Wells & Crain, 1994). Johnson (2011) found desegregation's impact on racial equality to be deep, wide, and long-lasting (Johnson, 2011). Black Americans who attended schools integrated by court order were more likely to graduate, go on to college, and earn a degree than Black Americans who attended segregated schools (Johnson, 2011). Desegregation also had a positive impact on labor market and other lifestyle outcomes (Johnson, 2011). Overall, the majority of studies have found that desegregation is helpful for students of all races, especially disadvantaged subgroups.

Educational Inequality, Sorting, and the Distribution of Students Within a School District

Figure 1 provides a conceptual framework of the relationship between educational inequality, student mobility, and school segregation. Both student mobility and segregation are largely influenced by out-of-school factors and represent the intersection of society and schooling. Economic opportunity and the intersection of race and poverty may play a pivotal role in explaining student mobility and segregation. Similarly, residential segregation plays an important role in both phenomena. The majority of school changes are accompanied by changes in residences (Reynolds et al., 2009). Income residential segregation has increased in the past decades (Reardon & Bischoff, 2011); thus, it is plausible that schools have become more segregated by income over time. Segregation and student mobility are widely regarded as critical issues in education policy as both phenomena partly explain the racial achievement gap (Bifulco & Ladd, 2007; Card & Rothstein, 2007; Condron et al., 2013; Hanushek et al., 2004; Hanushek & Rivkin, 2009; Rumberger & Palardy, 2005). The achievement gap between Black and White students is an important component of Black/White economic inequality (Condron et al.,
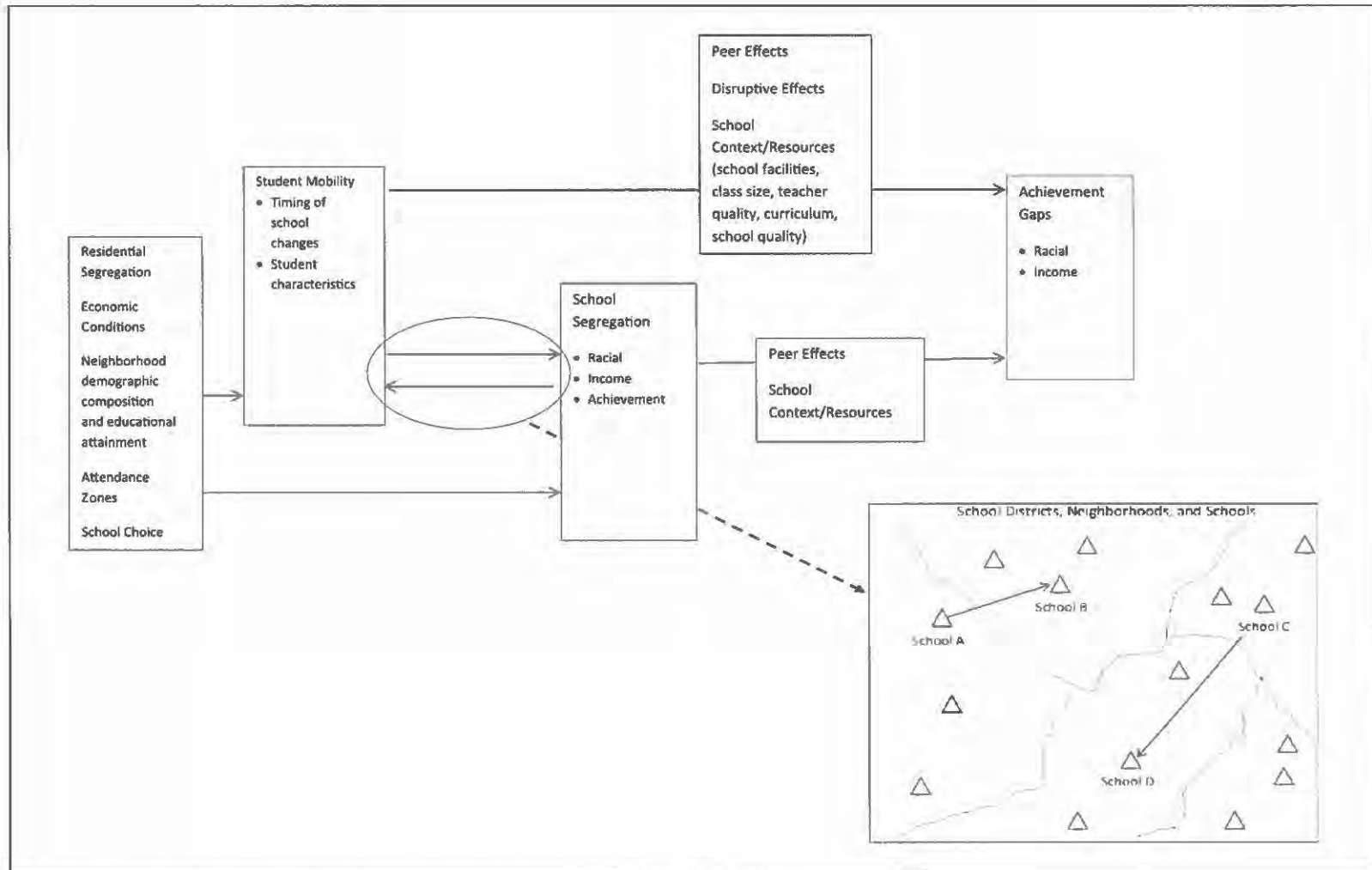
Figure 1. Educational inequality, student mobility, and school segregation.

2013; Jencks & Phillips, 2011). There are several possible ways that desegregation and student mobility impact students, schools, and districts. Presumably, the central impact of desegregation comes from the peers of students' or the peer effect. Simply put, it is advantageous to attend a school where students are more successful (Hanushek, Kain, Markman, & Rivkin, 2003). However, Owens (2010) found that the educational attainment of students from poorer neighborhoods is adversely affected when they attend schools with more White and high socioeconomic status (SES) counterparts (Owens, 2010). Peer effects are not the only consideration as school context and characteristics may also be crucial factors. Segregated schools typically are unequally resourced; thus, attending such schools may adversely affect achievement, especially for low-income and minority students (Condron et al., 2013). Johnson (2011) posited improvement in access to school resources as one of the mechanisms through which desegregation benefits students (Johnson, 2011). Similarly, the impact of changing schools on student achievement is dependent on school quality.

Differential mobility patterns imply that the sorting of students between schools may maintain or expand the uneven distribution of students in an urban school district. Notwithstanding, school segregation may be a motivating factor for student mobility. For instance, as Figure 1 demonstrates, changing from School C to D may maintain, decrease, or increase segregation in a school district; however, a student may change from School A to School B because of school segregation. Prior research suggests that the demographic composition of schools and intragroup solidarity play an important role in families' decision to switch (Hastings, Kane, & Staiger, 2006). Low-achieving, low-income, and minority students may be more likely to exit segregated schools, experience disruptive effects on achievement, and attend similarly segregated and/or lower quality schools. Segregated schools with high turnover may also face a range of school organization issues such as teacher expectations, safety, and offering rigorous courses that adversely affect student achievement (Rumberger & Palardy, 2005).

Little attention has been paid to the relationship between student mobility and school segregation. The majority of the extant literature on student mobility has examined changing schools from the students' perspective and focused primarily on how student mobility affects student achievement (Institute of Medicine & National Research Council, 2010; Reynolds et al., 2009; Welsh, 2017). Few studies consider student mobility from the perspective of schools and districts (Nelson, Simoni, & Adelman, 1996; Rumberger et al., 1999) even though schools and districts grapple with student turnover. The vast majority of studies on segregation has focused on the Black–White dichotomy even though Asian and Hispanic students account for an

increasing part in the racial composition of the U.S. student population (Frankenberg et al., 2003; Logan et al., 2012; Orfield & Lee, 2007). The majority of the extant literature also tends to focus on segregation in school choice contexts or states with districts with court-ordered desegregation plans (Bifulco & Ladd, 2007; Condron et al., 2013; Johnson, 2011). Although researchers also conceptualize and measure segregation in a myriad of ways, the most oft-used indicator is a measure of the proportion of minority students in a school, which may not accurately capture segregation between groups within a district (Condron et al., 2013). The relationship between segregation and achievement gaps is also understudied (Condron et al., 2013).

This study provides a descriptive analysis of the complex relationship between segregation and student mobility and its relation to educational disparities. This article builds on the extant literature in a few ways. First, the context of this study is a "traditional" school district with attendance zones and limited open enrollment options rather than a choice-based district or a district undergoing mandated desegregation efforts; thus, the findings offer insights on how student mobility as opposed to purposeful desegregation efforts interact with school segregation within urban school districts. Second, this article analyzes separate but interrelated dimensions of school segregation. The conceptualization and operationalization of school segregation have been broadened from Black/White racial comparison to include other racial/ethnic combinations, income, and achievement student subgroups as well as the intersection of race, income, and achievement that characterizes the contemporary urban school district. Third, no prior study has examined whether racial, income, and achievement school segregation predicts student mobility across the timing of school changes. Local, state, and federal policies aiming to reduce achievement gaps can benefit from a better understanding of the nuanced relationship between school segregation, student mobility, and educational inequality in urban school districts. In the next section, I describe the data and methodological approach employed in this study.

Data and Method

Data

I use a 6-year panel of student-level data for all students in the CCSD from 2007 to 2008 through to 2012 to 2013. The data contain students' demographic characteristics and annual test scores from the Nevada Proficiency Examination Program. Demographic data include indicators for students' gender, race/ethnicity (Black, Hispanic, Asian, White), free and reduced priced lunch (FRPL), ELL, and special education statuses. Students are tested

in reading and math in Grades 3 to 8 and take the High School Proficiency Exam (HSPE) in Grade 10. I standardize test scores for students in Grades 3 through 10 by grade and year, relative to the school mean, as well as relative to the district mean. Detailed longitudinal data that track the dates and sequence of school changes allow for in-depth classification of the timing of student mobility across a range of grades (K-12). Unique student and school identifiers in the data link students to schools in each year and across multiple school years. I assume that all school changes between school years in Grades 6 and 9 are transitions from elementary to middle and middle to high schools, respectively, with the exception of students enrolled in combination schools, of which there are relatively few. I complement the student-level data with publicly available school-level accountability data. I use a sample of students that have been continuously enrolled in a CCSD school for at least 2 consecutive academic years (in other words, students need at least two observations to be included and students with only one observation were dropped from the sample). This sample includes 1,826,170 student-years with 428,247 unique students.[3]

Method

Categorizing student mobility. I categorize nonstructural movers by the timing of school changes: between-year switcher or a student who made a nonstructural move between school years, within-year switcher or a student who switched schools at least once during the school year, and "ultra-mover" or a student who changed schools both between and during the school year in the same academic year. To examine student mobility at the school level and better understand the variation in nonstructural mobility across the timing of school changes in CCSD, I focus on the percent of students leaving each school or the average school turnover across the timing of nonstructural school changes. Entry mobility rates (students entering schools) are almost identical to exit rates across the timing of school changes; thus, exit rates can be interpreted as the overall churn in schools. Discipline-related mobility is classified as all school changes to and from behavior or continuation schools or juvenile detention centers based on data reported by the schools. I also categorize schools' characteristics into quintiles.

Measuring segregation. I use the dissimilarity index to evaluate segregation between schools in CCSD over time. The dissimilarity index captures unevenness or the distribution of racial groups (Massey & Denton, 1988). The dissimilarity index measures what percentage of the racial group's population would need to change schools for the racial groups to be evenly

distributed within the school district. Generally, a dissimilarity index below .3 is low segregation, between .3 and .6 is moderate segregation, and above .6 is high segregation (Massey & Denton, 1988). I calculate the dissimilarity index for multiple combinations of four racial categories (Black, White, Asian, and Hispanic), one income category (FRPL students), and two achievement categories (whether the student was below math in the district or proficient in math) using the following formula:

$$\mathrm{DI}_{dt} = \tfrac{1}{2} \sum \left| \left(a_{st} \,/\, A_{dt} \right) - \left(b_{st} \,/\, B_{dt} \right) \right|. \tag{1}$$

where DI_{dt} is the dissimilarity index of district d at time t, a_{st} is the number of "a" students in school s at time t, and A_{dt} is the number of "a" students in all schools in district d at time t. Then b_{st} is the number of "b" students in school s at time t, and B_{dt} is the number of "b" students in all schools in district d at time t. First, I calculate indices for the entire district that include mixing schools of different levels into one analysis. Next, similar to prior research (Sohoni & Saporito, 2009), I disaggregate schools by level and calculate the index separately for elementary, middle, and high schools, which allows for comparison of racial, income, and achievement segregation across multiple school levels.

I also create several school-level racial, income, and achievement segregation indicators. I focus on intensely segregated, extreme-poverty and intensely low-achieving schools to illustrate how the relationship between student mobility and school segregation offers useful insights about educational inequality in urban districts. The indicators include the following: (a) predominantly minority (Black and Hispanic students)—greater than 50% of students in a school are non-White, (b) intensely segregated minority schools—more than 80% of student body are minority, (c) multiracial schools—schools with at least 10% of students from four racial groups (Black, White, Hispanic, and Asian), (d) high-poverty schools—greater than 50% of students in a school are FRPL recipients, (e) extreme-poverty schools—more than 80% of student body are FRPL recipients, (f) predominantly low achieving—greater than 50% of students in school are achieving below district average, (g) intensely low achieving—more than 80% of student body are achieving below the district average, and (h) intensely segregated, high poverty—greater than 80% minority and FRPL recipients.

Achievement gaps. Consistent with prior research (Condron et al., 2013), at the school-year level, I compute achievement gaps in both math and reading across various racial and income combinations. For example, to compute the White–Black achievement gap, I subtract the standardized mean math

achievement of Black students from that of White students (mean of White students − mean of Black students / standard deviation of subject test scores in a school). School-level achievement gaps are then aggregated to the district level. The achievement gaps measure the extent to which Black students' test scores lag behind White students relative to the standard deviation of the distribution.

Predicting student mobility using school segregation. To examine the relationship between exiting patterns and school segregation, I use the following linear probability model:

$$Y_{ist} = \beta_0 + \beta_1 T_{ist} + \beta_2 Z_{st} + \beta_3 N_{st} + \pi_t + \gamma_g + e_{it}. \tag{2}$$

where Y_{ist} is a dichotomous outcome variable that is equal to 1 if student i in school s at time t made a nonstructural school change. I estimate the probability of changing schools separately for the aforementioned three categories of mobile students. T_{ist} is a vector of student-level characteristics including lagged student achievement (relative to the district), gender, racial/ethnic categories (White is the reference group), FRPL, ELL, and special education statuses. Z_{st} is a vector of school-level characteristics including school quality (measured by the percentage of students in a school scoring proficient or above on state accountability tests) and the percentage of Black, Hispanic, Asian, FRPL, ELL, Special Education, and male students in the school. N_{st} is a vector of the aforementioned school-level segregation indicators. β_3 is the coefficient of interest that illustrates whether students in more segregated schools are more likely to switch schools relative to students in less segregated schools across the timing of school changes. In all models, I utilize grade (γ_g) and year (π_t) fixed effects to control for unobservable differences across time and between grades and use robust standard errors clustered at the school level.

Results

CCSD is a large, diverse school district with average annual enrollment of more than 300,000 students. On average, roughly 42% of students are Hispanic, 32% are White, 13% are African American, 8% are Asian, 11% are special education students, 17% are ELL, and 50% are FRPL students. Over the period of study, CCSD experienced an increase in low-income (47% to 56%), Hispanic (41% to 44%), and special education status (10% to 12%) students. Conversely, the proportion of African American (14% to 12%), White (35% to 29%), Asian (9% to 7%), and ELL (20% to 16%) declined.
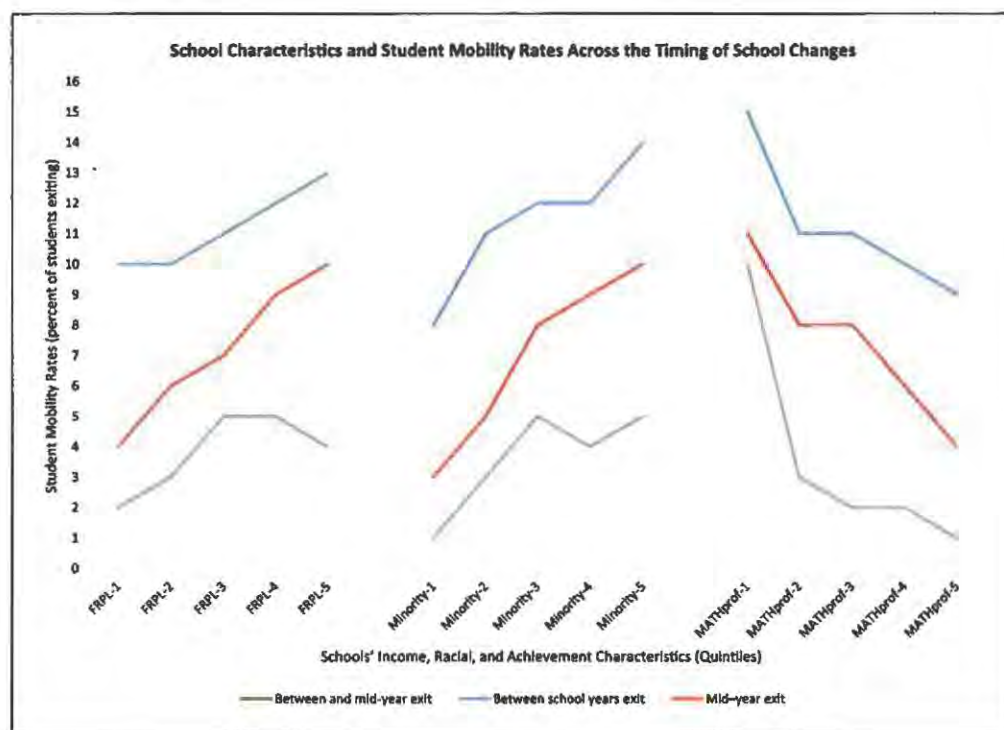
Figure 2. School characteristics by mobility rates across the timing of school changes.
Note. FRPL = free and reduced priced lunch.

About 16% of students changed schools annually: 7% switched schools between school years, 6% changed schools during the school year, and 3% changed schools both in the summer and midyear in the same academic year. Black, Hispanic, low-income, special education status, and ELL students had higher mobility rates, especially for midyear school changes, whereas White and Asian students had lower mobility rates. For instance, 26% of Black students changed schools, with 11% being midyear movers and 5% being ultra-movers, compared with 12% for White students, with only 4% being midyear movers and 2% being ultra-movers. Mobile students also had math achievement about a quarter of a standard deviation below their schools' average and a third of a standard deviation below the district average.

Student Mobility and Segregation From the Schools' Perspective

Figure 2 illustrates that there is a strong relationship between schools' demographic and achievement characteristics and student mobility rates across the timing of school changes. This association is particularly apparent when one considers within-year student mobility (midyear and ultra-movers). As the
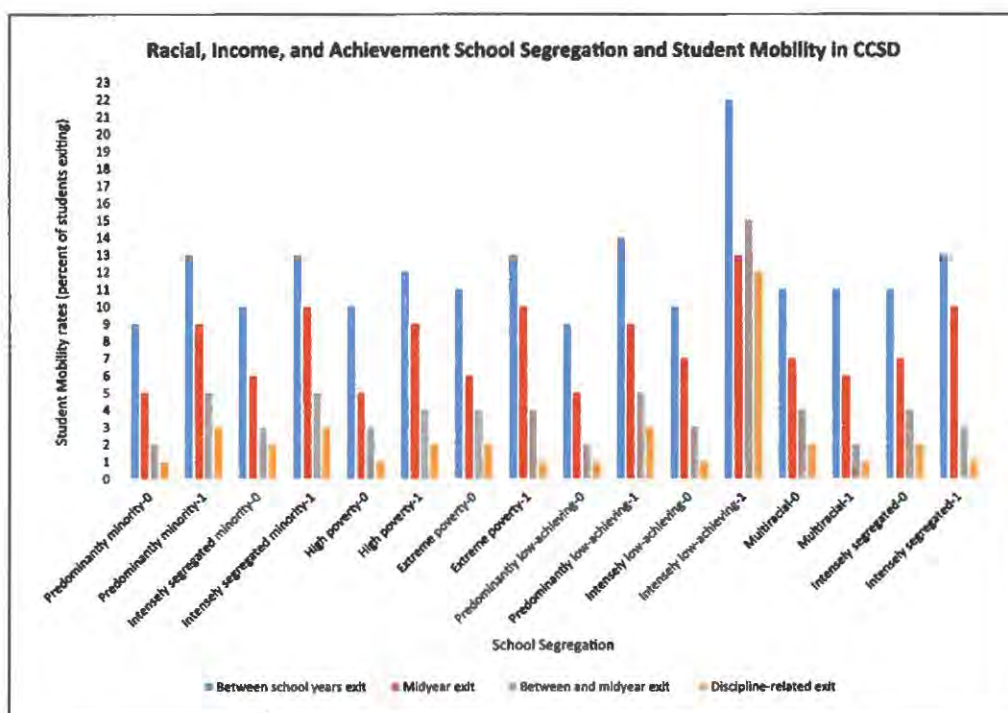
Figure 3. School segregation and student mobility rates.
Note. CCSD = Clark County School District; FRPL = free and reduced priced lunch.

proportion of low-income and minority students in schools increases, within-year mobility rates also increase. For instance, schools in the bottom quintile of proportion of low-income students (0%-27% of FRPL students) had an average midyear exit rate of 4% compared with 10% for schools in the top quintile (greater than 79% of FRPL students). Schools in the bottom quintile of proportion of minority students (between 4% and 31% of Black and Hispanic students) had an average midyear exit rate of 3% relative to 10% for schools in the top quintile (greater than 82% of Black and Hispanic students). Conversely, there is a negative relationship between nonstructural exit rates and school quality: Schools with higher mobility rates typically have a lower proportion of math proficient students. Schools in the bottom quintile of proportion of math proficient students (less than 46% of proficient students) had a midyear exit rate of 11% and an ultra-mover exit rate of 10% compared with 4% and 1%, respectively, for schools in the top quintile (greater than 75% of proficient students).

Figure 3 shows that there is also an apparent relationship between nonstructural mobility rates and school segregation. The results suggest that more segregated schools typically have a higher nonstructural mobility rate (midyear and ultra-moves are especially prevalent in highly segregated schools).

For instance, intensely segregated minority schools had a midyear exit rate of 10% and an ultra-mover rate of 5% compared with 6% and 3% for schools that were not intensely segregated minority. Extreme-poverty schools had a midyear exit rate of 10% relative to 6% for schools that were not classified as extreme poverty. Intensely segregated, low-achievement schools had a midyear rate of 13% and a ultra-mover rate of 15% compared with 7% and 3%, respectively, for schools that were not categorized as intensely segregated, low-achieving schools. In addition, more segregated schools typically have a lower proportion of proficient students than less segregated schools.

School discipline partly explains the relatively high within-year mobility rates of low-achieving, high-minority, and poverty schools. School discipline is an important yet overlooked example of school policies and practices that may induce student mobility. Although the average discipline-related exit rate in CCSD was roughly 2%, the lowest achieving schools and schools with a high proportion of Black and male students had high discipline-related exit rates. For instance, the discipline-related exit rate for schools in the top quintile for proportion of Black students (19%-92% of Black students) was 6% or 3 times the district average. Lower quality schools typically have higher discipline-related mobility rates. Schools in the bottom quintile of proportion of proficient students had a discipline exit rate of 8% or 4 times the district average. In addition, alternative schools including behavior and continuation schools as well as schools in the Clark County Juvenile Justice System had some of the highest nonstructural mobility rates that were largely driven by within-year mobility (midyear and ultra-movers). There is also a strong correlation between ultra-mover exit rate and discipline-related exit rate (0.9) that suggests that the majority of ultra-moves are school-initiated midyear mobility. The striking relationship between the lowest achieving schools in the district and school discipline may be attributed to various reasons. It is plausible that the lowest achieving schools also serve the student population that provides the greatest behavioral management challenges in urban school districts. Another reason may be that these schools are responding to accountability pressure by placing certain students in alternative schools. Schools classified as "in need of improvement" had the highest within-year exit rate (midyear and ultra-movers), and schools classified as "high-achieving and above" had the lowest within-year exit rate.

The relationship between student mobility, schools' characteristics, and school segregation may also be explained by the level of schooling. In elementary and high schools, the between-year rate was higher than the within-year exit rate (especially for high schools where the between-year rate was more than twice that of the within-year rate). The within-year exit rate in middle schools was slightly higher than midyear exit rates in high schools.
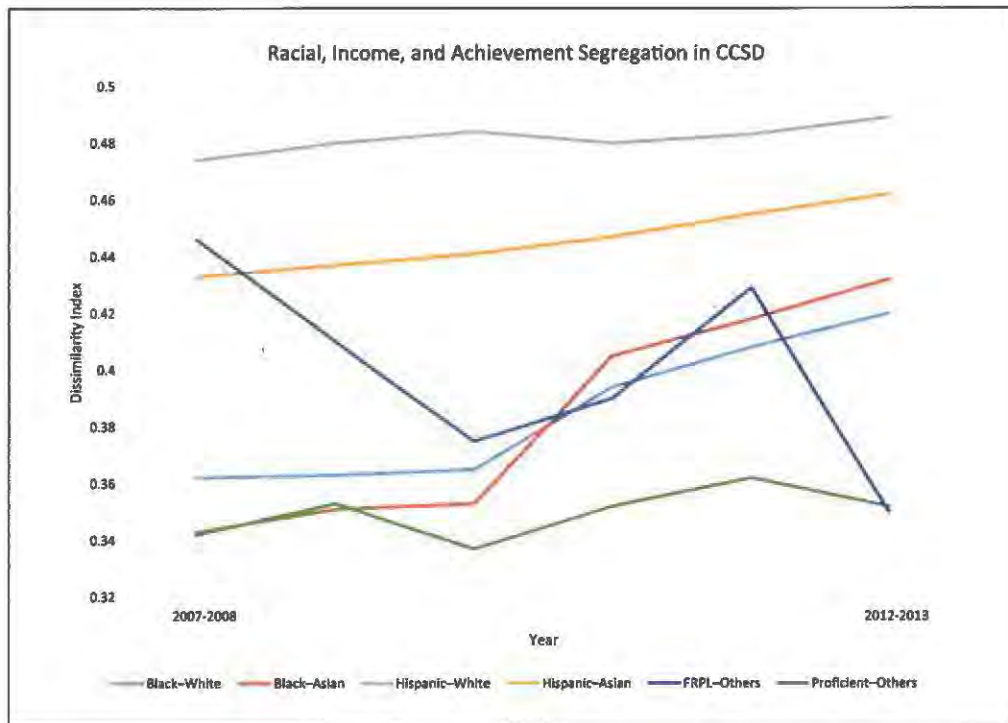
Figure 4. School segregation in CCSD, K-12, dissimilarity index.
Note. CCSD = Clark County School District; FRPL = free and reduced priced lunch.

Interestingly, in middle schools, the within-year (midyear and ultra-movers combined) exit rates were higher than the between-year exit rates. This suggests that midyear moves are especially relevant in middle schools. Furthermore, the discipline-related mobility rate in middle schools is slightly higher than that of high schools. The results also draw attention to school discipline in middle schools.[4]

Segregation, Student Mobility, and Achievement Gaps

Figure 4 shows segregation among schools in CCSD from 2007 to 2008 through to 2012 to 2013 using the dissimilarity index. The results indicate that although overall racial segregation in CCSD was moderate, unevenness in the distribution of students by race/ethnicity in the district increased over the period of study.[5] The results indicate that Hispanic students were the most highly unevenly distributed racial group. Unlike racial segregation, income segregation decreased over the period of study. The distribution of proficient students between schools grew slightly more uneven over time, whereas the distribution of below average students did not increase over the period of study. The results suggest that the segregation of high-achieving students is increasing in CCSD.
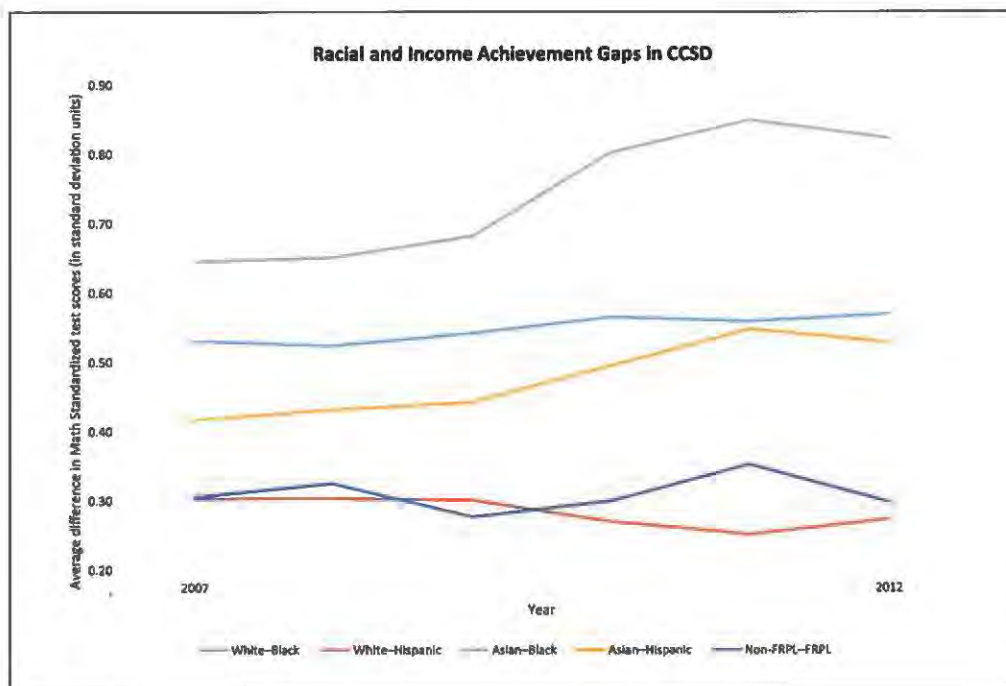
Figure 5. Racial and income achievement gaps in CCSD.
Note. CCSD = Clark County School District; FRPL = free and reduced priced lunch.

Overall, the results imply that there is increasing stratification within the district as racial and achievement segregation rose over time.[6]

Figure 5 presents district-level achievement gaps over the period of study. The results indicate sizable achievement gaps between racial groups that increased over time. For instance, the achievement gap between White and Black students increased from 0.53 *SD* in 2007 and 2008 to 0.57 *SD* in 2012 and 2013. The achievement gap between White and Hispanic students decreased over the period of study and was smaller than the White–Black achievement gap. The Asian–Black achievement gap increased over time and was the largest in CCSD, with Asian students performing about four fifths of a standard deviation above Black students. The Asian–White (on average 0.19 *SD*) and the Hispanic–Black (on average 0.27 *SD*) were the smallest gaps in test scores in CCSD. Non-FRPL recipients outperformed FRPL students by about a third of a standard deviation. However, the income achievement gap remained fairly constant over time. In addition, the results also indicate that racial and income achievement gaps are lower in more segregated schools. Overall, the White–Black, White–Hispanic, Asian–Hispanic, and the non-FRPL–FRPL within-school achievement gaps were lower, whereas the Asian–White, Asian–Black, Hispanic–Black gap was higher in intensely segregated minority and high-poverty schools. The results imply that the achievement gap is smaller in more

segregated schools because of the presence of similar low-achieving students regardless of race/ethnicity, whereas larger achievement gaps in less segregated schools suggest minority students in these schools tend to be low-achieving, and nonminority students are higher achieving, resulting in considerable achievement gaps. From the district's perspective, this is not a beneficial trend given that prior research demonstrates that high-achieving peers improve the student achievement of all students in a school.[7]

I also examine the segregation levels of origin and destination schools across the timing of school changes. The results indicate that regardless of the timing of school changes, high levels of racial, income, and achievement school segregation may spur students to change schools. For example, 45% of between-year movers and 43% of midyear movers in intensely segregated minority schools switch to schools that were not classified as intensely segregated schools. The trends are similar for mobile students in extreme-poverty and intensely segregated achievement schools. There are interesting differences in exit and destination patterns by the degree of segregation in schools. Regardless of the timing of school changes, the majority of students in predominantly minority or low-achieving and high-poverty schools tended to transfer to similar segregated schools. For instance, 75% of between-year movers and 80% of midyear movers in predominantly minority schools transferred to another predominantly minority schools. However, a nontrivial proportion of students in schools that are not categorized as predominantly minority or low achieving or high poverty switched to more segregated schools at a greater extent than students in predominantly minority, high poverty, or low achieving switched to lesser segregated schools. For example, 25% of between-year movers and 37% of midyear movers in schools that were not predominantly minority school switched to predominantly minority schools, whereas 21% of between-year movers and 19% of midyear movers left predominantly minority schools for schools that were not classified as predominantly minority. Similarly, roughly half to two thirds of movers in multiracial schools transferred to schools that were not classified as multiracial across the timing of school changes. The findings imply that student mobility patterns in relatively less segregated schools may increase overall segregation in the district, whereas exiting from the most segregated schools may decrease overall segregation. In the next section, I present the empirical results on whether school segregation predicts the probability of student mobility.

Does School Segregation Predict the Likelihood of Student Mobility?

Table 1 presents the likelihood of switching schools across the timing of school changes based on student, schools' demographic, and achievement

Table 1. Estimating the Likelihood of Student Mobility (N = 774,211).

	Between	Midyear	Ultra-movers
Prior Achievement	−0.009*** (0.000)	−0.014*** (0.000)	−0.014*** (0.000)
Black	0.021*** (0.001)	0.025*** (0.001)	0.027*** (0.001)
Hispanic	−0.004*** (0.001)	−0.001 (0.001)	−0.006*** (0.001)
Asian	−0.001 (0.002)	−0.003** (0.001)	−0.005*** (0.001)
Male	−0.001 (0.001)	0.008*** (0.001)	0.007*** (0.000)
Special Education	−0.007*** (0.001)	−0.006*** (0.001)	−0.003** (0.001)
ELL	−0.010*** (0.001)	−0.001 (0.001)	−0.007*** (0.001)
FRPL	0.013*** (0.001)	0.016*** (0.001)	0.017*** (0.001)
School Quality	−0.028 (0.024)	−0.025** (0.008)	−0.008 (0.011)
Black_sch	0.084* (0.041)	−0.007 (0.021)	−0.022 (0.021)
Hispanic_sch	0.038 (0.037)	−0.030 (0.019)	−0.065** (0.020)
White_sch	−0.010 (0.036)	−0.026 (0.018)	−0.050* (0.019)
Asian_sch	0.086 (0.055)	0.012 (0.021)	−0.042 (0.025)
Male_sch	0.145 (0.080)	0.104*** (0.022)	0.203** (0.069)
SpecEd_sch	−0.110* (0.047)	0.008 (0.014)	−0.067 (0.043)
ELL_sch	−0.045** (0.016)	0.016 (0.009)	0.019 (0.011)
FRPL_sch	−0.000 (0.018)	0.012 (0.008)	0.024* (0.009)
Predominantly Minority	−0.006 (0.005)	−0.001 (0.002)	0.003 (0.003)
Intensely Segregated Minority	0.005 (0.005)	0.000 (0.002)	0.004 (0.002)
High Poverty	−0.002 (0.005)	0.002 (0.002)	−0.002 (0.002)
Extreme Poverty	0.004 (0.004)	0.003 (0.002)	0.004 (0.003)
Predominantly Low Achieving	0.008* (0.004)	−0.002 (0.002)	−0.001 (0.002)
Intensely Segregated Low Achieving	0.096* (0.037)	0.026 (0.014)	0.135*** (0.033)
Multiracial	−0.001 (0.003)	0.001 (0.001)	−0.000 (0.001)
Intensely Segregated, Extreme Poverty	−0.007 (0.006)	0.000 (0.002)	−0.003 (0.003)
Constant	0.922*** (0.063)	−0.040 (0.023)	−0.058 (0.044)

Note. ELL = English language learner; FRPL = free and reduced priced lunch.
*p < .05. **p < .01. ***p < .001.

characteristics and school segregation. The results indicate that high levels of achievement segregation are a strong predictor of student mobility across the timing of school changes. Students in intensely segregated achieving schools were roughly 10 percentage points more likely to switch schools between school years than students in schools that were not intensely segregated

achieving schools. Students in predominantly low-achieving schools were less than 1 percentage point more likely to change schools in the summers than students in schools that were not predominantly low achieving. The results for racial and income segregation, irrespective of the degree of segregation, were insignificant for between-year school changes.

Achievement segregation is not as strong a predictor of midyear school changes. Students in intensely segregated, low-achieving schools were 3 percentage points more likely to switch schools during the year than students in schools that were not intensely segregated achieving schools (*p* value of .06). However, the results for ultra-movers were similar to those of between-year movers. Students in intensely segregated achieving schools were about 14 percentage points more likely to make ultra-moves. The results of racial and income segregation were also insignificant for both midyear and ultra-movers.

I conduct a few specification checks to examine the sensitivity of the results. First, I estimate Equation 2 separately for all segregation indicators. The results are qualitatively similar except in two instances. There is weak suggestive evidence that income segregation predicts midyear mobility and racial segregation predicts ultra-moves. Students in extreme-poverty schools were less than 1% more likely to switch schools during the year (*p* value of .08), and students in intensely segregated minority schools were less than 1% more likely to make ultra-moves (*p* value of .08). Next, I rerun the models excluding open enrollment options (charter and magnet schools). The results remain qualitatively similar when charter schools are excluded. Following this, I rerun the models excluding discipline-related mobility. For between-year school changes, high levels of achievement segregation were no longer a significant predictor; however, students in predominantly low achieving were more likely to exit. For midyear school changes, achievement segregation was a significant predictor but the directions of the coefficient reversed. Students in predominantly low-achieving and intensely segregated schools were less likely to exit schools during the school year when discipline-related mobility was excluded. This suggests that the role of achievement segregation as a predictor of midyear school changes is largely driven by discipline-related mobility. For ultra-movers, the results remain qualitatively similar when discipline-related mobility was excluded. These findings imply that students who switch schools based on achievement segregation, who are not subjected to school-initiated discipline mobility, are between-year or ultra-movers. In separate models, interactions of student characteristics and segregation indicators suggest that higher achieving students are more likely to exit achievement segregated schools and White students are more likely to exit racially and income segregated schools across the timing of school changes.

Finally, I also estimated Equation 2 separately by the levels of schooling. The results vary the levels of schooling and the timing of school changes. In elementary schools, for between-year movers, achievement segregation is no longer a significant predictor, and there is suggestive evidence that students in extreme-poverty schools are more likely to switch schools in the summer. For midyear movers, achievement segregation is not a significant predictor, and there is evidence to suggest that students in intensely segregated minority schools are more likely to switch schools. For ultra-movers, the results indicate that students in intensely segregated, minority and extreme-poverty schools were more likely to be ultra-movers, but students in intensely segregated, extreme-poverty schools were less likely to be ultra-movers. The findings imply that for elementary school students, racial and income segregation predict changing schools at different times. These students appear to change schools between school years due to income segregation and switch schools midyear due to racial segregation. Ultra-movers change schools for both racial and income segregation but not due to "double segregation" as they are less likely to exit schools with both high levels of racial and income segregation. For middle school students, high levels of achievement segregation remained a significant predictor but only for between-year and ultra-movers. Between-year movers in middle schools were also less likely to exit multiracial schools. For midyear movers in middle schools, there is evidence that students in high- and extreme-poverty schools are more likely to exit, whereas students in predominantly low-achieving schools were less likely to exit. The findings also suggest that ultra-movers in middle schools are less likely to exit high-poverty schools. These results suggest that between-year and ultra-movers in middle schools are exiting schools with high levels of achievement segregation, whereas midyear movers appear to be driven by income segregation. The findings also imply that for ultra-movers in middle schools, the role of achievement segregation in exit patterns is partly related to school discipline. For high schools, the results are qualitatively similar across the timing of school changes.

Concluding Discussion

This study offers new insights into the relationship between school segregation and student mobility in urban school districts. The results indicate that racial, ethnic, and achievement segregation persists in CCSD, whereas income segregation is declining. This article adds to a growing number of studies that have found that segregation is a pervasive and concerning phenomenon (Rumberger & Palardy, 2005). The results highlight an important mechanism linking student mobility to school segregation and achievement gaps, namely, the demographic and achievement characteristics of schools.

More segregated schools typically have smaller within-school achievement gaps, a lower proportion of proficient students, a higher proportion of minority students, and higher nonstructural mobility rates (especially within-year mobility) than less segregated schools. The findings are similar to prior research that found that as Black–White dissimilarity increased, racial achievement gaps also increased (Condron et al., 2013).

Rising racial and achievement school segregation raises serious concerns about educational equity and the equality of educational opportunity in urban school districts. Historically, the segregation of African American children has been the main focus for educators and policymakers. The results of this article highlight that in 21st-century urban school districts, uneven distribution is multiracial, and desegregation is no longer only a Black–White issue. The findings imply that the segregation of Hispanic students, the fastest growing demographic group, is a pertinent concern. The importance of achievement segregation is particularly noteworthy, and this form of segregation is just as or even more important than racial and income segregation. The patterns in student mobility and segregation suggest the evolution of a tiered system of schooling, as low-achieving students are concentrated in the same schools and vice versa for high-achieving students.

The results indicate that high levels of achievement segregation are a significant predictor of student mobility. The findings imply that some parents are actively seeking less achievement segregated schools, especially those switching schools in the summer. School discipline is a significant reason why high levels of achievement segregation predict within-year mobility (midyear and ultra-movers). Overall, the results raise equity concerns as there seem to be centers of educational inequality in urban districts, or highly segregated, low-quality schools with a high proportion of minority and low-income students and considerable rates of discipline-related student mobility.

This study has a few limitations. First, the data do not capture student mobility from public to private schools and vice versa. This may affect the relationship between student mobility and school segregation. Nevertheless, a relatively small proportion of students in CCSD attend private schools— about 11% (Sohoni & Saporito, 2009). Second, although CCSD is a large, countywide, and highly diverse district, it is important to note that CCSD does not resemble a stereotypical "inner-city" school district; thus, there are some limitations of generalizing the findings.

Policy Implications

A few policy implications emerge from this study. First, the findings support the call for renewed investment in desegregation. However, in the wake of

the 2007 Supreme Court decisions on desegregation that deemed the majority of voluntary desegregation programs by school districts unconstitutional, there is a need to consider feasible options within the law to attain integrated schools (Orfield & Lee, 2007). Given the unconstitutionality of assignment policies based on race, student mobility is a possible policy lever to affect desegregation that warrants further consideration. Districts may explore the use of students' income and prior achievement as opposed to race to attain balanced schools in addition to providing information and incentives for low-income, low-achieving, and minority students to switch to more integrated schools. Considering SES and academic background as the key factors in student assignment policies may promote school integration and reduce school segregation (Potter, Quick, & Davies, 2016). Districts may also explore incorporating stratification limits into transfer policies that prohibit school changes that will add to achievement segregation.

Second, policymakers should pay greater attention to reforming schools with an eye to segregated schools with high-mobility rates and provide additional support to these schools. As states revise funding formulas, increased funding to highly segregated schools with substantial student churn should be a priority and key component of focusing education policy to address educational inequality in urban districts. It would be prudent to focus on factors such as class size and teacher quality in these high-mobility schools that may contribute to achievement gaps in urban school districts. Greater curricular and pedagogical focus for schools with high rates of during-the-year student mobility may help improve student achievement in urban school districts. Policymakers should find ways to ensure greater instructional continuity and mitigate the adverse effects of turnover on students and schools. This may entail resources for personalized instruction for mobile students especially those in middle schools where midyear school changes are relatively prevalent. Districts may also create a student mobility office that bridges the communication gap between sending and receiving schools to better coordinate curriculum and pedagogy. Receiving schools would then have detailed information on mobile students to tailor curriculum and teaching techniques.

Third, policymakers may also consider targeting different types of segregation at different levels of schooling using varying initiatives. Student mobility and racial and income segregation is typically higher in elementary schools, whereas achievement segregation is higher in high schools. Programs fostering and incentivizing racial and income desegregation may pay the biggest dividends at the elementary level where younger students are affected. Desegregation initiatives at the high school level such as adjusting attendance zones may target the clustering of low-achieving students of all races. Combination schools present a special challenge as they are afflicted with

racial, income, and achievement segregation and tend to serve an at-risk student subgroup. The findings suggest policymakers should closely rethink the operation of alternative schools and how learning and student remediation takes place in these highly segregated and mobile environments.

Directions for Future Research

The findings also provide some directions for future research. First, a better understanding of families' preferences that may influence the relationship between student mobility and school segregation and how this may vary with the timing of school changes is needed. A complementary qualitative study may provide better insights on how segregation levels of origin schools affect mobility decisions and a sense of how the segregation level of destination schools may affect the impact of student mobility on student achievement. Similar to switching to schools of higher quality, transfers to less segregated schools may result in net positive effects of changing schools, and thus segregation may be a key determinant of the overall impact of student mobility.

Second, studies with classroom-level data that allow for estimation of within-school segregation may provide a stronger link between segregation, student mobility, and achievement gaps at the school level. These investigations will further illuminate how segregation and student mobility affect educational inequality at a granular level. Finally, differences in neighborhoods in urban school districts may play an important role in explaining the relationship between student mobility and school segregation. Future studies should incorporate the location of schools and neighborhood characteristics to gain a better understanding of patterns in student mobility and school segregation. A better understanding of the interaction of school and neighborhood contexts has important policy implications such as whether student mobility is more appropriately addressed by the coordination of education, housing, and economic policy.

Notes

1. There is an "identity crisis in urban education" evidenced by the challenges in conceptualizing and defining "urban" education (Milner & Lomotey, 2014).

Although the conceptualization of urban education is multifaceted, urban districts can be generally defined by size or the prevailing social and economic conditions. For instance, urban school districts may be defined as being located in cities with a population greater than 250,000 and student enrollments of more than 35,000 (Council of the Great City Schools, 2013). The implicit implications of this definition is that urban school districts are the melting pot of cultures and communities—densely populated epicenters of commerce that attract a diverse set of people of varying ethnic, racial, linguistic, and geographic origins. Darling-Hammond (2014) posited that urban school districts can also be defined by the concentration of inequality and evolving economic conditions characterized by poverty, segregation, and underresourced schools (Milner & Lomotey, 2014).

2. In this article, I am primarily interested in *nonstructural* mobility that occurs when students change schools of their own volition (e.g., switching elementary schools) rather than *structural* moves that occur after the completion of a terminal grade (e.g., elementary to middle school transitions). Nonstructural movers are the student subgroup that mobility policies in school districts may target and influence.

3. As of 2012 to 2013, there are 352 schools in this sample (219 elementary schools, 59 middle schools, 53 high schools, and 21 combination schools, that is, middle/high or elementary/middle). The number of schools increased from 321 in 2007 to 2008. In all, 13 charter schools were opened in 2012 to 2013, and 18 new schools opened over the period of study (2008-2009: 7; 2009-2010: 6; and 2010-2011: 5). Schools with less than 25 students (12) and schools that closed over the period of study (2) were excluded from the school-level analysis. Roughly 72% of schools were located in Las Vegas, 11% were in Henderson, and 10% in North Las Vegas. The rest were scattered in outlying areas such as Boulder City and Mesquite. Similar to previous mobility studies, I present results for mathematics achievement as math is predominantly learned in school rather than the home (especially starting in the elementary years) and mobility effects may be more detectable using math as opposed to reading (Hanushek, Kain, & Rivkin, 2004; Rumberger, Larson, Ream, & Palardy, 1999; Xu, Hannaway, & D'Souza, 2009).

4. About half of all schools in Clark County School District (CCSD) are predominantly minority, and about a quarter of schools are intensely segregated. In total, 14% of schools were multiracial; however, the number of multiracial schools decreased significantly from 63 in 2007 and 2008 to 25 in 2012 and 2013. Roughly half of all schools are high poverty, and about a fifth of schools are extreme-poverty schools. About half of schools are predominantly low achieving and 7% were intensely low achieving. About 16% of schools are intensely segregated and high poverty, and these schools increased from 15% to 20% from 2007 and 2008 to 2012 and 2013. Overall, the number of income and racial segregated increased over the period of the study. The results also indicate that racial segregation was higher in lower levels of schooling and decreased as one progressed from elementary to high schools. For instance, about 57% of elementary schools

were predominantly minority compared with 48% of high schools. Racial segregation was highest in combination schools, which are mainly alternative schools such as behavior and continuation schools (e.g., more than two thirds of these schools were predominantly minority). The trends across the level of schooling were starker for income segregation. For example, 58% and 27% of elementary schools were classified as high poverty and extreme poverty, respectively, relative to 27% and less than 1%, respectively, of high schools. Income segregation was generally below the district average for combination schools. Conversely, achievement segregation was prevalent across all levels of schooling but increased with the level of schooling and was especially high in combination schools. For instance, about half of elementary and high schools were predominantly low achieving compared with 90% of combination schools. About 2% of elementary and middle schools were intensely low achieving relative to 15% of high schools and 57% of combination schools. Elementary schools had the highest average of intensely segregated, extreme-poverty schools. In sum, the results imply the racial and income segregation is particularly pervasive in elementary schools whereas achievement segregation is specifically concerning in high and combination schools.

5. Given that segregation across all racial categories is increasing and the majority of the changes in the dissimilarity index over time are modest, for brevity's sake, I do not report results for every combination of racial and ethnic groups. The results for all groups are available upon request.

6. Prior research has found that school choice increases racial segregation; thus, I estimate the dissimilarity index while excluding open enrollment options—magnet and charter schools—in the CCSD to examine the sensitivity of the results. First, I excluded the 13 charter schools in 2012 to 2013, and the results changed. In particular, racial and income segregation was lower across all groups when charter schools were excluded. Achievement segregation also decreased. The results were similar when magnet schools were separately excluded. Similar to prior research, the results imply that charter schools partly explain the rise in racial and income segregation in urban school districts. Notwithstanding, the segregation levels in CCSD remained moderate and increased over time with or without open enrollment options.

7. The White–Black achievement gap is similar across the levels of schooling, whereas the White–Hispanic and Asian–Hispanic gaps increase with the level of schooling. The Hispanic–Black, Asian–Black, and income achievement gaps are smallest in high schools.

References

Alexander, K. L., Entwisle, D. R., & Dauber, S. L. (1996). Children in motion: School transfers and elementary school performance. *The Journal of Educational Research, 90*, 3-12. doi:10.1080/00220671.1996.9944438

Berends, M., & Penaloza, R. (2008). Changes in families, schools, and the test score gap. In K. Magnuson & J. Waldfogel (Eds.), *Steady gains and stalled progress:*

Inequality and the Black-White test score gap (pp. 66–109). New York, NY: Russell Sage.

Bifulco, R., & Ladd, H. (2007). School choice, racial segregation, and test score gaps: Evidence from North Carolina's charter school program. *Journal of Policy Analysis and Management, 26*, 31-56. Retrieved from http://onlinelibrary.wiley.com/doi/10.1002/pam.20226/full

Burkam, D., Lee, V., & Dwyer, J. (2009, June 29-30). *School mobility in the early elementary grades: Frequency and impact from nationally-representative data.* Paper presented at the workshop on the impact of mobility and change on the lives of young children, schools, and neighborhoods, The National Academies Press, Washington, DC.

Card, D., & Rothstein, J. (2007). Racial segregation and the Black-White test score gap. *Journal of Public Economics.* Retrieved from http://www.sciencedirect.com/science/article/pii/S0047272707000503

Coleman, J., Campbell, E., & Hobson, C. (1966). *Equality of educational opportunity.* U.S. Government Printing Office. Retrieved from https://scholar.google.com/scholar?hl=en&q=the+coleman+report&btnG=&as_sdt=1%2C5&as_sdtp=#3

Condron, D. J., Tope, D., Steidl, C. R., Freeman, K. J., & Colleges, W. S. (2013). Racial segregation and the Black/White achievement gap, 1992 to 2009. *The Sociological Quarterly, 54*, 130-157.

Conger, D. (2005). Within-school segregation in an urban school district. *Educational Evaluation and Policy Analysis.* Retrieved from http://epa.sagepub.com/content/27/3/225.short

Council of the Great City Schools. (2013). *Fact book.* Retrieved from http://www.cgcs.org/Page/1

Darling-Hammond, L. (2014). Foreword. In H. R. Milner IV & K. Lomotey (Eds.), *Handbook of urban education* (pg xi). New York, NY: Routledge.

de la Torre, M., & Gwynne, J. (2009). *When schools close: Effects on displaced students in Chicago public schools.* Chicago, IL: Consortium on Chicago School Research.

Engberg, J., Gill, B., Zamarro, G., & Zimmer, R. (2012). Closing schools in a shrinking district: Do student outcomes depend on which schools are closed? *Journal of Urban Economics, 71*, 189-203. doi:10.1016/j.jue.2011.10.001

Finn, C. (1990). Why we need choice. In W. Boyd & H. Walberg (Eds.), *Choice in education* (pp. 3-19). Berkeley, CA: McCutchan Publishing.

Frankenberg, E., Lee, C., & Orfield, G. (2003). *A multiracial society with segregated schools: Are we losing the dream?* Retrieved from https://escholarship.org/uc/item/3rh7w18g.pdf

Grigg, J. (2012). School enrollment changes and student achievement growth: A case study in educational disruption and continuity. *Sociology of Education, 85*, 388-404. doi:10.1177/0038040712441374

Hanushek, E. A., Kain, J. F., Markman, J. M., & Rivkin, S. G. (2003). Does peer ability affect student achievement? *Journal of Applied Econometrics, 18*, 527-544. doi:10.1002/jae.741

Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2004). Disruption versus Tiebout improvement: The costs and benefits of switching schools. *Journal of Public Economics, 88*, 1721-1746. doi:10.1016/S0047-2727(03)00063-X

Hanushek, E. A., & Rivkin, S. G. (2009). Harming the best: How schools affect the Black-White achievement gap. *Journal of Policy Analysis and Management, 28*, 366-393. doi:10.1002/pam.20437

Hastings, J., Kane, T., & Staiger, D. (2006). *Preferences and heterogeneous treatment effects in a public school choice lottery* (NBER Working Paper No. 12145). Retrieved from http://www.nber.org/papers/w12145

Institute of Medicine & National Research Council. (2010). *Student mobility: Exploring the impact of frequent moves on achievement* (Summary of a workshop) (A. Beatty, Rapporteur). Washington, DC: The National Academies Press.

Jencks, C., & Phillips, M. (2011). *The Black-White test score gap*. Retrieved from https://books.google.com/books?hl=en&lr=&id=Ywb7r1oOxJYC&oi=fnd&pg= PA1&dq=Jencks+and+Phillips,+1998&ots=xpt7VYXhkq&sig=9imG8k4Q9lIb GHF_GpNUg2yN5UA

Johnson, R. C. (2011). *Long-run impacts of school desegregation & school quality on adult attainments*. Retrieved from http://www.nber.org/papers/w16664

Kahlenberg, R. D. (2001). *All together now: Creating middle-class schools through public school choice*. Washington, DC: Brookings Institution Press.

Kerbow, D. (1996). Patterns of urban student mobility and local school reform. *Journal of Education for Students Placed at Risk, 1*, 147-169. doi:10.1207/ s15327671espr0102_5

Kerbow, D., Azcoitia, C., & Buell, B. (2003). Student mobility and local school improvement in Chicago. *The Journal of Negro Education, 72*, 158-164. doi:10.2307/3211299

Kurlaender, M., & Yun, J. (2001). *Is diversity a compelling educational interest? Evidence from Louisville*. Retrieved from http://eric.ed.gov/?id=ED456196

Lash, A., & Kirkpatrick, S. L. (1990). A classroom perspective on student mobility. *The Elementary School Journal, 91*, 176-191. doi:10.1086/461645

Logan, J., Minca, E., & Adar, S. (2012). The geography of inequality: Why separate means unequal in American public schools. *Sociology of Education*. Retrieved from http://soe.sagepub.com/content/85/3/287.short

Mao, M., Whitsett, M., & Mellor, L. (1997). Student mobility, academic performance, and school accountability. *ERS Spectrum, 16*, 3-15.

Massey, D., & Denton, N. (1988). The dimensions of residential segregation. *Social Forces, 67*, 281-315. doi:10.2307/2579183

Mehana, M., & Reynolds, A. J. (2004). School mobility and achievement: A meta-analysis. *Children and Youth Services Review, 26*, 93-119. doi:10.1016/j.childy-outh.2003.11.004

Meyer, S. G. (2001). *As long as they don't move next door: Segregation and racial conflict in American neighborhoods*. Lanham, MD: Rowman & Littlefield.

Milner, H. R., IV, & Lomotey, K. (2014). *Handbook of urban education*. New York, NY: Routledge.

Nelson, P., Simoni, J., & Adelman, H. (1996). Mobility and school functioning in the early grades. *The Journal of Educational Research, 89*, 365-369. doi:10.1080/0 0220671.1996.9941340

Orfield, G. (1983). *Public school desegregation in the United States, 1968-1980*. Retrieved from http://escholarship.org/uc/item/85w788b9.pdf

Orfield, G., & Lee, C. (2005). *Why segregation matters: Poverty and educational inequality*. Retrieved from http://escholarship.org/uc/item/4xr8z4wb.pdf

Orfield, G., & Lee, C. (2007). *Historic reversals, accelerating resegregation, and the need for new integration strategies*. Civil Rights Project/Proyecto Derechos Civiles. Retrieved from http://eric.ed.gov/?id=ED500611

Orfield, G., & Yun, J. (1999). *Resegregation in American schools*. Retrieved from http://escholarship.org/uc/item/6d01084d.pdf

Owens, A. (2010). Neighborhoods and schools as competing and reinforcing contexts for educational attainment. *Sociology of Education, 83*, 287-311.

Potter, H., Quick, K., & Davies, E. (2016, March). *A new wave of school integration: Districts and charters pursuing socioeconomic diversity*. The Century Foundation. Retrieved from http://apps.tcf.org/a-new-wave-of-school-integration

Pribesh, S., & Downey, D. B. (1999). Why are residential and school moves associated with poor school performance? *Demography, 36*, 521-534. doi:10.2307/2648088

Reardon, S., & Bischoff, K. (2011). Income inequality and income segregation. *The American Journal of Sociology, 116*, 1092-1153.

Reardon, S., Yun, J., & Kurlaender, M. (2006). Implications of income-based school assignment policies for racial school segregation. *Educational Evaluation and Policy Analysis*. Retrieved from http://epa.sagepub.com/content/28/1/49.short

Reynolds, A. J., Chen, C., & Herbers, J. (2009, June 29-30). *School mobility and educational success: A research synthesis and evidence on prevention*. Paper presented at the workshop on the impact of mobility and change on the lives of young children, schools, and neighborhoods, The National Academies Press, Washington, DC.

Rumberger, R. W. (2003). The causes and consequences of student mobility. *The Journal of Negro Education, 72*, 6-21. doi:10.2307/3211287

Rumberger, R. W. (2015, June). *Student mobility: Causes, consequences, and solutions*, Boulder, CO: National Education Policy Center. Retrieved from http://nepc.colorado.edu/publication/student-mobility.

Rumberger, R. W., & Larson, K. A. (1998). Student mobility and the increased risk of high school dropout. *American Journal of Education, 107*, 1-35. doi:10.1086/444201

Rumberger, R. W., Larson, K. A., Ream, R. K., & Palardy, G. J. (1999). *The educational consequences of mobility for California students and schools*. Berkeley: Policy Analysis for California Education.

Rumberger, R. W., & Palardy, G. (2005). Does segregation still matter? The impact of student composition on academic achievement in high school. *Teachers College Record*. Retrieved from http://www.tcrecord.org/Content.asp?ContentId=12152

Saporito, S. (2003). Private choices, public consequences: Magnet school choice and segregation by race and poverty. *Social Problems, 50*, 181-203.

Schwartz, A., Stiefel, L., & Chalico, L. (2009). *The multiple dimensions of student mobility and implications for academic performance: Evidence from New York City elementary and middle school students*. New York, NY: New York Education Finance Research Consortium.

Sohoni, D., & Saporito, S. (2009). Mapping school segregation: Using GIS to explore racial segregation between schools and their corresponding attendance areas. *American Journal of Education, 115*, 569-600.

Swanson, C. B., & Schneider, B. (1999). Students on the move: Residential and educational mobility in America's Schools. *Sociology of Education, 72*, 54-67. doi:10.2307/2673186

Temple, J. A., & Reynolds, A. J. (1999). School mobility and achievement: Longitudinal findings from an urban cohort. *Journal of Social Psychology, 37*, 355-377. doi:10.1016/S0022-4405(99)00026-6

U.S. Government Accountability Office. (2010). *Many challenges arise in educating students who change schools frequently*. Washington, DC: Author.

Vigdor, J., & Ludwig, J. (2008). Segregation and the test score gap. In K. Magnuson & J. Waldfogel (Eds.), *Steady gains and stalled progress: Inequality and the Black-White test score gap* (pp. 181-211). New York, NY: Russell Sage Foundation.

Wells, A., & Crain, R. (1994). Perpetuation theory and the long-term effects of school desegregation. *Review of Educational Research*. Retrieved from http://rer.sagepub.com/content/64/4/531.short

Welsh, R., Duque, M., & McEachin, A. (2016). School Choice, Student Mobility and School Quality: Evidence from post-Katrina New Orleans. *Education Finance and Policy, 11*, 150-176.

Welsh, R. O. (2017). School Hopscotch: A Comprehensive Review of K–12 Student Mobility in the United States. *Review of Educational Research, 87*, 475-511.

Xu, Z., Hannaway, J., & D'Souza, S. (2009). *Student transience in North Carolina: The effect of school mobility on student outcomes using longitudinal data*. Washington, DC: National Center for Analysis of Longitudinal Data in Education Research.

Author Biography

Richard O. Welsh is an assistant professor of Educational Administration and Policy at the University of Georgia. His research focuses on the economics of education, K-12 education policy (such as school choice policies), and key mechanisms (such as student mobility).

APPENDIX B – LEXIA READING CORE5 RESEARCH REPORT

Lexia Reading Core5 Research Report

2016/17 School Year Results for over 22,600 Students in Charter Schools USA

Prepared by the Research Team (research@lexialearning.com)

C H A R T E R S C H O O L S

Introduction

An analysis of more than 22,600 K–5 students within the Charter Schools USA (CSUSA) network found that incorporating recommended use levels of the Lexia Reading Core5® program into instruction resulted in substantial growth in reading skills during the 2016/17 school year, over and above that achieved with non-Core5 instruction. Among students who regularly reached their usage targets with Core5, the percentage working on skills in or above their grade level increased from 44 percent to 91 percent – an improvement of 47 percentage points. In fact, students' reading growth was so impressive that CSUSA increased the number of schools using Core5 from 5 to 48 within the school year.

Implementation Description

In most CSUSA schools, Core5 is used grade-wide for K–2 students, but the program is used only for intervention purposes for grades three through five. CSUSA assessed students' reading abilities in the fall, winter and spring using the computer-administered, adaptive screening tool, NWEA™ MAP®. Performance was captured with RIT (Rasch unIT) scores, which measure student achievement on an equal-interval scale across all grades, and researchers compared students' fall and spring levels in Core5 to their fall 2016 and spring 2017 MAP RIT scores. The remainder of this report focuses on the 8,700 students who used Core5 as recommended for the entire school year.

"We found a statistically significant correlation between MAP and Core5," said Lexia President Nick Gaehde. "In other words, students' levels in Core5 at the beginning and end of the year closely matched their MAP RIT scores in the corresponding time periods. Best of all, Core5 students who met their Core5 usage targets had higher gains in MAP across all grades."

Overall Comparisons for All Students

In addition to the increase in students working at or above grade level, the percentage of students working on skills two or more grade levels below their grade decreased from 19 percent to only 2 percent. Students who met their usage targets in Core5 increased their RIT scores by an average of 15.6 points. In comparison, students in the non-Core5 schools increased their RIT score by 12.3 points on average.

Results and Comparisons for Students in Grades K–2

Among K–2 students, the percentage working on skills at or above grade level in Core5 increased from 46 percent to 95 percent, leaving less than one percent working on skills two or more grade levels below (Figure 1). Early elementary students also significantly increased their RIT scores by 16.8 points, on average, compared to the students in the non-Core5 schools who increased their RIT score by an average of 15.5 points (Figure 2).

Figure 1. Progress in Core5 (Grades K-2; N=2,784)
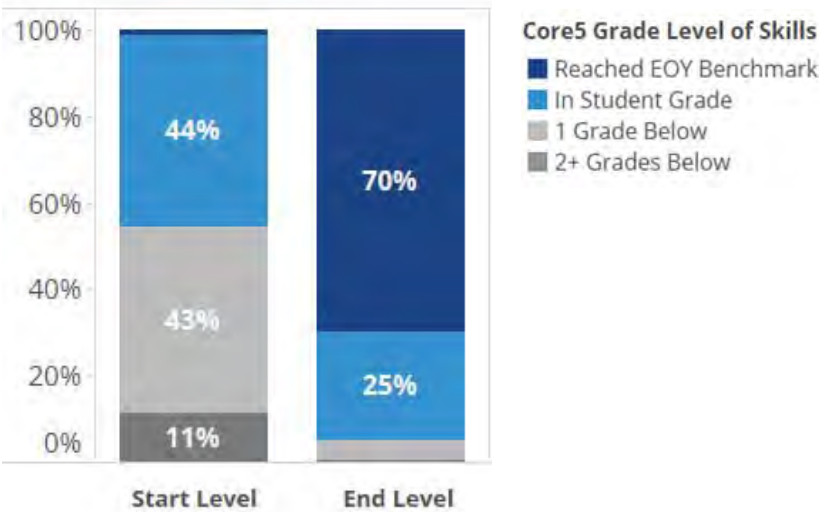
Figure 2. Gains on MAP (Grades K-2; N=8,500)

Average MAP RIT Score Growth
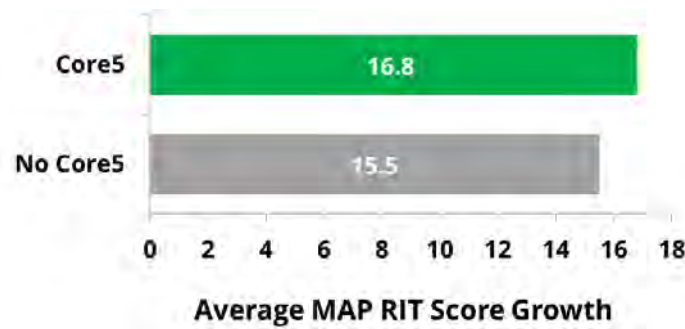
Results and Comparisons for Students in Grades 3–5

Among students in grades 3–5, the percentage working on skills in or above grade level increased from 38 percent to 75 percent (Figure 3). Half of students began the school year reading 2+ grades below grade level (dark grey), and most gained more two or more years of material in Core5 by the end of the year. More than half ended the year past their end-of-year, grade level benchmark. This acceleration of growth substantially contributed to Core5's overall impact. Core5 students in grades 3–5 significantly increased their RIT scores by 10.3 points, on average, compared to the students in the non-Core5 schools who increased their RIT score by an average of 8.8 points.

Figure 3. Progress in Core5 (Grades 3-5; N=1,365)

Core5 Grade Level of Skills
- Reached EOY Benchmark
- In Student Grade
- 1 Grade Below
- 2+ Grades Below
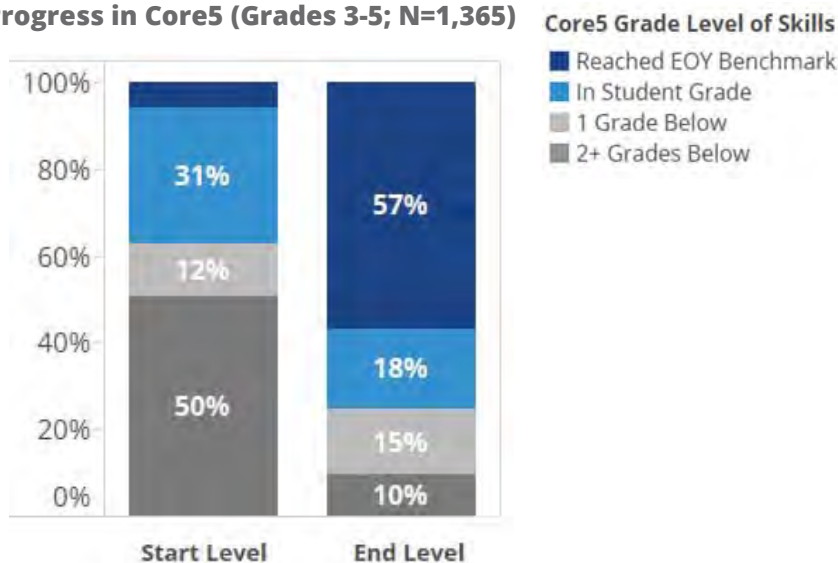
Figure 4. Gains on MAP (Grades 3-5; N=3,910)

Average MAP RIT Score Growth
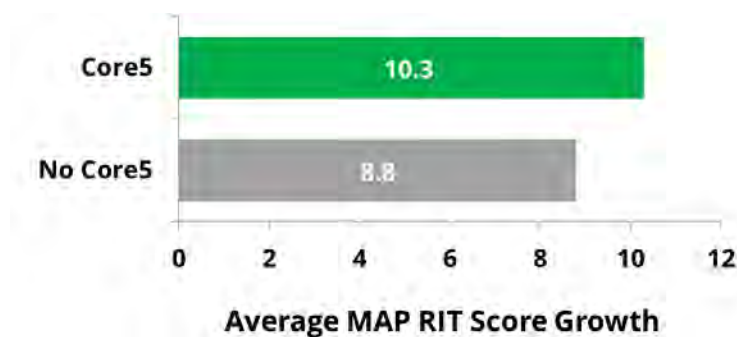
"We are very pleased with the gains we are seeing in our schools using Lexia Reading Core5," said Michael Braggiotti, data analyst, innovations, CSUSA. "The engagement features in the program keep students motivated to learn, and the robust reporting features allow teachers and administrators to monitor student progress closely. Engagement with the program, by both students and staff, has helped close the gap for many students. We look forward to using the findings from this research to motivate 100 percent of our students to meet their usage targets!"

"We believe that a strong implementation leads to strong results. This successful partnership between Lexia and CSUSA is based on the schools' commitment to working with our implementation team to ensure that their use of the program provided teachers with the greatest opportunity to accelerate student outcomes," said Gaehde.

About Lexia Reading Core5

Lexia Reading Core5 is a research-proven, technology-based program that accelerates the development of fundamental literacy skills for students of all abilities in grades pre-K–5. Following a rigorous scope and sequence built for college and career ready standards, Core5 provides explicit, systematic instruction through personalized learning paths in six areas of reading. Core5 seamlessly adapts with student performance, targeting skill gaps as they emerge and equipping teachers with the data and instructional resources they need to personalize instruction for every student. Embedded assessment technology predicts students' year-end performance and provides ongoing norm-referenced and actionable data to help teachers prioritize and plan instruction with the offline instructional materials.

About Charter Schools USA

Charter Schools USA, founded by Jonathan Hage in 1997, is the first education management company to earn corporation system-wide accreditation through AdvancED and is one of the nation's leading charter school management companies. CSUSA currently manages 84 schools in seven states serving more than 70,000 students in pre-kindergarten through 12th grade. CSUSA's innovative educational advantages include advanced technology, meaningful parental involvement, student uniforms, consistent and fairly-enforced discipline policies, highly qualified and motivated staff, community focus, integrated character education and high academic growth and performance.

About Lexia Learning

Lexia Learning, a division of Rosetta Stone, empowers educators through adaptive assessment and personalized instruction. For more than 30 years, the company has been on the leading edge of research and product development as it relates to student reading skills. With a robust offering that includes solutions for differentiated instruction, personalized learning, and assessment, Lexia Learning provides educators with the tools to intensify and accelerate literacy skills development for students of all abilities. For more information, visit www.lexialearning.com.

About Rosetta Stone

Rosetta Stone Inc. (NYSE: RST) is dedicated to changing people's lives through the power of language and literacy education. The company's innovative digital solutions drive positive learning outcomes for the inspired learner at home or in schools and workplaces around the world.

Founded in 1992, Rosetta Stone's language division uses cloud-based solutions to help all types of learners read, write, and speak more than 30 languages. Lexia Learning, Rosetta Stone's literacy education division, was founded more than 30 years ago and is a leader in the literacy education space. Today, Lexia helps students build fundamental reading skills through its rigorously researched, independently evaluated, and widely respected instruction and assessment programs.

For more information, visit www.rosettastone.com. "Rosetta Stone" is a registered trademark of Rosetta Stone Ltd. in the United States and other countries.

APPENDIX C – ENVISIONMATH STUDY

Evidence Explained

enVisionMATH meets ESSA's "Strong" evidence criteria

Strong Evidence Criteria	Alignment to Requirements	
Experimental study (e.g. a randomized control trial)	**Meets**	A randomized control trial design was used where individual students were randomly assigned to either the treatment or control condition.
Show a statistically significant and positive effect on student outcomes	**Meets**	Overall, students significantly outperformed the comparison group on the **Metropolitan Achievement Test, 8th edition (MAT8)**. ▲9 PERCENTILES • **Third grade students** grew by 9 more percentiles than the average comparison student Additionally, high math ability students and females significantly outperformed their comparison group peers on the MAT8.
Have a large sample and multi-site sample	**Meets**	*enVisionMATH* was studied across 6 school districts in 6 different states. The study sample was large with 708 students.

What does the What Works Clearinghouse say about *enVisionMATH*?

The final sample included:

2% 2% 1%

95%

- ■ African-American students
- ■ Asian students
- ■ Caucasian students
- ■ Hispanic students

Additionally:

18%
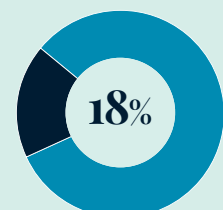
qualified for free/reduced lunch

pearsonschool.com/evidencebased

Pearson

APPENDIX D – MCGRAW HILL WONDERS RESEARCH BASE ALIGNMENT

Wonders

Research Base Alignment

A Summary of Key Research and Demonstration of Program Alignment

Mc Graw Hill Education

Introduction

If reading opens the door of opportunity, will all children be able to cross the threshold to reading success? At McGraw-Hill Education we have always answered *Yes* to this question. It is our tradition to help every child learn to read, and to help every instructor teach reading in the most effective manner possible – a practice that continues today with the *Reading Wonders Reading/Language Arts* program.

The *Reading Wonders* program will guide children across the literacy threshold to mastery of the Common Core State Standards to become successful in college and in the workforce – because *Reading Wonders* is anchored in salient and consequential research about what works. We know that learning to read and teaching reading is work that requires the most effective materials because reading is foundational for all other learnings. In fact, The National Institute for Literacy's Partnership for Reading (2000) states that "Success in school starts with reading." Increasingly, federal, state, and local requirements in every area focus on the need for research-verified instructional strategies, methods, and approaches, and research is now available that suggests how to give each child a good start toward achieving success in reading. McGraw-Hill has stepped up to the challenge by incorporating highly-regarded research related to effective reading instruction during the development of the *Reading Wonders* program.

The teaching of reading has steadily evolved over the years, and the most recent initiative designed to 'raise the bar' for literacy is found within the *Common Core State Standards* in *English Language Arts*. Developed by experts in collaboration with researchers, leaders from states' education departments, teachers and school administrators, the *Common Core State Standards* incorporate evidence-based practices and content extracted from the most academically rigorous models across the state to ensure that students possess the literacy skills necessary for success in college and in workforce training programs.

It is important to note that the *Common Core State Standards* (referred to as the *Standards* throughout the document) are meant to provide only a description of target outcomes. They represent what can and should be accomplished, but leave implementation to states and school districts. Elementary teachers have always worked hard to motivate their students to read and understand text, build knowledge, effectively communicate both verbally and in written form, and acquire advanced vocabulary; however, many teachers have limited resources to devote to helping students acquire these skills, or they struggle to find appropriate resources to meet the needs of students. With the advent of the *Standards* and the enhanced vision toward refining and strengthening literacy instruction, teachers and administrators are no doubt further challenged to meet these goals of excellence. McGraw-Hill's *Reading Wonders* comprehensive reading program was designed to not only satisfy the *Standards* but also to incorporate high-quality research about what works.

Common Core State Standards in English Language Arts: A Summary of Key Points

Reading: Students should demonstrate the ability to extract deep meaning and critically analyze information from texts of increasing complexity. Text should include a diverse genre of classic and contemporary literature, and incorporate content deemed critical for achieving high standards of literacy.

Writing: Students should demonstrate the ability to produce written arguments based on substantive claims, sound reasoning, and relevant evidence. The ability to conduct research, synthesize information, and report findings through a written analysis is critical.

Speaking and Listening: Students should demonstrate the ability to evaluate and present ideas and evidence through listening and speaking as well as through media. Additionally, students should develop skill in engaging in formal and informal academic discussion.

Language: Students should increase academic vocabulary. Students should use formal English while writing, but must also be able to make informed choices among the various ways to express themselves through language.

Media and Technology: Skills related to media use and production of media are interwoven throughout the *Standards* (http://www.corestandards.org/about-the-standards/key-points-in-english-language-arts)

It is vital that existing curricula incorporate the rigorous content and knowledge encapsulated within the *Standards.* This paper provides a user-friendly summary of   key research findings across components of reading, and adds a sample demonstration of alignment to the *Standards* by providing research and specific examples from *Reading Wonders*. The majority of presented research was obtained from the following sources:

- *Developing Early Literacy: Report of the National Early Literacy Panel* (NELP). This study synthesizes research on the development of early literacy skills for children from birth to age five. It was conducted by the National Center for Family Literacy under the auspices of the Partnership for Reading (a collaborative effort of the National Institute for Literacy, the National Institute for Child Health and Human Development, the U.S. Department of Education, and the U.S. Department of Health and Human Services). The purpose of NELP was to provide information to help teachers and parents support young children's early literacy development and to contribute to educational policy decisions (National Early Literacy Panel, 2008). The report examines the early correlates of later reading achievement, and meta-analyzes the data on instructional studies focused on young children.

- *Report of the National Reading Panel: Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction -- Reports of the Subgroups* (National Institute of Child Health and Human Development [NICHHD], 2000). The National Reading Panel was appointed by the Secretary of Education and the Director of the National Institute of Child Health and Human Development at the request of the U.S. Congress to determine what research had to say about the teaching of reading. The NRP report presents an extensive, detailed research review related to phonemic awareness, phonics, vocabulary, reading comprehension, and oral reading fluency.

- *Preventing Reading Difficulties in Young Children*, a review of research on early childhood reading commissioned by the National Research Council (Snow, Burns, & Griffin, 1998). This source represents a broad-ranging research summary and review, but without inclusion of specific details of the research. It is aimed at identifying those school factors that would allow for the successful prevention and remediation of reading problems.

- *Reading for Understanding: Toward an R&D Program in Reading Comprehension* (2002). This review of the research on reading comprehension instruction was conducted by the Reading Study Group for the U.S. Department of Education's Office of Education Research and Improvement.
- *Writing to Read: Evidence for How Writing Can Improve Reading. A Report from the Carnegie Corporation of New York* (Graham & Herbert, 2010). This document provides a meta-analysis of research on the effects of specific types of writing interventions found to enhance students' reading skills.
- *Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High Schools.* A Report from the Carnegie Corporation of New York (Graham & Perin, 2007). This report provides a review of research-based techniques designed to enhance the writing skills of 4th to 12th grade students.
- Improving Reading Comprehension in Kindergarten Through 3rd Grade: A Practice Guide. (Shanahan, Callison, Carriere, Duke, Pearson, Schatschneider, & Torgesen, 2010). This publication contains recommended instructional practices in reading, based upon a review of research evidence by the What Works Clearinghouse of the U.S. Department of Education's Institute of Education Sciences.

Elements of Literacy Instruction

Literacy programs must be based on scientific evidence related to elements that have been identified as essential in literacy instruction:

1. Phonological awareness
2. Phonics
3. Fluency
4. Vocabulary and Language
5. Text Comprehension
6. Writing

Comprehension of Literature and Informational Text

"Good instruction is the most powerful means of developing proficient comprehenders and preventing reading comprehension problems"

-Rand Reading Study Group, 2002, p 29.

_____

What is text comprehension?

The National Assessment of Educational Progress (2010) defines reading as, "an active and complex process that involves: understanding written text; developing and interpreting meaning; and using meaning as appropriate to type of text, purpose, and situation" (p iv). The Common Core State Standards (National Governors Association Center for Best Practice, Council of Chief State School Officers, 2010, p. 7), which has been adopted by more than 40 states, and is used as a resource in several others, goes even further, indicating that readers need to "work diligently to understand precisely what an author…is saying, but they also question the author's…assumptions and premises and assess the veracity of claims and the soundness of reasoning…. Students cite specific evidence when offering an oral or written interpretation of a text.

Comprehension is often identified as the fundamental goal of reading: children and adults read to understand. If children can "read" words but cannot understand them, they are merely decoding. Real reading requires understanding. Over the past 30 years, reading researchers have recognized that comprehension is the result of active involvement on the part of the reader. Reading comprehension requires mental processes or actions including the ability to locate and recall information, integrate and interpret text, and critique and evaluate (National Center for Education Statistics, 2011, p 5).

"Strong reading comprehension skills are central not only to academic and professional success, but also to a productive social and civic life." (Shanahan, Callison, Carriere, Duke, Pearson, Schatschneider & Torgesen, 2010, p. 5) The ability to comprehend text is central to learning concepts within content areas, such as science, social studies, and mathematics, and also later in life as students enter the workforce.

Text Comprehension and Text Complexity

A notable shift in the *Standards* is the expectation that students become independent and proficient readers of increasingly complex text. Traditionally, educators have attempted to limit text complexity to ensure that students could understand what they were reading. However, having students read relatively easy texts is not sufficient for enabling them to independently and successfully negotiate the demanding texts they will encounter in college, training programs, and in the workforce. To illustrate the importance of text complexity, the *Standards* summarize the 2006 ACT Inc. research report, *Reading Between the Lines*, which revealed that:

> *What chiefly distinguished the performance of those students who had earned the benchmark score of better from those who had not was not their relative ability in making inferences while reading or answering questions related to particular cognitive processes, such as determining main ideas or determining the meaning of words and phrases in context. Instead, the clearest differentiator was the students' ability to answer questions associated with complex texts (NGAC, the Standards, Appendix A, p. 3).*

The findings from this study demonstrate that comprehension skills and strategies, in isolation, are not sufficient for fostering students' comprehension skills. Students must be learn to apply these skills and strategies to complex text, and the Common Core Standards specify particular levels of difficulty that students must be able to negotiate successfully at each grade level; text levels that are somewhat higher than those usually associated with these grades in the past. The Common Core establish text complexity bands

within which students of each grade level (2-12) must be able to read if they are eventually to reach the college and career readiness goals.

The Common Core determines the degree of complexity of texts by considering text readability as estimated by various research-based formulas (e.g., ATOS, Degrees of Reading Power, Flesch-Kincaid, Lexiles, Reading Maturity, SourceRater). These formulas estimate or predict the likelihood that a text will be comprehended, and place texts on a continuum of difficulty. However, the Common Core standards also recognizes the limitations of these quantitative measures and suggests that readability estimates should also consider qualitative aspects of text challenge (e.g., levels of meaning, structure, language, and knowledge demands), as well as reader variables (e.g., motivation, knowledge and experiences, purpose), all factors that play a role in text comprehension (Rand Reading Study Group, 2002). Thus, it is crucial to teach students to make sense of texts at the levels of difficulty specified in the standards.

There is no question that text difficulty, as measured by these various readability measures, either limits reading comprehension or requires readers to work harder to comprehend what they read. The more challenging a text, the less likely readers will understand it. So, if the point is to ensure that as many people as possible understand a particular message, then making sure that the text is easy makes a lot of sense. But what if the idea is to maximize student learning—either of the specific text or of reading in general? Then, the answer is a bit more complicated.

Various studies have reported that challenging text actually can, under certain circumstances, lead to both better comprehension and longer lasting memory for the text information (Einstein, McDaniel, Owen, & Coté, 1990; Kintsch, 1987; Mannes & Kintsch, 1987; McDaniel, Einstein, Dunay, & Cobb, 1986; McNamara, Kintsch, Songer, & Kintsch, 1996; O'Brien & Myers, 1985). The explanation for this learning phenomenon is that with more challenging texts the reader has to engage in deeper processing of the information, including more inferencing, in order to understand it, and that this leads to deeper learning. When text is easy to understand, the reader may comprehend it, but not at as deep a level as they would if they had to think more about it. However, amount of reader knowledge about the topic or the availability of external support and guidance appear to be integral to whether this deeper processing takes place; in other words, just assigning the reading of challenging text will not necessarily improve comprehension or learning.

Contrary to this, reading educators since the 1940s have championed the idea that students needed to be taught from text that was matched to their instructional level. The claim has been that students would make the greatest learning gains – in learning to read, not necessarily with regard to learning the information from the text – if taught from books that they could read with 75-89% comprehension (Betts, 1946), claims that were attributed to research, but that, in fact, have been shown to have no basis in research (Shanahan, 1983). About two-thirds of fourth and fifth grade teachers in the U.S. indicate that they teach students at their reading levels, rather than at their grade levels, and this is true of more than one-third of middle school teachers (Shanahan, 2013). This lowering of reading demands suggests to some that some students will make less learning progress (Adams, 2010-2011; Chall, Conrad, & Harris, 1991; Hayes, Wolfer, & Wolfe, 1996).

Research evidence has been accumulating that suggests the idea of placing students in instructional level texts is too simplistic to enhance reading achievement, and that, at least under some circumstances, more challenging texts coupled with supportive teaching, can improve reading achievement. Some early studies didn't challenge the "instructional level" idea as much as they argued for setting instructional levels higher than in the past; these studies were finding greater amounts of reading progress when students were placed in relatively harder texts (e.g., Powell, 1968). In the only well-designed experimental studies of the impact of student-text match on learning to read, it was found that there was no benefit to placing students in easier texts (O'Connor, Swanson, & Geraghty, 2010) or that students who were placed in markedly harder texts were the ones who made the greatest reading gains (Kuhn, Schwanenflugel, Morris, Morrow, et al., 2006; Morgan, Wilcox, & Eldredge, 2000)

Even if matching students to texts at their instructional level had some benefit, it is not the only way that instructional level performance can be accomplished. A considerable body of research shows that with appropriate scaffolding and support, students can read more challenging texts *as if* they were at the instructional level (Bonfiglio, Daly, Persampieri, & Andersen, 2006; Burns, 2007; Burns, Dean, & Foley, 2004; Carney, Anderson, Blackburn, & Blessings, 1984; Daly & Martens, 1994; Eckert, Ardoin, Daisey, & Scarola, 2000; Faulkner & Levy, 1999; Gickling & Armstrong, 1978; Hall, Sabey, & McClellan, 2005; Levy, Nicholls, & Kohen, 1993; McComas, Wacker, & Cooper, 1996; Neill, 1979; O'Shea, Sindelar, & O'Shea, 1985; Pany & McCoy, 1988; Rasinski, 1990; Reitsma, 1988; Rose & Beattie, 1986; Sanford & Horner, 2013; Sindelar, Monda, & O'Shea, 1990; Smith, 1979; Stoddard, Valcante, Sindelar, O'Shea, et al., 1993; Taylor, Wade, & Yekovich, 1985; Turpie & Paratore, 1995; VanWagenen, Williams, & McLaughlin, 1994; Weinstein & Cooke, 1992; Wixson, 1986).

Another aspect of the role of text complexity has to do with the role of text in influencing student language development. The language that one is exposed to is an important factor in children's comprehension development. Children who listen to and read books with quality language are better able to interpret such language when they read on their own (Bus et al. 1995; Hoffman et al. 2004; Koskinen et al. 2000; Leinhardt et al. 1981; NELP 2008). More complex text is usually more sophisticated text and improved language usually means improved reading comprehension (Dickinson, Griffith, Golinkoff, & Hirsh-Pasek, 2012; NELP, 2008).

Reading Comprehension and "Close Reading"

The Common Core State Standards emphasize more than a list of skills or abilities that students must master at each grade level. It also promotes the idea of close reading. Close reading is an old idea drawn from literary criticism, but which has wide utility (Adler & Van Doren, 1940; Brooks & Warren, 1938; Richards, 1925; 1942). According to close reading proponents, meaning resides in a text, and to gain access to this meaning, readers must read the text closely and repeatedly, weighing the author's words and ideas, and relying heavily on evidence drawn from the text (rather than from the reader's background knowledge or from external sources, such as the teacher). It is not a teaching technique per se, though its proponents believe that students should be engaged in this practice by their teachers regularly in order to establish it as a habit of mind.

Close reading refers specifically to an active process that involves the careful and thorough analysis and evaluation of the key ideas and details of a text, along with a consideration of the text's craft and structure (Piercy, 2011), and, perhaps, its connection with other texts (Adler & Van Doren, 1940). Close reading requires a deep, thorough, and critical analysis of the ideas in a text and the ways that the text conveys those ideas. As such, readers –to engage in close reading successfully--must be able to paraphrase and summarize text information, to identify main points and key supporting details, and to evaluate both the meaning and tone of an author's choices with regard to vocabulary, text structure, use of literary devices, and graphic elements, considering a text's clarity, precision, accuracy, relevance, significance, and logic (Elder & Paul, 2004, p 37). Analytical reading, deep reading, and critical reading are all at least partial synonyms for the ideas inherent in close reading.

What impact does close reading have on the development of reading comprehension? Given that it isn't really a teaching procedure as much as an approach to reading, that is it is more goal than method, its impact on learning has not been studied directly. However, many instructional practices consistent with close reading have been studied and with positive results. For example, instructional procedures that encourage students to pay especially close attention to what a text says have positive impacts on reading comprehension—both of the specific text of in terms of promoting higher reading comprehension achievement: careful summarization of text improves reading comprehension especially during the elementary grades (Graham & Hebert, 2010; NICHD, 2000), and this is true as well for graphic and structural summaries with both stories and informational texts (NICHD, 2000; Williams et al., 2005; Williams, et al., 2007), and even for reenactments of the text by younger students (Marley et al., 2007). Similarly, focusing reader attention on specific kinds of

text information, such as causal relationships or character motivation, improves comprehension, too (Casteel, 1993; Goldman & Varnhagen, 1986; Shannon et al, 1988; Trabasso & Nickels, 1992; van den Broek, 1990). Research has shown that rereading text has a powerful impact on comprehension and learning for both higher and lower skilled readers, though its long term learning benefits in reading are still unexplored (Amlund et al., 1986; Barnett & Seefeldt, 1989; Bromage & Mayer, 1986; Glover & Corkill, 1987; Krug, Davis, & Glover, 1990; Mayer, 1983; Meyer & McConkie, 1973; Rawson, Dunlosky, & Thiede, 2000; Rothkopf, 1968).

Even just focusing all student attention on a text's meaning – as opposed to dividing this emphasis between the text and the skills or strategies – has been found to lead to stronger reading comprehension for elementary students (McKeown et al. 2009). Furthermore, opportunities to engage in intellectually rigorous analysis, synthesis, and evaluation of texts also appear to be related to reading progress (Rowan & Correnti, 2009). Students demonstrate stronger reading comprehension in classrooms in which teachers more frequently use higher-order questions (Andre 1979; Taboada & Guthrie 2006; Taylor et al. 2000), which is certainly consonant with close reading approaches, though studies have not made explicit whether these more rigorous questions were text-based or not.

Text Comprehension and Quality of Text

The *Standards* emphasize not only the use of complex text, but also the quality of text. That is, texts must have recognized value, be worth reading, and include the variations of form documented to enhance comprehension (e.g. lexical quality). Texts that have recognized value include "classic or historically significant texts as well as contemporary works of comparable literary merit, cultural significance, and rich content" (NGAC, The *Standards*, Appendix B, 2010, p. 2). Lexical quality refers to the "extent to which the reader's knowledge of a given word represents the word's form and meaning constituents and knowledge of word use that combines meaning with pragmatic features" (Perfetti, 2007, p. 359). High quality lexical representations are precise, redundant, and flexible (Perfetti, 2007, p. 360). Research has shown that high lexical quality positively affects reading skill, including comprehension (Andrews & Bond, 2009; Dickinson, et al., 2012; Hoffman, et al., 2004; Perfetti, 2007).

Text Comprehension of Literary and Informational Text

One of the implications of the Common Core Standards is that students are required to read and comprehend a variety of text types. According to the common core, elementary curricula should reflect an equal emphasis on literary and informational text, and incorporate reading in English Language Arts, science, social studies, and the arts. "Literary texts include narratives which portray a story, or sequence of related fictional or nonfictional events involving individuals or fictional characters, and poetry. Informational texts analyze or describe factual information about the natural or social world" (Shanahan, et al., 2010, p. 31).

While similar processes are employed while reading texts of *any* type, literary and informational texts include different features, and structures that students must become knowledgeable about. For instance, the abstraction found in poetry requires the reader to comprehend metaphors, personification, and imagery, critical thinking skills that are often not required for comprehending other types of text (NAEP Reading Framework, 2011, p. 9). A novel includes structural elements such as characters, setting, plot, theme, conflict, and resolution. The text structure of informational or expository text can vary, according to the text's purpose. For example, expository text may present cause and effect relationships, while a descriptive text may provide attributes or information that describes the topic (NAEP Reading Framework, 2011, p. 9). Even text formatting features (e.g., bullets, italics, bold print, footnoting) can differentiate literary and informational texts, and there are marked differences in the nature of vocabulary, too (Hiebert & Cervetti, 2011).

Much concern has been raised about past imbalances in the amount of informational text reading in which elementary students are engaged in the U.S. (Duke, 2000; Venezky, 1982). A multivariate analysis of data from the Progress in International Reading Literacy Study (PIRLS), examined the factors associated with the relative performance on U.S. children on informational and literary texts. U.S. students read literary texts

better than they read informational texts, and this disparity was related to the amount of reading of informational texts evident in the classrooms (Park, 2008).

A related concern has to do with what children know about their world. Reading comprehension requires the integration and use of the reader's prior knowledge (that is, what the reader knows before he or she reads something) to interpret text. Readers with extensive knowledge about the world and knowledge of the words representing that world understand more of what they read than readers with limited knowledge and vocabularies (Nagy & Hiebert, 2011). Teaching can facilitate comprehension by ensuring that students develop background knowledge for reading a wide variety of content and texts and learning important content and concepts (Beck & McKeown, 1991; 2007). The explicit teaching of vocabulary has been found to improve reading comprehension (Blachowicz and Fisher 2007; Carlisle and Rice 2002; NICHD 2000), as has instruction that increases the amount of exposure children have to the meanings of words (Pressley 2000). Students need have sufficient and substantial reading experiences both with literary and informational texts, if they are to develop the range of necessary literacy skills and abilities, and the academic knowledge that will allow them to successfully implement these literacy skills in the content subjects.

Comprehension and Comprehension Strategies

The common core standards do not specify that students must develop particular reading comprehension strategies. The reason for this omission is that such strategies are not outcomes of the same caliber as being able to read text with critical understanding, which is the focus of the common core. Someone might use strategies to accomplish such reading, but the use of such strategies is not the point.

Why include strategies in comprehension instruction? In examining research on reading comprehension instruction, the National Reading Panel (NRP) identified seven strategies as having "a firm scientific basis for concluding that they improve comprehension in normal readers" (NICHHD, 2000, p. 4-42)– demonstrating that comprehension can be improved through explicit, formal instruction in such strategies. More recently, the U.S. Department of Education's What Works Clearinghouse verified that several of these strategies were effective, even in the primary grades (Shanahan, et al., 2010), confirming the results of an earlier review commissioned by the National Research Council (NRC) concluded that "Explicit instruction in comprehension strategies has been shown to lead to improvement" (Snow, Burns, & Griffin, 1998, p. 322).

Teaching students to summarize or retell, ask questions, visualize, monitor their comprehension, and draw inferences have all been found to give students a leg up on reading comprehension. Strategy teaching aims at teaching students to take intentional mental actions during reading to improve comprehension and recall. According to the NRP, research "favors the conclusion that teaching of a variety of reading comprehension strategies leads to increased learning of the strategies, to specific transfer
of learning, to increased memory and understanding of new passages, and, in some cases, to general improvements in comprehension" (NICHHD, 2000, p. 4-52). Such teaching needs emphasize student thinking processes without distracting too much from an emphasis on the texts being read (Pressley, El-Dinary, Gaskins, Schuder, Bergman, Almasi, & Brown, 1992). Thus, sometimes students should be engaged in close reads, without overt instruction in strategies, and other times the focus might be more on strategies, but even then it is essential that students engage the meaning of the texts being read.

Who benefits from text comprehension instruction?

Grade Levels. The NRP's review of research verified the effectiveness of some methods of text comprehension instruction as early as the second- or third-grade level and ranging up to ninth grade (Snow, Burns, & Griffin, 1998, p. 323). More recently the What Works Clearinghouse released a review (Shanahan, et.al., 2010) indicating that reading comprehension could be improved through explicit teaching in grades K-3, consistent with earlier research reviews. A study conducted by Lever and Senechal (2011) found that dialogic reading, or a discussion of text through elaborative questioning, was found to have positive impacts on the structure and content of Kindergarten children's narratives, and the National Literacy Panel found that dialogic reading improved the oral language skills and cognitive functioning of preschoolers and

Kindergarten children (NELP, 2008). The *Standards* emphasize text comprehension at all grade levels, both through listening and reading.

ESLStudents. August and Shanahan (2006) state that "instruction in the key components of reading is necessary—but not sufficient—for teaching language-minority students to read and write proficiently in English" (p. 4) and that, "literacy programs that provide support in oral language development in English, aligned with high-quality literacy instruction are the most successful" (p. 4).

Low-Achieving Students. A review of research on the effects of reading interventions for struggling readers (Gersten, Compton, Connor, Dimino, Santoro, Linan-Thompson, & Tilly, 2008) reveals that when provided with explicit instruction, students demonstrated positive effects in five of seven studies that measured reading comprehension. Repeated readings have demonstrated positive effects for students with learning disabilities (Nelson, Alber, & Gordy, 2004).

Common Core State Standards in English Language Arts: Standard for Reading Literature and Informational Text: Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Examples by Grade

Kindergarten: **Informational Text**
- With prompting and support, ask and answer questions about key details in a text.
- Identify the front cover, back cover, and title page of a book.
- With prompting and support, identify the reasons an author gives to support points in a text.

Grade 3: Literature
- Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.
- Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.
- Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).

Research Recommendations on Comprehension

Range and scope of instruction

Early Grades. According to the NRC report recommendations for reading instruction in kindergarten through third grade, "Throughout the early grades, reading curricula should include explicit instruction on strategies such as summarizing the main idea, predicting events and outcomes of upcoming text, drawing inferences, and monitoring for coherence and misunderstandings. This instruction can take place while adults read to students or when students read [to] themselves" (Snow, Burns, & Griffin, 1998, p. 323). More recently, What Works Clearinghouse released a review (Shanahan et.al, 2010) citing "strong research evidence" demonstrating that reading comprehension is improved through explicit teaching in grades K-3.

Instructional methods and features

Methods that were identified by the NRP as having "a firm scientific basis for concluding that they improve comprehension in normal readers" (NICHHD, 2000, p. 4-42) and that were used by third grade in the research studies included the following:

- Question answering (17 studies, mostly grades 3–5), in which teachers ask questions about the text
- Question generation (27 studies, grades 3–9), in which students "generate questions during reading" (NICHHD, 2000, p. 4-45)

- Story structure (17 studies, grades 3–6), in which students are instructed in the "content and organization of stories," including use of graphic organizers in conjunction with story content and structure (NICHHD, 2000, p. 4-45)
- Comprehension monitoring (22 studies, grades 2–6), in which students learn how to monitor their own understanding of texts using procedures such as think-aloud
- Cooperative learning (10 studies, grades 3–6), in which "peers instruct or interact over the use of reading strategies" (NICHHD, 2000, p. 4-45)

As stated, a notable shift in the *Standards* is the focus on reading informational text and building content knowledge. Informational text is "expository writing, pieces that argue in favor of one position or another, and procedural texts and documents" (Shanahan, et.al, 2010 p 17). Text-focus teaching has found to be successful in enhancing student learning (McKeown, Beck, & Blake, 2009). Methods identified by Shanahan, et.al, (2010) as having 'strong evidence' include:

- Activating prior knowledge, or predicting (5 studies)
- Questioning (4 studies) when taught in conjunction with other strategies
- Visualization (2 studies)
- Monitoring and clarifying (3 studies)
- Inference training (1 study)
- Retelling (4 studies).

Methods identified by Shanahan, et.al, (2010) as having 'moderate evidence' include:

- Identifying text structure (5 studies, 3 using narrative text, 2 using informational text), in which students were taught to understand text structure through story-mapping, paying attention to story structure during retelling, using cause-effect statements and related clue words, for example.
- Cooperative learning (10 studies)

Many studies have found that repeated readings indirectly impact reading comprehension by facilitating fluency (National Reading Panel, 2000). For example, students' oral reading fluency rates at the beginning of second- and third-grade has been found as the predominant predictor to later reading comprehension achievement (Kim, Petscher, Schatschneider, & Foorman, 2010).

Multiple strategies

In looking at 36 studies featuring instruction that combined a variety of different comprehension methods, the NRP concluded that "Considerable success has been found in improving comprehension by instructing students on the use of more than one strategy during the course of reading" (NICHHD, 2000, p. 4-47). One particular advantage of this approach is its ability to guide students through the kind of "coordinated and flexible use of several different kinds of strategies" that is required for skilled reading (NICHHD, 2000, p. 4-47).

Regular assessment

According to the NRC report, "Conceptual knowledge and comprehension strategies should be regularly assessed in the classroom, permitting timely and effective instructional response where difficulty or delay is apparent" (Snow, Burns, & Griffin, 1998, p. 323).

The Reading Framework for the 2011 National Assessment of Educational Progress specifies that assessment questions measure three cognitive targets for both literary and informational texts:

- Locate and Recall. Students may identify explicitly stated main ideas or may focus on specific elements of a story

- Integrate and Interpret. Students may make comparisons, explain character motivation, or examine relations of ideas across the text.
- Critique and Evaluate. Students view the text critically by examining it from numerous perspectives or may evaluate overall text quality or the effectiveness of particular aspects of the text (National Assessment Governing Board, U.S. Department of Education, 2011, p 40)

The *Standards* emphasize that a significant portion of tasks and questions are text-dependent; that is, the majority of tasks and questions are based solely on the text. "Rigorous text-dependent questions require students to demonstrate that they not only can follow the details of what is explicitly stated but also are able to make valid claims that square with all evidence in the text" (Coleman & Pimentel, 2012, p. 6).

Text Comprehension Research Recommendations	Demonstration of Alignment in Reading Wonders
Students engage in repeated readings to build fluency and comprehension.	Throughout the grades, students engage in repeated readings of different types of texts. In kindergarten and grade 1, teachers read aloud and reread literature and informational Big Books and Interactive Read Aloud selections. Teachers model how to go back into the text to find text evidence to answer text-dependent questions. Students also read and reread the Shared Read selections in the Reading/Writing Workshop. They apply foundational skills and begin to build the foundation for close reading of text. Students reread the Shared Read texts to build their fluency skills as well. Grade 1 Teacher's Edition, Unit 2 pages T10-T11, T31; T16-T17, T26-T27 At grades 2 through 6, students reread the Shared Read selections in the Reading/Writing Workshop as part of the close reading routine. The weekly minilessons in the Reading/Writing Workshop provide focused rereadings of the text to help students dig deep for meaning. The Shared Read selections are reread for modeling and practice of fluency. Grade 4 Teacher's Edition, Unit 1 pages T16-T17, T18-T19, T20-T21, T22-T23, T24-T25, T27 Students reread their Literature Anthology selections and the Leveled Readers to answer text-dependent questions. Grade 4 Teacher's Edition, Unit 1 pages T25A-T25R; T40-T41,T48-T49, T52-T53, T56-T57

Students and teachers discuss the meaning of text by utilizing discussion.	*Reading Wonders* provides many opportunities for rich, grade-appropriate, and meaningful discussion of complex texts every week. Teachers lead students in a close reading routine of the Shared Read in the Reading/Writing Workshop, and the selections in the Literature Anthology. They read short, complex texts and stories multiples times and are prompted to ask and answer questions; visualize; reread; make, confirm, and revise predictions; summarize; or make inferences. The teacher models (Talk About It and Teacher Think Aloud), and then guides students as they reread and answer text-dependent questions. Grade 1 Teacher's Edition, Unit 3 pages T16-T17 The meaning of text is further discussed using graphic organizers. Kindergarten through grade 6 graphic organizers are used for note taking and provide another opportunity for students to reread, search for, and organize text evidence in both literature and informational texts. Kindergarten Teacher's Edition, Unit 7 page T196 Grade 3 Teacher's Edition, Unit 1 pages T89, T93C, T93E, T93G, T93I, T93K, T93M, T93P, T93R, T93T, T240 Students in all grades also discuss, summarize and synthesize ideas during whole and small group lessons. Teachers can focus students' attention on text evidence and/or provide scaffolding instruction using Access Complex Text activities, Collaborative Conversations, Make Connections boxes, and Respond to Reading questions during Whole Group lessons. They can also use Leveled Readers, Focus on Genre boxes, Gifted and Talented activities, and Literature Circles in Small Group lessons. Grade 3 Teachers Edition, Unit 1 pages T16, T85 T16, T19, T25S, T109, T121-T123, T338-T339 After reading, Wrap Up the Week activities offer ways for students to collaborate and discuss text. These include Research and Inquiry, Text Connections, and Write About Reading activities. Grade 3 Teacher's Edition, Unit 1 pages T162-T163 Students in all grades have the opportunity every

	week to discuss genre, use comprehension strategies, and summarize by listening to the teacher read stories aloud using Interactive Read Aloud cards.

Grade 3 Teacher's Edition, Unit 1 pages T210-T211 |
| *Students identify and use texts' organizational structure to facilitate close reading.* | All students read multiple stories each week in both the Reading Writing Workshop and Literature Anthology. Kindergarten students participate in Literature Big Book lessons, as well. Through meaningful instruction using complex texts, students identify and use a variety of genres and text structures to find meaning in the informational texts and stories they read. In kindergarten, this instruction is introduced on Days 1 and 2 during the Listening Comprehension lesson using the Big Book, and is taught on Day 3 using the Interactive Read Aloud; and on Day 4 using a second Big Book. Grade 1 students also use the Literature Big Book.

Kindergarten Teacher's Edition, Unit 7 pages T22-T26, T30-T31, T44-T45

Students in grades two through six identify and use their texts' organizational structure throughout each week during Interactive Read Aloud lessons, Comprehension Skill and Strategy, and Genre lessons. On Days 2, 3, and 4, students focus on organization in many of the Access Complex Text activities during the close reading of the main selection in the Literature Anthology.

Grade 3 Teacher's Edition, Unit 4 pages T18-T21, T22-T23, T25A-T25R

All grades also use Leveled Readers, Your Turn Practice Book comprehension and genre pages, Workstation Cards, student resources on www.connected.mcgraw-hill.com, and the Tier 2 Comprehension Intervention book to help them identify and use organizational structure of the texts they are reading.

Grade 3 Teacher's Edition, Unit 4 pages T10, T12, T14, T18, T20, T22, T,24, T26, T30, T34, T38, T52, T203, T250-T251 |

Students identify and utilize text-based evidence to support interpretations and analysis of text.	Identifying and evaluating text based-evidence is emphasized as students respond to and generate text-dependent questions. Each of the minilessons in the Reading/Writing Workshop models for students how to find and use text evidence to answer questions and support statements or conclusions made about the text. After modeling, students have the opportunity to engage in guided practice with the teacher to find and interpret text-based evidence. The Your Turn Practice book provides additional texts for students to practice identifying and using text-based evidence to support their responses. Grade 3 Teacher's Edition, Unit 2 pages T16-T17, T18-T19, T20-T21, T22-T23, T24-T25 The Respond to Reading Text Evidence questions in the Literature Anthology and the Leveled readers provide additional opportunities for students to apply finding text-based evidence to support their interpretations and analysis of text. Grade 3 Teacher's Edition, Unit 2 pages T27T , T42-T43, T50-T51, T54-T55, T60-T61 At the end of each week, students are asked to use the evidence they have cited to write an analysis or opinion of the various texts they have read. Grade 4 Teacher's Edition Unit 1 pages T93, T157
Students generate questions during reading to gather evidence and build knowledge.	During the Shared Read in the Reading/Writing Workshop on Day 1, students in grades 2 through 6 discuss the story as they read and reread, and are reminded by the teacher to use comprehension strategies to gather evidence and build knowledge. The Make Connections box at the end of the Shared Read and the Comprehension passage in the Your Turn Practice Book are other places where students can generate questions and practice using the strategies they are learning. Grade 3 Teacher's Edition, Unit 1 page T217 Grade 3 Your Turn Practice Book pages 33-34 On Days 2, 3, and 4, students in grades 2 through 6 generate questions during their close reading of the selections in the Literature Anthology. They also gather evidence and build knowledge during the Stop and Checks, Access Complex Text activities, and Make Connection discussions. Using the Extended Complex Text routines found

	in the Teacher's Edition, students are asked to generate questions and take notes on parts of the text they find difficult to understand.

Grade 3 Teacher's Edition, Unit 4 pages T25A-T25V, T273, T356-T361

Kindergarten students and first graders read, reread, and discuss Literature Big Books, as well as Shared Reads.

Kindergarten Teacher's Edition, Unit 7, pages T12-T13, T22-T26
Grade 1 Teacher's Edition, Unit 3 pages T10-T11
Kindergarten Teacher's Edition Unit 7 pages T30-T31, T48-T49
Grade 1 Teacher's Edition, Unit 3, pages T16-T17

Students in all grades use Leveled Readers, digital activities such as Interactive Texts, Activities, and eBooks, Workstation Cards, and interactive group projects to gather evidence and build their knowledge.

Grade 3 Teacher's Edition, Unit 1 pages T137, T162-T163, T148, T240-T263 |
| *Students engage in a variety of writing tasks (narrative, informational, or arguments) and discourse to demonstrate comprehension of complex text.* | Students in all grades write every day.

On Days 1 and 2, students in grades 2 through 6 read, reread, and then work collaboratively with a partner to write about the Shared Read as part of the Comprehension Skill lesson in the Reading Writing Workshop. On Days 2, 3, and 4, they respond to the close reading of the main selection in the Literature Anthology by writing a summary of the text.

Grade 3 Teacher's Edition, Unit 4, pages T16-T17, T20-T21, T25T

Every week, during the Wrap Up the Week activities, students work together to research and write a report. They also analyze to share an opinion, inform, or explain what they have read during the week. With this activity, students use a model in their Your Turn Practice Books.

Grade 3 Teacher's Edition, Unit 4, pages T162-T163
Grade 3 Your Turn Practice Book, page 29 |

	On Day 4, students in Kindergarten and first grade work together on a Research and Inquiry project that relates to the week's readings. There are also writing opportunities – Extend and Independent Study - during Beyond small group lessons. Kindergarten Teacher's Edition, Unit 1 pages T52-T53 Grade 1 Teacher's Edition, Unit 3 pages T44-T45 Grade 3 Teacher's Edition, Unit 1 pages T253-T255
Students use procedures such as think aloud to monitor their own understanding of text.	Beginning in kindergarten, students are taught to monitor their own understanding of text. The teacher uses think alouds to model how to use comprehension strategies throughout the Shared Read in the Reading Writing Workshop on Day 1. Here students in grades 2 through 6 are taught to monitor comprehension of complex text. The Your Turn Practice Book is another place where students can practice using the strategies they are learning to monitor their understanding of text. Grade 4, Teacher's Edition, Unit 3 pages T16-T17 Grade 4 Your Turn Practice Book pages 3-4 Grade 3 Teacher's Edition, Unit 1, pages T225L, T225N On Days 2, 3, and 4, students in grades 2 through 6 use think alouds during their close reading of the selections in the Literature Anthology Grade 4, Teacher's Edition, Unit 3, pages T25A-T25P Kindergarten students and first graders use think alouds during reads of the Literature Big Books, as well as Shared Reads. Kindergarten Teacher's Edition, Unit 1, pages T22-T26 Grade 1 Teacher's Edition, Unit 3, pages T10-T11
Teachers expose younger students to complex information text by using read-aloud.	Every week, students in Kindergarten are exposed to complex information text in a few ways. Literature Big Books are used on Days 1 and 2, and then again on Day 4, to teach concepts of print, genre, the comprehension skill and strategy, and text features. Kindergarten Teacher's Edition, Unit 1 pages T22-T26

	On Day 3, students hear and discuss an Interactive Read Aloud. Kindergarten Teacher's Edition, Unit 1, page T35
	First graders listen to a Literature Big Book on Days 1 and 3. The teacher uses this read aloud to teach concepts of print, genre, and the comprehension skill and strategy. Then they have a listening comprehension lesson on Day 2, when they discuss the Interactive Read Aloud with the teacher.
	Grade 1 Teacher's Edition, Unit 3 pages. T10-T11, T31
Students engage in collaborative reading activities to build knowledge and motivation.	At the beginning of every week, students in all grades build background by talking about the Essential Question and Weekly Opener. There are Build Background videos and/or additional photographs each week to
	Essential Question and Weekly Opener: Grade 3 Unit 1 Week 3: p. T142-143
	Every day, students in Kindergarten to grade 6 engage in Collaborative Conversations where they engage in partner, small-group, and whole-class discussions to encourage them to build knowledge and motivation. Other collaborative reading activities include responding to the Interactive Read Alouds, making connections during the Close Read of the Shared Read, during guided practice activities during the close read of the SR where students are encouraged to discuss how they used the comprehension strategy during the read. They also do this for the skill, genre lesson.
	Grade 3 Teacher's Edition, Unit 1 pages T109, T117; T121; T127T142, T144-145, T148-151, T156-157, T159N, T159P
Teachers use a multiple-step instructional model	In all grades, the multiple-step instructional model is used during both Whole Group and Small Group instruction. In whole group lessons, the teacher uses an Explain, Model, and Guided Practice or Model, Guided Practice/Practice model to teach skills and strategies.
	Grade 3 Teacher's Edition, Unit 1 pages T104, T154

| | A similar routine is used during Small Groups. For Approaching, On Level, and English Language Learners, the teacher uses an "I Do," "We Do," "You Do" model. For Beyond Level students, the teacher uses a "Model" and "Apply" model.

Grade 3 Teacher's Edition, Unit 1 pages T242, T251, T254

When students in grades 1 to 6 are doing a close reading, the teacher uses a multiple-step instructional model for teaching Think Alouds. First, the teacher models the Think Aloud. The second time it appears in the lesson, the teacher models and the student does a Think Aloud. The third time it appears, the student does the Think Aloud on his or her own.

Grade 3 Teacher's Edition, Unit 1 pages T159D, T159G, T159I |
|---|---|
| *Readings contain a variety of text-structures and represent various genres according to guidelines provided in the Standards.* | A wide range of genres and text structures are included at all grade levels. See Contents pages of the Reading/Writing Workshop books grades K-6 and the Literature Anthology books, grades K-6. Also see all Kindergarten and Grade 1 Big Book titles, Interactive Read Aloud selections, grades K-6, Time for Kids Online articles, grades k-6, as well as the classroom library titles, 1-6. |
| *Readings adhere to the progression of text complexity as defined in the Standards.* | In *Wonders*, students become independent and proficient readers of increasingly complex text by reading literature and informational texts that are at appropriate Lexile score and become increasingly more difficult as the school year progresses. Close reads are short, complex, and worth reading. Lexile scores for Reading/Writing Workshop selections and literature Selections are noted in the Teacher's Edition. Lexiles for Leveled Readers are noted on the back of the Leveled Readers covers.

Grade 4 Teacher's Edition, Unit 1 T130-T131 |
| *Conceptual knowledge and comprehension strategies are regularly assessed in the classroom.* | Each week students investigate a different topic or concept, through discussions, reading, and writing activities. Through the lesson plan, teachers model applying important comprehension strategies as appropriate to the text to find text evidence to answer text dependent question or statements about the text. The weekly, unit and benchmark assessments, ask students to apply those strategies to reread text passages to answer multiple choice |

	and short answer questions. Frequent informal observations during guided and independent practice of students applying the conceptual knowledge and the comprehension strategies throughout the week help teachers monitor students' need for additional support. Grade 4 Teacher's Edition, Unit 1 T202-T203, T204-T205, T210-T211, T216-T217, T217A-T217R, T256-T257, T340-T341
The majority of tasks and questions are text-dependent.	The majority of questions and tasks that students are asked to respond to about texts are text dependent. At Kindergarten and Grade 1 teachers model asking text dependent questions as they read aloud the Big Books and Interactive Read Aloud Cards. At grades 1-6, the minilessons in the Reading/Writing Workshop provide explicit instruction (modeling and guided practice) in responding to text-dependent questions and tasks. Prompts provided for the Literature Anthology selections, as well as the Leveled Readers, are text-dependent. The Text Evidence questions and Make Connections prompt at the end of both the Literature Anthology selections and the Leveled Readers provide additional text dependent questions and tasks. Kindergarten Teacher's Edition, Unit 7, pages T22-T27
Assessments measure cognitive targets (e.g., locate and recall, integrate and interpret, critique and evaluate) for literary and informational texts.	Weekly and Unit Assessments include literature and informational texts. Questions provided include a mix of cognitive level tasks in both multiple choice and short and extended response formats. The answer keys for each assessment item identify the alignment to a specific common core state standard for the grade and also rates the difficulty level of the item. See the Unit and Weekly Assessments and Answer Keys, Grades K-6

Foundational Skill: Phonological Awareness

*"Phonological awareness is important because it strongly supports learning
how the words in our language are represented in print."*
– What Every Teacher Should Know About Phonological Awareness
(Torgesen & Mathes, 1998, p. 3)

_____

What is phonological awareness?

Phonological awareness includes the ability to work with larger units in spoken language such as syllables and rhymes, which often include more than one phoneme. Children typically find it easier to work with these larger units (e.g., rhyming words) before proceeding to develop skills with individual phonemes (NICHHD, 2000, p. 2-10). Phonemic awareness is often described as part of the broader category, phonological awareness.

 "Phonemic awareness is the ability to hear, identify, and manipulate the individual sounds – phonemes – in spoken words" (Armbruster, Lehr, & Osborn, 2003, p. 10). It is the foundation for reading. It is the ability to detect individual speech sounds within words. This ability is a requirement for developing accurate decoding skills and strategies (McShane, 2006, p. 13).

Why is phonological awareness important?

Strong phonological awareness is considered an early indicator of eventual success in beginning reading. Phonological awareness instruction helps children learn to read words, spell words, and comprehend text. Phonological awareness—in conjunction with phonics and fluency—is noted in the *Standards* as a "necessary and important component of an effective comprehension reading program". Solid phonological awareness is a foundational skill that facilitates independent mastery of complex text, one of the primary shifts presented in the Standards for grades K-2 (Coleman & Pimentel[1], 2011, p.1).

The National Reading Panel reached three conclusions about phonological awareness instruction in its Teaching Children to read document:

  – Phonological awareness instruction has a positive overall effect on reading and spelling.
  – Phonological awareness instruction leads to lasting reading improvement.
  – Phonological awareness instruction can be effectively carried out by teachers.

Source: Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups (National Institute of Child Health and Human Development [NICHHD], 2000).

Additionally, the National Early Literacy Panel (2008) reports that phonological awareness was one of six precursor literacy skills (e.g., alphabet knowledge, rapid automatic naming, phonological memory, writing name, rapid automatic naming of objects or colors) that had medium to large predictive relationships with later measures of literacy development (National Institute for Literacy, 2008, p vii.)..

Who benefits from phonological awareness instruction?

• **Readers do.** Phonological awareness instruction has been shown to have a positive impact on reading skills across many student categories and grade levels. The National Reading Panel cited that phonological awareness instruction benefits: normally developing readers, children at risk for future reading problems and (later research) specifically for kindergartners at risk for developing dyslexia (Elbro & Petersen, 2004), disabled readers, preschoolers, kindergartners through sixth graders, children

across various SES levels, and children learning to read in English as well as in other languages. In a review of 97 studies on the achievement outcomes of various approaches for teaching struggling readers, "almost all successful programs have a strong emphasis on phonics" (Slavin, Lake, Davis, & Madden, 2011, p 19).

- **Spellers do**. Phonological Awareness instruction has been shown to have a positive impact on spelling skills across many student categories and grade levels. The Reading panel cited kindergartners, first graders, children at risk for future reading problems, normally developing readers, children across various SES levels, and children learning to spell in English as well as in other languages.

Components of phonological awareness

- Phoneme isolation– Recognizing individual sounds in words. E.g.: What sound do you hear at the beginning of pin? (/p/)

- Phoneme identification– Recognizing the common sound in different words. E.g.: What sound do you hear that is the same in sat, sun, and soup? (/s/)

- Phoneme categorization– Recognizing the odd sound in a set of words. E.g.: Listen to these words–hand, heart, sun. Which word begins with a different sound? (sun)

- Phoneme blending– Listening to a sequence of separately spoken sounds and then blending them naturally into a recognizable word. E.g.: What word is /b/ - /a/ - /t/? (bat)

- Phoneme segmentation– Breaking a word into its sounds by tapping out or counting the sounds. E.g.: How many sounds do you hear in cat? (three)

- Phoneme deletion– Recognizing the word that remains when a specific phoneme is removed. E.g.: What word do we have when we say smile without the /s/? (mile)

Common Core State Standards in English Language Arts: Standard for Phonological Awareness: Demonstrate understanding of spoken words, syllables, and sounds (phonemes).

Examples by Grade:

Kindergarten:
- Recognize and produce rhyming words
- Count, pronounce, blend, and segment syllables in spoken words

Grade 1:
- Distinguish long from short vowel sounds in spoken single-syllable words
- Isolate and pronounce initial, medial vowel, and final sounds in spoken single-syllable words

Research Recommendations

Range and scope of instruction

Grade Levels

Research summarized by the NRP suggests that Phonological Awareness (PA) instruction should be provided:

– At the kindergarten level
– At the first-grade level
– At elementary levels above first grade and as supplemental instruction for students with special needs.

The *Standards* explicitly include phonological awareness for Kindergarten and first-grade.

Instructional methods and features:
Spoken and written versus spoken only. Instruction that used letters to teach phoneme manipulation had a considerably greater impact on both reading and spelling than instruction that did not use letters but was limited to spoken sounds only.

Assessment for kindergarteners based on phoneme recognition. Findings suggest that a group-administered assessment based on phoneme recognition can serve as a useful screening tool for identifying the general level of students' PA skills in kindergarten, which in turn is a useful indicator of students who might need targeted PA skills intervention.

Guidance by initial and ongoing assessment in the first and second grades. Based on the research findings, the NRP recommended a design in which assessment results drive PA instruction at the first- and second-grade levels, both initially and through ongoing formative assessments.

– Assessments conducted before PA instruction begins should "indicate which children need the instruction and which do not, which children need to be taught rudimentary levels of PA (e.g., segmenting initial sounds in words), and which children need more advanced levels involving segmenting or blending with letters" (NICHHD, 2000, p. 2-6).

– In order to determine the length of PA instruction, "What is probably most important is to tailor training time to student learning by assessing who has and who has not acquired the skills being taught as training proceeds" (NICHHD, 2000, p. 2-42). The NRC research review argued that "intensity of instruction should be matched to children's needs" (Snow, Burns, & Griffin, 1998, p. 321).

Kindergarten
Kindergarten instruction is designed to provide practice with the sound structure of words and the recognition and production of letters. Phonological awareness tasks begin with skills such as "concept of a word," "rhyme," and "count syllables." The tasks then progress to "oral blending" (with continuous first sounds) and "oral segmentation" (with continuous first sounds–2 letter words, then 3-letter words). Finally, tasks progress to "oral manipulation" and more complex blending and segmentation with words beginning with stop sounds and longer words (4 or more phonemes).

Phonological Awareness Research Recommendations	Demonstration of Alignment in Reading Wonders
Sample of a Typical Kindergarten Lesson	An example of a typical week of phonological awareness lessons and the phonics lessons that directly follow them is Unit 3, Week 2, of Kindergarten. On Day 1, page T96, the teacher models the new sound /n/ using the Photo Card of a *nest*. Students then practice listening to the sound in the words of a song and in the names of objects pictured on Photo Cards. Then, on page T97, the teacher models the /n/*n* sound-letter relationship by displaying the *Nest* Sound-Spelling Card which shows the letter *Nn*. The children practice recognizing the letter *Nn* by identifying the letter in the words of the song. Students immediately produce the letter in the explicit

	handwriting lesson that follows on page T98. On Day 2, on page T110, children orally produce the sounds and blend them to say words with initial /n/*n,* and later on blend the letter-sounds to read words with /n/*n.* Explicit instruction and practice is provided throughout the week in blending the sound orally and then reading and writing words with the sound-letter.
Assessment for kindergarteners is based on phoneme recognition.	Phonological awareness and phonics skills are assessed together in Kindergarten. A new phoneme is introduced at the beginning of each week and instruction in sound-letter relationship immediately follows. At the end of the week, teachers assess these skills by using their Quick Check observations all week and the weekly Pencil and Paper Assessments for both phonological awareness and phonics in the *Your Turn Practice Book.* As an example, see page T165A of the Kindergarten Unit 3 Teacher's Edition. In this typical unit, Practice Book pages 85-86 and 88 are suggested as Pencil and Paper Assessment for /n/*n.*
First Grade *First-grade instruction is designed to provide explicit instruction and practice with sound structures that lead to phonological awareness.* Phonological awareness instruction and practice are incorporated into daily lessons.	Unit 2, Week 2—Identify and Generate Rhyme On Day 1 on page T90, the teacher models how to identify and generate rhyming words containing /u/. After modeling, the teacher guides students in whole group and small group practice (on pages T90 and T132) in identifying and producing rhyming words. Explicit instruction, practice, and review are provided in daily lessons throughout the week (on pages T100, T110, T118, and T126) in isolating and identifying the sound /u/, and orally blending sounds to form words with /u/. Manipulatives such as Response Boards and Photo Cards support the instruction each week.
Elementary Levels Beyond First Grade *At elementary levels above first grade, phonological awareness is provided as supplemental instruction for students with special needs, who may lack these skills.*	Grade 2, Unit 3, Week 2: Phonological awareness instruction for the long *i* sound is provided each day in whole group lessons, as well as in small group lessons that are appropriate for English Language Learners or students with special needs. On Day 1, on page T104, the teacher models listening for the long *i* sound in words and students then practice isolating the sound. On Day 2, on page T120, the teacher models substituting the long *a* sound for the long *i* sound in a word and students then practice the skill. On Days 3-5, on pages T132, T143, and T152, the teacher models, and students practice, blending and categorizing words with the long *i* sound. These four phonological awareness skills

	taught this week are then addressed in their own small group lesson for ELL students and students with special needs. The Tier 2 Intervention Guides provide additional support for students with special needs who may lack phonological awareness. As an example, the Tier 2 TE Phonemic Awareness Lessons 45-48 and the accompanying Practice Reproducibles pages 79, 81, 83, and 85 target medial long vowel sounds.
Phonological awareness instruction is a part of both reading and spelling.	Each week, the spelling words in Grades 1 and 2 *Reading Wonders* reflect the skills emphasized in the phonological awareness lessons. For example, in Grade 2, Unit 2, Week 1 the short *o* and long *o* sounds are the focus of the phonological awareness and phonics lessons each day, as on pages T12 and T13, Phonics Practice Activity on page T13, and the activities in the daily explicit lessons on Days 2, 4 and 5 using Word-Building Cards, on pages T29, T51, and T60, allow students to apply their knowledge of the short and long o letter-sound connection. Students read the Decodable Reader selection, At Home in Nome, in Small Group on page T69, and practice fluency when they reread the selection. On Day 1 of the daily spelling lessons, on page T14, fifteen spelling words are introduced and pre-tested. Ten of the words have the short o or long o sound. The other five words contain the previous week's phonetic element or they are previously taught high-frequency words. On Days 2-5, on pages T30, T41, T52, and T61, students sort the spelling words using the Spelling Words Cards and also build fluency in reading the words. Daily, independent practice with the spelling words are also provided in the Phonics/Spelling Reproducibles every week.
Assessment results drive phonemic awareness instruction at the first- and second-grade levels, both initially and throughout ongoing formative assessments. The assessments in Reading Wonders are designed to inform phonemic awareness instruction in Kindergarten, first- and second-grade levels. Therefore, assessment is ongoing, varied, and rigorous. Teachers use results to modify instruction.	**Informal Assessment** Throughout the TE lessons in Grades K-2, students are observed informally. Because lessons are highly interactive, and the student response rates are high, teachers have ample opportunity to check each student's daily phonemic awareness progress. Daily "Quick Check" Observations in the Teacher's Guide remind teachers what to observe. If students encounter difficulties, immediate lesson modifications are provided via the "Corrective Feedback" suggestions. **Formal Assessment** In Grades K and 1, Weekly Assessments and Unit Tests are used as ongoing formative assessments

	to monitor students' phonemic awareness acquisition. Additionally, the Daily Quick Check Observations are compiled and compared with the Quick Check Rubric to assess student skills, diagnose, and prescribe additional lessons or intervention instruction if necessary. If additional phonemic awareness instruction and/or guided practice are required, explicit lessons are provided in Small Group Instruction. In Grades K and 1, there are Weekly Pencil and Paper Assessments for phonological awareness in the *Your Turn Practice Book.*
Throughout the lessons, students are observed informally. Because lessons are highly interactive, and the student response rates are high, teachers have ample opportunity to check each student's daily phonemic progress.	A typical example in Grades K-2 is Grade 1, Unit 3, Week 1. The daily phonological awareness lessons focus on the long a sound and the phonics lessons specifically target the a-*e* spelling for the sound. On Day 1, on page T12, the teacher models how to identify the same long vowel sound in three words. In Guided Practice/Practice the teacher does the first example with students, identifying the middle sound in a set of words. Students then practice with eight other set of words which allow the teacher to observe progress. The lessons on Days 2-5, on pages T22, T32, T40, and T48, follow a similar pattern, as the teacher models how to identify, blend, add, and substitute phonemes, and students then practice with several examples. Plentiful opportunities for assessing daily progress inform appropriate small group instruction.
Sample of a Typical Kindergarten Lesson	An example of a typical week of phonological awareness lessons and the phonics lessons that directly follow them is Unit 3, Week 2, of Kindergarten. On Day 1, page T96, the teacher models the new sound /n/ using the Photo Card of a *nest.* Students then practice listening to the sound in the words of a song and in the names of objects pictured on Photo Cards. Then, on page T97, the teacher models the /n/*n* sound-letter relationship by displaying the *Nest* Sound-Spelling Card which shows the letter *Nn.* The children practice recognizing the letter *Nn* by identifying the letter in the words of the song. Students immediately produce the letter in the explicit handwriting lesson that follows on page T98. On Day 2, on page T110, children orally produce the sounds and blend them to say words with initial /n/*n,* and later on blend the letter-sounds to read words with /n/*n.* Explicit instruction and practice is provided throughout the week in blending the sound orally and then reading and writing words with the sound-letter.

Foundational Skill: Phonics and Word Recognition

*"Systematic and explicit phonics instruction significantly
improves children's reading comprehension."*

– Put Reading First (Armbruster, Lehr, & Osborn, 2003, p. 14)

_____

What is phonics?

Phonics instruction teaches children the relationship between letters (graphemes) and the sounds in
spoken language (phonemes) and how to apply that knowledge in reading and spelling words.
Phonics instruction builds on phonemic awareness. Although it includes some types of phonemic
awareness activities, in which students "use grapheme-phoneme correspondences to decode or spell words,"
it extends beyond such tasks to "include other activities such as reading decodable text or writing stories"
(NICHHD, 2000, p. 2-11).

What is systematic and explicit phonics instruction?

Research recommendations favor phonics instruction that is "systematic and explicit." An explicit approach
includes specific directions to teachers for teaching letter-sound correspondences. A systematic approach is
one that incorporates a planned, sequential set of phonetic elements to master. These elements are explicitly
and systematically introduced in meaningful reading and writing tasks.

Systematic and explicit phonics instruction includes teaching a full spectrum of key letter-sound
correspondences: not just major correspondences between consonant letters and sounds, but also short
and long vowel letters and sounds, and vowel and consonant digraphs such as oi, ea, ou, sh, and th.

Several different methods have been developed to teach phonics systematically and explicitly, including
synthetic phonics, analytic phonics, embedded phonics, analogy phonics, onset-rime phonics, and phonics
through spelling. Broadly speaking, these approaches are all effective (NICHHD, 2000, p. 2-89).

Why is phonics instruction important?

Phonics instruction leads to an understanding of the alphabetic principle–the set of systematic and
predictable relationships between written letters and spoken sounds. For children to learn how to sound out
word segments and blend these parts to form recognizable words, they must know how letters correspond
to sounds. Three top-level examples:

– Phonics instruction has a positive overall effect on reading. A meta-analysis by the National
  Reading Panel (NRP) found that systematic and explicit phonics instruction had a significantly
  stronger effect on children's reading than every category of nonsystematic or non-phonics
  instruction that was studied.

– Phonics instruction has positive overall effects on specific skill areas. The NRP meta-analysis
  found that across grades K-6, phonics instruction was "most effective in improving children's ability to
  decode regularly spelled words . . . and pseudowords," but also helped students to read miscellaneous
  words (some of which were irregularly spelled) and read text orally (NICHHD, 2000, pp. 2-94, 2-159).

– Phonics instruction has a lasting impact on reading. Follow-up tests in the NRP meta-analysis
  found that the effects of phonics instruction were reduced, but still significant, several months after
  the instruction ended, "indicating that the impact of phonics instruction lasted well beyond the end
  of training" (NICHHD, 2000, pp. 2-113, 2-159, 2-161).

Who benefits from phonics instruction?

All Students. Phonics instruction has been shown to have a statistically significant positive impact across many student categories (NICHHD, 2000, p. 2-160). For example, Kindergarteners at risk of developing future reading problems; first-graders at risk; first-grade normally achieving readers and disabled readers; and children across various SES (socioeconomic status) levels.

Grade Levels. The NRP meta-analysis Students found that Kindergarten and first-grade students experienced significantly better improvement from phonics instruction than from other types of instruction in all six areas measured (decoding regular words, decoding pseudowords, reading miscellaneous words, spelling, reading text orally, and comprehending text) with a moderate to large effect size for all areas except reading text orally (NICHHD, 2000, p 2-159). Students in grades 2-6 also experienced significantly better improvement from phonics instruction in four out of six areas (decoding regular words, decoding pseudowords, reading miscellaneous words, and reading text orally), with effect sizes for the various areas ranging from small to moderate (NICHHD, 2000, p. 2- 159).

Low-Achieving Students. A best-evidence synthesis of 97 studies investigating the effects of reading interventions for struggling readers revealed that "almost all successful programs have a strong emphasis on phonics" (Slavin, Lake, Davis, and Madden, 2011, p 19). For example, one-to-one tutoring models that focus on phonics obtain much better outcomes than programs that do not emphasize phonics (Slavin et.al., 2011).

ESL Students. One of the major findings of the National Literacy Panel's report, Developing Literacy in Second-Language Learners: Report of the National Literacy Panel on Language-Minority Children and Youth, indicates, "Instruction that provides substantial coverage in the key components of reading—identified by the National Reading Panel (NICHD, 2000) as phonemic awareness, phonics, fluency, vocabulary, and text comprehension—has clear benefits for language-minority students (National Literacy Panel, 2006, p 3). For instance, research has demonstrated that phonics instruction enhances the reading and writing skills of children for whom English is a second language, and the positive effects remain a year later (Stuart, 1999; Stuart, 2004).

Common Core State Standards in English Language Arts
Standard for Phonics and Word Recognition: Know and apply grade-level phonics and word analysis skills in decoding words

Examples by Grade:

Kindergarten:
- Demonstrate basic knowledge of letter-sound correspondences by producing the primary or most frequent sound for each consonant
- Associate the long and short sounds with the common spellings (graphemes) for the five major vowels

Grade 3:
- Identify and know the meaning of the most common prefixes and derivational suffixes
- Read grade-appropriate irregularly-spelled words

Research Recommendations on Phonics

Range and scope of instruction

Grade Level. The NRP finding that phonics instruction benefited students in Kindergarten, first-grade, and grades 2-6 (the majority of which were disabled readers) suggests a value to including phonics instruction at the Kindergarten and first-grade levels and beyond, but in particularly for disabled readers. *The Standards* includes phonic standards for Grades K-5.

Level at which phonics instruction begins. The NRP meta-analysis found that phonics instruction in kindergarten and first grade was "much more effective" than phonics instruction that began in second grade or later, after students have learned to read independently.

Letter knowledge as precursor. Two developmental studies, drawing on and extending a body of existing research, suggest that knowledge of letter names and/or letter sounds is an important precursor to the earliest stages of reading knowledge. Muter et al. (2004) found that students'
ability to identify letter sounds and/or names on entering schooling (average age 4 years,
9 months) was one of two significant predictors, together with phoneme sensitivity, of word recognition ability a year later (pp. 671–672).

Instruction over multiple years. Results of a few multi-year studies examined by the NRP "suggest that when phonics instruction is taught to children at the outset of learning to read and continued for 2 to 3 years, the children experience significantly greater growth in reading at the end of training than children who receive phonics instruction for only one year after first grade" (NICHHD, 2000, p. 2-118).

Instructional Methods and Features

Spelling Instruction. An analysis of research commissioned by the NRC claimed that spelling instruction, |in particular at the second-grade level, is important in building "phonemic awareness and knowledge of basic letter-sound correspondences" (Snow, Burns, & Griffin, 1998, p.212).

Phonics instruction as means to an end. Based on their interpretation of the research
results, the NRP argued that phonics instruction (i.e., "the teaching of letter-sound relations") should not be pursued as an end in itself, but should be directed toward the goal of helping students in their "daily reading and writing activities" (NICHHD, 2000, p. 2-96). Students should understand that this is the goal of learning letter-sounds, and should have practice in putting their skills to use.

Variable, guided by assessment. Based on their interpretation of the research results, the NRP argued that, ideally, phonics instruction should be variable based on the needs of individual students as determined through assessment (NICHHD, 2000, pp. 2-96, 2-97). Similarly, the NRC research review argued that "intensity of instruction should be matched to children's needs"
in applying explicit instruction on the connection between phonemes and spellings
(Snow, Burns, & Griffin, 1998, p. 321).

Phonics Research Recommendations	Demonstration of Alignment in Reading Wonders
Phonics instruction begins before reading is introduced.	In Kindergarten, explicit phonics instruction begins in the three-week Start Smart readiness lessons on page S8, when the teacher models recognizing the letter *Aa* on the Teaching Poster and Word-Building Cards, and the students practice letter recognition with the Big Book. Then beginning in Unit 1, Week 1, letter-sound relationships are taught, starting with /m/*m* on page T15. In Week 2, on page T110, the first vowel is introduced, /a/*a,* and the magic of reading begins when students decode the word *am* on page T111. Students learn additional letter sounds as phonics

	instruction continues each day throughout the year. The Reading/Writing Workshop phonics pages and pre-decodable stories, as well as the Practice Book pages, provide reinforcement and practice in letter-sounds and by Unit 4, on pages T30-T31, students read a decodable story chorally with the teacher, and then in small groups.
Letter names and sounds are taught to students early in Kindergarten.	Letter names are taught, beginning with the letter *Aa,* on the first day of Kindergarten in the Start Smart phonics lesson on page S8. In the Smart Start lessons which extend for the first three weeks of school, all of the letter names are taught and reinforced as students match letter cards to letters on the Teaching Poster and in the Big Book, for example on page S13. Students are exposed to a mnemonic that represent the initial sound for each letter, as well as words in a Big Book that begin with the letter-sound. Formal instruction in letter-sound relationships begins in Unit 1, with the sound-letter /m/*m* on page T15 and is reinforced and practiced in whole group, as well as retaught, practiced, and extended in small group on pages T64-T65, T71-T72, and T76. The *Animals in the Park* Big Book, Sound-Spelling Cards, Alphabet Teaching Poster, Response Boards, Letter Cards, and Letter Songs are resources used to reinforce letter-sound knowledge throughout Kindergarten.
Phonics instruction begins in Kindergarten and continues regularly for 3 years.	Explicit instruction in phonics begins with the letter identification lessons in Start Smart. In Unit 1 Week 1 instruction in letter-sound relationships begins with the continuous consonant *m,* in the daily whole-group and small group lessons. On Day 1 of a later and more typical week in Kindergarten, Unit 1, Week 3, (when enough letter-sounds have been taught to blend words) the teacher models, and students practice, connecting the new continuous sound /s/ with the letter *s* on page T179*,* using the Sound-Spelling Card. Students also write the letter *s*. On Day 2, on page T193, after teacher modeling, students blend with /s/s in the initial position in words, and on Day 3, on pages T201-T202, they review the letter-sound and sort pictures according to the beginning sound and letter. On Day 4, on pages T211 and T212, they practice blending, write s for words that begin with /s/s and write words the teacher dictates. On Day 5, on pages T220-T221, they review. All consonants and short and long vowel sounds are taught and practiced in Kindergarten, in both whole group and small group lessons.

	Explicit phonics instruction follows a similar pattern in Grades 1 and 2.
	As an example in Grade 1, the Unit 2 Week 4 phonics lessons target consonant digraphs -*th, -sh,* and -*ng.* On Day 1, on page T246, the teacher models, and students practice, connecting the sounds with the letters, and students blend the sounds to read words in the Phonics Practice Activity. On Day 2, on pages T256 and T257, the teacher first reviews the sound-letter relationships and models blending and then students practice blending and building words. On Day 3, on pages 266 and 267, the teacher models blending and the students practice blending in the Phonics Practice Activity. On Days 4 and 5, on pages T274 and T282, the teacher builds words for students to blend, and students also practice fluency.
	An example in grade 2 is Unit 3 Week 4 The long *e* lessons beginning on Day 1 on page T288 follow the same pattern as Grade 1, with teacher modeling and student practice in blending words with long *e*.
	A weekly lesson in phonics/fluency is provided in Grades 3-6 which ends with an activity to help students transition from reading one-syllable to multisyllabic words. An example of the weekly phonics/fluency lesson is Grade 4 Unit 2 Week 3, pages T154-T155.
Phonics instruction teaches students to convert letters into sounds and then to blend the sounds to form recognizable words.	The Phonics instruction follows a logical scope and sequence, beginning with the explicit teaching of letter names in the daily Start Smart readiness lessons in Kindergarten. Letter-sound relationships are introduced in Unit 1, Week 1, and are applied to simple VC and CVC words. As the sequence progresses though Kindergarten and into Grades 1 and 2, students encounter more sophisticated sound-spelling patterns and more complex words, including multi-syllabic words.. The weekly lessons in grades 3-6 help students read multi-syllabic words.
	Example Lessons
	Kindergarten, Unit 2, Week 2: In the Day 1 Phonics lesson on page T97 of this typical week, the teacher introduces the /t/*t* sound-letter relationship, using the Turtle Sound-Spelling Card. Students repeat the letter name and the sound it stands for, practice identifying the letter-

sound at the beginning of words in the weekly phonics song, and write the letter. On Day 2, on pages T110-T111, the teacher reviews the sound-letter correspondence and students write the letter *t* on their Response Boards if a word the teacher says begins with /t/. The teacher models placing the letters *t, a, p* in the pocket chart and blending the sounds to read the word, and students then practice blending the word. Students apply their knowledge of /t/*t* when they read the story, on pages T112-T113, *We Like Tam!* in the Reading/Writing Workshop. On Day 3, on pages T119-T120, the teacher reviews /t/*t* and explains that the sound can also be at the end of a word. Students write the letter *t* if a word the teacher says ends with /t/ and practice blending more words with /t/*t* with the teacher. On Day 4, on pages T128 and T129, students practice blending more words, with the teacher and independently, and also write some words the teacher dictates. Then they apply their phonics knowledge as they read the story, on pages T130-T131, *I Like Sam.* On Day 5, on pages T138-T139, students read more words with /t/*t,* review the weekly phonics song, and also write words with /t/*t.*

Grade 1, Unit 1, Week 3: In the Day 1 lesson of this typical week, on pages T168-T169, the teacher displays the Photo Card for *cloud* and models blending the consonants *cl* to form the beginning sounds. After teacher modeling in blending words with other *l*-blends, students practice blending in the Phonics Practice Activity. On Day 2, on pages T178-T179, *l*-blends are reviewed and children practice blending and building words with the teacher. On Day 3, on pages T188-T189, there is more modeling and practice in blending using the Phonics Practice Activity. On Days 4 and Day 5, on pages T196 and T204, the teacher builds more words for students to practice blending. Students also practice fluency in reading the words on Day 5.

Grade 2, Unit 1, Week 5: Grade 2 follows the same pattern as Grade 1. On Day 1, pages T380-381, long *i* is introduced and after teacher modeling, students blend words with long and short *i*, such as *pig* and *ride,* in the Phonics Practice Activity. On Day 2, on pages T394-T395, words with long and short *i* are reviewed, blended, and built using letter cards, with more words blended or built on Days 3, 4, and 5, on

	pages T406, T417, and T426. Grade 4, Unit 3, Week 2: In the explicit lesson on pages T90-T91, the teacher explains that the spellings *gn* and *kn* contain silent letters and converts both of these spellings into the sound /n/. Additional silent letter spellings are introduced. The teacher models sounding out the word *knit,* and then guides students in identifying the silent letters in other words and pronouncing the words.
Spelling instruction is used to build phonemic awareness.	In *Reading Wonders,* spelling instruction is designed to raise students' awareness of the sounds in words by isolating and enunciating the sounds as a natural tool in helping them spell the words. Grade 1, Unit 2, Week 5 On Day 1, on page T326, the teacher uses the Spelling Dictation Routine for the Pretest. The teacher pronounces each spelling word and then reads a sentence containing the word. Students say each word softly and stretch the sounds, which reinforces the phonemic awareness skill of segmenting. Then the child writes the word. On Day 2, on page T336, the child reads the words, listening for the consonant digraph at the beginning of each word, which builds the phonemic awareness skill of isolation. On Day 3, on page T346, students blend the sounds in the word, emphasizing the initial consonant digraph, which builds phoneme isolation, and then sort the words according to initial sounds, which builds phoneme categorization. On Day 4, on page T353, one partner reads the words while the other partner segments the word, a key phonemic awareness skill. On Day 4, as well as on Day 5 on page T361, students sort the words by initial sound. Grade 2, Unit 1, Week 3 Day 1, on page T198, student stretch the sounds in the words (as in Grade 1) which builds the skill of segmenting. On Day 2, on page T214, and on Day 3 on page T225, students sort words by initial and final sounds, which builds the skill of phoneme isolation. On Day 4, on page T236, one partner reads the words while the other partner segments the word, a key phonemic awareness skill. On Day 4, as well as on Day 5 on page T361, students sort the words by initial or final sounds. In Grade 3, Unit 4, Week 1, the Day 1 spelling lesson on page T36, on the /ü/ variant vowel, builds phoneme isolation and segmentation. The

	teacher extends and enunciates the /ü/ sound in each word and then models how to segment the word sound by sound, while attaching a spelling to each sound. Later in the week the teacher reminds students to segment a word sound by sound as they spell it.
Phonics instruction is directed toward the goal of helping students in their daily reading and writing activities.	In Grade 4, Unit 2, Week 4 the Phonics/Fluency lesson on pages T218 and T219 targets r-Controlled Vowels /är/ and /ôr/. The daily lessons will help students read the Shared Read selection in the Reading/Writing Workshop, which is read on page T208, as several words in the selection contain these vowel sounds, such as *horrible, marshes, warning, forest,* and *Florida.* These vowel sounds are also targeted in the daily Spelling lessons on pages T228 and T229. In the daily writing lessons on pages T224-T225, students will write about what an animal they choose needs to survive, and the phonics and spelling lessons this week and throughout the year will help them as they write. As an example, this week's writing could possibly contain words with the targeted phonics element, such as *harm, warm, warn, guard, target, smart, charge, dart, fortress, explore,* or *alarm.* In Grade 5, Unit 2, Week 1 the Phonics/Fluency lesson on pages T26 and T27 targets variant vowel /ô/ and diphthongs /oi/, /ou/. The daily lessons will help students read the Shared Read selection in the Reading/Writing Workshop, which is read on pages T16 and T17, as several words in the selection contain these vowel sounds, such as *crowd, Loyalists, points,* and *trouble.* These vowel sounds are also targeted in the daily Spelling lessons on pages T36 and T37. In the daily writing lessons on pages T32-T33, students will write about an historical event and why it was important, and the phonics and spelling lessons this week and throughout the year will help them as they write. As an example, this week's writing could possibly contain words with the targeted phonics element, such as *turmoil, foundation, renown, cautious, thoughtful,* and so on.
Phonics instruction is integrated with other reading instruction.	In the primary grades the Word Work lessons combine phonemic awareness, phonics and spelling (or dictation in Kindergarten). Selected spelling words in Grades 1-6 reinforce the phonics skill highlighted each week. Phonics instruction is also integrated in the other reading instruction in the weekly lesson.

	Grade 2, Unit 3, Week 5: The daily phonics lessons target long *u* spelled *u_e, ew, ue,* and *u,* which is also the focus of the daily spelling lessons. The vocabulary lesson on Day 1, on page T385, includes the word *music,* which contains the long *u* sound. The Shared Read selection in *Reading/Writing Workshop,* which is read on pages T386-T387, contains some long *u* words. In addition, the Literature Anthology selection, "Many Ways to Enjoy Music," containing long *u* words, is read on Day 3 on pages T413A-T143B, and "A Musical Museum" is read on Day 4 on page T419B. The decodable reader story, "Luke's Tune," is read in Small Group on page T435 and reread for fluency. In addition, the targeted sound-spelling also appears in the Comprehension and Fluency passage on *Practice Book* page 143 which students reread for fluency.
	Grade 5, Unit 5, Week 1: The daily Word Study lessons target suffixes, which are also the focus of the daily spelling lessons. One of the suffixes taught is *–tion* and the vocabulary lesson on page T14 includes the word transition. The Shared Read selection in *Reading/Writing Workshop,* which is read on pages T16-T17, contains words with suffixes, such as *painful, hopeless,* and *truthful.* This selection is used to practice the fluency skill of expression. In addition, the Literature Anthology selection, "Ida B," is read on Day 3 on pages T25A-T25L and contains words with suffixes such as *wonderful, conversation,* and *instruction.* Suffixes are also reinforced in the Comprehension and Fluency passage on *Your Turn Practice Book* pages 203-205 which students reread for fluency.
Phonics instruction is variable and is based on students' needs as determined through assessments.	Weekly assessments, as well as Daily Quick Check Observations in Grades K-2, are used in determining the need for differentiated phonics instruction. In grades K-2, based on results of the Weekly Assessments and observed student performance, teachers are provided Small Group options (Approaching, On-Level) to appeal to students' specific instructional needs.

In Grade 1 Unit 4 Week 2, Quick Checks for the phonics skill, long *e* spelled *e, ee, ea* appear on Day 1, Page T93, Day Day 2, page T103, Day 3, page T1134, Day 4, page T119, and Day 5, page T127. There are Small Group lessons for Approaching and On-Level and the skill is assessed in the Weekly Assessment. |

	In Grade 5 Unit 2 Week 5 The phonics skill, closed syllables, is taught on pages T282-T283. The teacher uses observations and informal assessments, such as the *Your Turn Practice Book* page 98, to determine students' needs for additional instruction and Small Group lessons for the Approaching Level are provided on pages T298-T299.

Foundational Skill: Fluency

"Reading fluency is indeed an important component of the reading process and it is essential that it be taught to developing readers"

–Fluency Instruction: Research Based Practices
(Rasinski, Blachowicz, & Lems, 2012, p. xi)

_____

What is fluency?

Fluency is the ability to read text quickly, accurately, and with expression. It provides a bridge between word recognition and comprehension. "Fluency is vital to comprehension" (McShane, p. 14). Fluency includes word recognition, but extends beyond knowledge of individual words to reflect the meaningful connections among words in a phrase or sentence. Fluent readers are able to recognize words and comprehend them simultaneously.

Why is fluency instruction important?

Fluency is widely acknowledged to be a critical component of skilled reading. A study conducted by the National Assessment of Educational Progress (NAEP) found a "close relationship between fluency and reading comprehension" (NICHHD, 2000, p. 3-1, citing Pinnell et al., 1995). More generally, a National Research Council report stated that "Adequate progress in learning to read English beyond the initial level depends on . . . sufficient practice in reading to achieve fluency with different kinds of texts written for different purposes" (Snow, Burns, & Griffin, 1998, p. 223). Additional evidence of this link between fluency and the development of general reading ability, particularly reading comprehension, is provided by several studies that found student performance on fluency assessments was an effective predictor of their performance on other types of reading measures. In reviewing the research on fluency instruction, the National Reading Panel (NRP) found value in approaches that incorporated repeated oral reading, guided or unguided, as opposed to less focused attempts to encourage reading in general. Three findings:

Repeated oral reading instruction has a positive overall effect on reading. A meta-analysis by the NRP found that fluency instruction in the form of repeated oral reading (guided or unguided) "had a consistent, and positive impact on word recognition, fluency, and comprehension as measured by a variety of test instruments and at a range of grade levels" (NICHHD, 2000, p. 3-3). The weighted average of these effect sizes resulted in a moderate effect on student reading (NICHHD, 2000, p. 3-16).

Repeated oral reading instruction has a positive impact on specific skill areas. The NRP meta-analysis found that repeated oral reading had a moderate effect on reading accuracy, a somewhat less strong effect on reading fluency, and a smaller effect on reading comprehension (NICHHD, 2000, pp. 3-3, 3-18).

Who benefits from fluency instruction?

Grade Level. Analysis of grade levels covered by the studies in the NRP meta-analysis led to the conclusion that "repeated reading procedures have a clear impact" on reading ability among:

"Non-impaired readers at least through fourth grade" " (NICHHD, 2000, p. 3-17).

Low-Achieving Students. Studies in the NRP meta-analysis indicated that "Students with various kinds of reading problems throughout high school" (NICHHD, 2000, p. 3-17) benefit from fluency instruction

Common Core State Standards in English Language Arts:
Standard for Fluency

Examples by Grade:

Kindergarten:
- Read emergent-reader texts with purpose and understanding

Grade 1 – 5:
- Reading with sufficient accuracy and fluency to support comprehension

Research Recommendations for Fluency

Range and scope of Instruction:

Grade Levels. The *Standards* incorporates fluency as a foundational skill for grades K-5, with a particular emphasis on repeated oral readings for grades K-2. Instruction should capitalize on the connection between the processes of speaking and listening and the reading standards on fluency. Research has shown that individual differences in oral reading fluency growth rates during first- grade predict oral reading fluency in subsequent years. Further, students' oral reading fluency rates at the beginning of second- and third grade has been found as the predominant predictor to later reading comprehension achievement (Kim, Petscher, Schatschneider, & Foorman, (2010).

The NRP research findings suggest a value to including fluency instruction in the form of repeated oral reading procedures at least through the fourth-grade level, and possibly beyond in a supporting capacity for students with reading problems. A review of research on early childhood reading commissioned by the National Research Council (NRC) identified fluency instruction as a key component of first-grade instruction and argued that "Throughout the early grades, time, materials, and resources should be provided" for both daily independent reading and daily supported reading and rereading (Snow, Burns, & Griffin, 1998, p. 195).

Instructional methods and features

Some of the methods that produced "clear improvement"–albeit with small sample sizes within each category–(NICHHD, 2000, p. 3-15) included the following: .

Repeated readings (set number of repetitions, set amount of time, or until fluency criteria were reached) (NICHHD, 2000, p. 3)

Repeated readings "combined with other [guided] procedures such as a particular type of oral reading feedback . . . or phrasing support for the reader" (NICHHD, 2000, p. 3)

Practice of oral reading "while listening to the text being read simultaneously" (NICHHD, 2000, p. 3)

Oral reading practice. In the NRP's description of effective repeated oral reading programs, the NRP stated that many of these programs provided increased oral reading practice "through the use of one-to-one instruction, tutors, audiotapes, peer guidance, or other means," compared to earlier approaches (NICHHD, 2000, p. 3-11).

Regular assessment. The NRP recommended that "teachers should assess fluency regularly," using both formal and informal methods (NICHHD, 2000, p. 3-4). Such informal methods can include "reading inventories . . . miscue analysis . . . pausing indices . . . running records . . . and reading speed calculations" (NICHHD, 2000, p. 3-9, citing 5 studies). Similarly, the NRC report recommended that "Because the ability to obtain meaning from print depends so strongly on the development of reading fluency," fluency "should be regularly assessed in the classroom, permitting timely and effective instructional response" (Snow, Burns, & Griffin, 1998, p. 323).

Validity of oral reading fluency measures. According to Hasbrouck and Tindal (2006), measuring student oral reading fluency in terms of words correct per minute "has been shown, in both theoretical and empirical research, to serve as an accurate and powerful indicator of overall reading competence, especially in its

correlation with comprehension. The validity and reliability of these measures has been well established in a body of research extending over the past 25 years" (citing Fuchs, Fuchs, Hosp, & Jenkins, 2001; Shinn, 1998). For example, several studies have shown that third-grade tests of oral reading fluency from the DIBELS correlated well to high-stakes reading assessments from Arizona, Colorado, Florida, North Carolina, and Oregon.

Oral reading fluency norms. Based on analysis of assessment data from a pool ranging from approximately 3,500 to over 20,000 students collected between 2000 and 2005, Hasbrouck and Tindal (2006) have developed a new set of oral reading fluency norms to replace the widely used norms that were published in 1992 (Hasbrouck & Tindal, 1992). The new norms "align closely with both those published in 1992, and also closely match the widely used DIBELS norms . . . with few exceptions." These new norms cover grades 1–8 and provide information for 90th, 75th, 50th, 25th, and 10th percentile rankings.

The researchers also provided specific norm-related recommendations for using oral reading results for screening, diagnosis, and monitoring student progress:

Screening. "Fluency-based assessments have been proven to be efficient, reliable, and valid indicators of reading proficiency when used as screening measures" (citing Fuchs et al., 2001; Good, Simmons, & Kame'enui, 2001).

Diagnosis. According to the authors, oral reading fluency norms "can play a useful role in diagnosing possible problems that are primarily fluency based."

Monitoring progress. Oral reading fluency measures "have been found by many educators to be better tools for making decisions about students' progress than traditional standardized measures which can be time-consuming, expensive, are only administered infrequently, and have limited instructional utility" (citing Good et al., 2001; Tindal & Marston, 1990).

Fluency Research Recommendations	Demonstration of Alignment in Reading Wonders
Fluency instruction is included in the form of repeated oral reading procedures through the fourth-grade level.	In the lower grades, students read each story repeatedly with varying degrees of 'scaffold' supports such as Choral Reading with the teacher providing modeling and corrective feedback; Partner Reading and Independent Reading with the teacher circulating and listening in to provide support and feedback; or Echo-Reading with the teacher modeling pronunciation and students reading back to the teacher one sentence at a time. Students also echo-read with a partner giving the partner feedback, such as, "sound out this word." Also struggling students have an opportunity to work in small groups on reading prose and poetry orally. Grade 1 Teacher's Edition, Unit 1 pages T17, T31, T35, T48, T60 In the upper grades, students echo-read the Shared Read in the Reading/Writing Workshop. They vary the intonation of their voices to make what is

	happening in the text clearer. For the same reason, they also pause at appropriate places. The teacher models reading an excerpt of the Shared Read, then reads one sentence at a time while students echo-read each sentence. Typically, students are divided into two groups to practice intonation and pausing with the teacher providing feedback. Also struggling students have an opportunity to work in small groups on reading prose and poetry orally. Grade 3 Teacher's Edition, Unit 1 pages T28-T29, T48
In Grades K-3, materials and resources are provided for daily independent reading as well as daily supported reading and rereading.	Students read multiple short passages and stories each week in the Reading/Writing Workshop and Your Turn Practice Books. Starting in the second half of grade 1 and continues through grade 6, Your Turn Practice Books include comprehension worksheets with Partner Read activities. In addition, the Literature Anthology and Leveled Readers provide rich independent reading sources. The Reading Workstation Activity cards include a Fluency card and a Reader's Theater card, both of which provide more opportunities for daily support reading and rereading. Grade 1 Reading/Writing Workshop pages 14-23 Grade 1 Your Turn Practice Book pages 155-157 Grade 1 Literature Anthology pages 6-19 Grade 1, Unit 1, Week 1 Leveled Readers (Approaching, On, Beyond, ELL) Grade 2 Teacher's Edition, Unit 6, pages T25, T30, T40 Grade 1 Workstation Activity Cards: Reading, cards 24, 25 Grade 3 Reading/Writing Workshop pages 102-107 Grade 3 Your Turn Practice Book pages 4-5 Grade 3 Literature Anthology pages 100-119 Grade 3, Unit 2, Week 1 Leveled Readers (Approaching, On, Beyond, ELL) Grade 3 Teacher's Edition, Unit 2 pages T28-T29, T48 Grade 3 Workstation Activity Cards: Reading, cards 24, 25
Repeated readings are a part of instruction.	In the lower grades, in a whole group setting students read each story multiple times with varying degrees of scaffolded support and with the teacher providing modeling and corrective feedback. For instance, in Grade 1 Day 3, the Literature Big Book is reread with fluency being modeled.

	Grade 1 Teacher's Edition, Unit 1, pages T31, T265
	In the upper grades, the teacher models the weekly Reading/Writing Workshop selection in a whole group setting; students reread the selection in groups or with partners and then practices fluency with their Your Turn Practice Book. In addition, struggling students practice fluency in small groups.
	Grade 4 Teacher's Edition, Unit 4, pages T27, T46 Grade 4 Your Turn Practice Book pages 53-56
	For teachers with Tier 2 students a lesson on Repeated Reading Routine is provided in the Tier 2 Fluency component: Grades K/3 pages 10-11; Grades 4/6 pages 10-11.
Fluency instruction includes oral reading feedback and phrasing support.	In the lower grades, word automaticity exercises allow teachers to give feedback on students' oral reading. Teachers can also give feedback as students Partner Read in the Shared Read on Day 1 as well as when teachers do a weekly oral fluency assessment. In addition, they can monitor and provide feedback to struggling students in the I Do/We Do/You Do routine of the weekly Fluency activity in Approaching Level/Small Group section. Phrasing support can be found as part of the modeling fluency activities in the Listening Comprehension lessons. Examples: Grade 1 Teacher's Edition, Unit 1, pages T17, T35, T60, T155A; G2U6 pp. T28, T70, T118, T265, T343
	In the upper grades, oral reading feedback is part of the Practice/Apply section in the formal Fluency lessons. Phrasing support is found in Fluency lessons on phrasing.
	Grade 3 Teacher's Edition, Unit 2, pages T29, T95, T227, T291
	In the Instructional Routine Handbook, detailed fluency strategies on pp. R36-R39 provide additional instructional support for the teacher. (www.connected.mcgraw-hill.com; Teacher Resources)

Students practice oral reading while listening to the text being read simultaneously. Increased oral reading practice is provided through use of one-to-one instruction, audiotapes, tutors, and peer guidance.	Oral reading can be practiced by students while they listen to the text being read via the audio support provided on the Student Workspace for all selections found in the Reading/Writing Workshops, Literature Anthologies, Leveled Readers, and, at grades K-1, the Big Books; audio support is also provided for passages found in the Your Turn Practice Book.
	www.connected.mcgraw-hill.com; Teacher Resources
	In addition, comprehension activities found in Your Turn Practice Book provide partner read activities in which students take turns reading a passage aloud and determining their Oral Reading Fluency Rates.
	Grade 1 Your Turn Practice Book pages 155-157 Grade 3 Your Turn Practice Book pages 4-5
	Workstation Activity Cards for Reading also provide a fluency activity card which allows students the opportunity for daily practice. Included with these cards is a Reader's Theater card for week 6 of each unit which students use to practice for their reader's theater performance.
	Grade 1 Workstation Activity Cards/Reading, cards 24, 25 Grade 3 Workstation Activity Cards/Reading, cards 24, 25
	For more practice, fluency passages and games are available on the Student Workspace at www.connected.mcgraw-hill.com.
	The Tier 2 Approaching Level activities in the Teacher Editions provide tutorial support for struggling students.
	Grade 1 Teacher's Edition, Unit 1 page T60 Grade 3 Teacher's Edition Unit 2 page T48
Students read text at the appropriate instructional level to supplement repeated oral reading.	Leveled Readers–Approaching Level, On Level, Beyond Level, and ELL Reader–highlight the weekly literature theme and genre and share the same theme, vocabulary, and comprehension skills. A database of these readers is available at www.connected.mcgraw-hill.com.
	In addition to the Leveled Readers, starting at the

	second half of grade 1 through grade 6 leveled Partner Read activities are provided in the leveled Practice Books (i.e.,Your Turn Practice Books, Approaching Reproducibles, Beyond Reproducibles, and ELL Reproducibles) to help students orally read at their appropriate instructional level. Grade 1 Your Turn Practice Book pages 155-157; Grade 3 Your Turn Practice Book pages 4-5 Note: the leveled reproducibles can be found on the Student Workspace at www.connected.mcgraw-hill.com.
Repeated oral reading occurs in the context of the overall program and not as a stand-alone intervention.	Throughout the grades, oral reading and repeated reading is an integral part of the instructional plan. In grade 1, students reread the Literature Big Book on Day 3's Listening Comprehension to model fluency; they also reread the weekly Reading/Writing Workshop selection for comprehension in Day 2. In grade 2, a fluency lesson on Day 3 has students rereading the Shared Read. Other opportunities to reread passages occur on Day 2 (Interactive Read Alouds, Reading/Writing Workshop selection). In the upper grades, students reread the weekly Reading/Writing Workshop selection to practice a specific fluency skill for that week. Examples: Grade 1 Teacher's Edition, Unit 1 pages T26-T27, T31 Grade 2 Teacher's Edition, Unit 6 pages T25, T30, T40 Grade 3 Teacher's Edition, Unit 1, page T28
Fluency is assessed regularly using formal and informal methods.	Formal Methods: One group of students per week is assessed using the timed oral reading fluency passages from the Fluency Assessment component. Approaching Level, On Level, and Beyond Level passages are featured for each Unit in Grades 2–6 (and Units 3–6 in Grade 1) to aid in monitoring student progress and verifying grouping decisions and assignments. Each student passage is accompanied by a teacher recording sheet that allows for tracking errors, registering number of words read, formulating the Words Correct per Minute (WCPM), and noting a student's Accuracy Rate percentage. Informal Methods: Students are regularly assessed in the classroom through informal reading inventories, miscue analyses, pausing indices,

	running records, and reading speed calculations. Leveled Practice Reproducibles are also used for fluency assessment. For example, in first grade, a fluency assessment strategy in an Approaching Level activity is for the teacher to read a passage from the Approaching Reproducibles with the students repeating each sentence after the teacher using the same intonation and phrasing (see Grade 1 Teacher's Edition, Unit 1 page.T48). Students also practice fluency assessment with partners using the Fluency Workstation Cards.
Students' oral reading fluency is assessed in terms of words correct per minute.	The Fluency Assessment component for Grades 1–6 features oral reading fluency passages (informational and literature)–not words from a list– to assess students' ability to read unfamiliar text with speed and accuracy as well as with prosody. Students read a passage aloud for one minute while their errors and total number of words are tracked. The recording sheet that comes with each passage features scoring tables that allow for ready tabulations of WCPM and the Accuracy Rate percentage. The 50th percentile WCPM for Fall, Winter, and Spring are featured on the recording sheet too. This allows for a quick comparison of student results with the benchmarks identified by Hasbrouck & Tindal in their work on oral reading fluency norms. One group of students is assessed each week. Approaching Level students are tested weeks 1, 3, and 5; On Level students are tested weeks 2 and 4; and Beyond Level students are tested in week 6. A fluency goal is noted for each week. For students who fall short of this goal—slightly or significantly—remediation is identified, such as lessons from the Tier 2 Intervention Fluency Teacher's Edition.

Writing

"Writing is essential to communication, learning, and citizenship. It is the currency of the new workplace and global economy. Writing helps us convey ideas, solve problems, and understand our changing world. Writing is a bridge to the future".

(National Writing Project, http://www.nwp.org/cs/public/print/doc/about.csp)

_____

What are the processes involved in writing?

At the most basic level, writing by definition is the translation of thought into visual form; however, the process of writing is remarkably complex. The act of writing is rarely linear and requires the iteration of planning, drafting, and revising while simultaneously employing critical thinking skills to analyze, summarize, and evaluate. Writing is a language-based activity that naturally overlaps with other processes included elsewhere in the *Standards*, such as reading, expressive language, receptive language, vocabulary use, and writing mechanics.

What is instruction in writing?

Graham & Perin (2007) in their meta-analysis of research on writing instruction identified 11 key elements for writing instruction:

1. Writing strategies, including planning revising, and editing;
2. Summarization, which includes explicit and systematic teaching
3. Collaborative writing, where students work together to plan, draft, revise, and edit
4. Specific product goals
5. Word processing, using computers and word processors as supports
6. Sentence combining, where students are taught to construct complex sentences
7. Prewriting, which assists students in generating and organizing ideas
8. Inquiry activities, where students analyze concrete data to help develop ideas and content
9. Process writing approach, which utilizes a workshop environment stressing extended writing opportunities, authentic writing, personalized instruction, and cycles
10. Study of models, which allows student to read, analyze, and emulate good writing
11. Writing for content learning, which uses writing as a tool for learning content mateiral. (p. 4 – 5).

With the increased emphasis on technology, students are now called upon to move beyond traditional print media to include digital representations. As within the *Language* strand in the *Standards*, writing instruction includes activities that require students to employ a variety of technological tools to represent their work.

Why is instruction important?

Writing is a central form of communication. It requires a deep knowledge of subject matter and employs critical thinking skills. As students transition to high school and college, writing becomes one of the primary methods by which their work is judged.

When students increase their knowledge about writing processes, they become better writers. It has been demonstrated that students' knowledge of discourse writing—that is, knowledge about various genres of and schemas for writing, coupled with linguistic knowledge (e.g., grammar, procedures for constructing sentences, spelling)—are factors that uniquely contribute to student variation in writing performance. Olinghouse and Graham (2009) found the following five types of discourse knowledge significantly contribute to story writing quality, length, and vocabulary diversity:

- Substantive processes (role of process in good writing and carrying out the writing process;

- Production procedures (role of linguistic and mechanical factors in good writing, story writing, and carrying out the writing process);
- Motivation (role of effort in good writing and carrying out the writing process);
- Story elements (basic structural elements in a story);
- Irrelevant information (p 47).

Writing practices enhance students' reading achievement. In their meta-analysis examining the effects of various writing practices on reading performance, Graham and Herbert (2010) found that when students write about text, are explicitly taught writing skills and processes, and increase the amount of time spent writing, students demonstrate greater text comprehension.

Common Core State Standards in English Language Arts
Standard for Writing: Students write logical arguments based on substantive claims, sound reasoning, and relevant evidence. Students engage in short and long-term research projects and produce a written analysis and presentation of findings.

Examples by Grade:

Grade 1:
- Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
- With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.
- Participate in shared research and writing projects

Grade 5:
- Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
- With some guidance and support from adults, use technology, including the internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.
- Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

Who benefits from instruction?

All Students. In Writing Next, the majority of research articles reviewed in Graham & Perin's (2007) meta-analysis included students across the full range of normal classroom variation. The 11 key elements of writing instruction were found to benefit a wide variety of learners.

Less skilled writers. Students who struggle with foundational writing skills, for example ESL students or students with a disability, may benefit from direct, targeted instruction. For example, a study conducted by Saddler & Graham (2005) indicated that when provided with direct instruction designed to foster sentence-combining skills, fourth-grade students who were considered less skilled in writing improved their story writing and revising skills. Graham & Perin's (2007) meta-analysis indicated that writing strategy instruction was found particularly effective for low-achieving students.

Research Recommendations for Writing

Range and scope of instruction
Grade Level. Young children are naturally inclined to express ideas in print, primarily through illustration. Writing instruction typically begins informally in preschool, as children begin to master basic concepts of print and letter formation, and becomes more sophisticated as children move into Kindergarten and beyond.

Pearson (1994) indicates that the "synergistic" relationship between reading and writing renders it critical to begin writing instruction in the early grades.

The *Standards* address writing for all grade levels, beginning in Kindergarten. Children in the lower elementary grades create opinion pieces, narratives, and informative/explanatory texts. They develop rudimentary skills in collaboration and publishing, and begin to utilize revising and editing processes to strengthen their writing. As children advance through the higher elementary grades, students are required to compose increasingly sophisticated texts that incorporate evidence and research to explain and support particular points. Students further refine and develop previously learned skills.

Instructional Methods and Features:

Graham & Harris (1994) advocate for an integrated approach by incorporating elements from direct skill instruction and the process-oriented methodology, including:

- Skill-oriented instruction designed to foster text production skills (e.g., spelling, phonemic awareness)
- Opportunities for children to engage in writing activities
- Frequent opportunities to apply specific skills in a variety of writing activities
- Peer review and collaboration

Graham & Perin (2007) in their meta-analysis of research on writing, identified 11 key elements for writing instruction:

1. Writing strategies, including planning revising, and editing;
2. Summarization, which includes explicit and systematic teaching
3. Collaborative writing, where students work together to plan, draft, revise, and edit
4. Specific product goals
5. Word processing, using computers and word processors as supports
6. Sentence combining, where students are taught to construct complex sentences
7. Prewriting, which assists students in generating and organizing ideas
8. Inquiry activities, where students analyze concrete data to help develop ideas and content
9. Process writing approach, which utilizes a workshop environment stressing extended writing opportunities, authentic writing, personalized instruction, and cycles
10. Study of models, which allows student to read, analyze, and emulate good writing
11. Writing for content learning, which uses writing as a tool for learning content material. (p. 4 – 5).

Writing practices demonstrated to increase students' reading comprehension skills, include the following:

- **Have students write about texts they read**. Write personal reactions, analyze and interpret text, write summaries keep notes, and answer and create questions about text;
- **Teach students the writing skills and processes that create text**. Teach the process of writing, text structures for writing, paragraph, sentence construction, and spelling;
- **Increase the frequency allocated for writing** (Graham & Herbert, 2010, p 11).

Writing Research Recommendations	Demonstration of Alignment in Reading Wonders
Students engage in writing activities to demonstrate understanding of text.	From Kindergarten through Grade 6, students engage in meaningful writing activities to demonstrate understanding of texts.

In Kindergarten, weekly shared and interactive writing opportunities on Day 1 and Day 2 of the instructional plan allow teachers to model writing. Working together, the class writes about the weekly topic and essential question, using what they have learned from the texts read aloud. On Days 3-5, students are asked to write independently after discussing student models.

In Grade 1, in addition to shared and interactive writing lessons each week, students write in response to the Interactive Read Aloud selection, using evidence from the text to demonstrate understanding. Through the comprehension minilesson on Day 2 of the instructional plan, teachers model how to reread the Shared Read in the Reading/Writing Workshop for a specific purpose, aligned with grade 1 CCSS reading standards. Students write to fill in a graphic organizer, using evidence from the text. As they read the weekly selection from the Literature anthology on Days 3 and 4, students are asked to take notes in a graphic organizer. This writing opportunity has students apply what was modeled in the minilesson from Day 2. The Respond to Reading at the end of each Literature Anthology selection provides text –dependent questions for students to answer. Students can respond in class or partner discussions or students can respond in writing to one or more of the questions. Instruction is provided to teach students how to go back into the text to find evidence to support their responses. On Day 5, the Research and Inquiry projects asks students to use information they have learned from the texts as sources for research writing. The Write About Reading activity begins to prepare students to write analytically about texts they have read. Students write to defend an opinion or statement about the texts, focused on specific grade 1 CCSS reading standards. Students are taught how to cite evidence from texts to support their responses. The Write About Reading Your Turn Practice Book pages offer additional scaffolded support for writing about texts.

In grades 2 through 6, students are taught to take notes while the read, including using graphic organizers that demonstrate understanding of specific CCSS reading standard, as it applies to the Shared Read in the Reading/Writing Workshop, the selection from the Literature Anthology, and the leveled readers. Explicit instruction on writing

	about reading is provided each week in the comprehension minilessons. These lessons provide direct instruction, modeling, and guided practice for writing about reading. The writing activity is based on rereading the Shared Read in the Reading/Writing Workshop focused on a specific grade level CCSS reading standard. After modeling finding text evidence to support answers to questions or statements about a text, teachers model how to use the text evidence to write about the reading. The writing activities include writing a summary, paraphrase and character description. After the modeling, students then work through a guided practice activity, again, citing text evidence to support their writing. Each week, after reading the Literature Anthology, students apply what they have learned about Writing about Reading. Students are asked to cite evidence from the text. Write about Reading activities are also provided for all the Leveled Readers so students can apply what they have learned to the differentiated texts. At the end of each week, another Write About Reading activity asks students to write analytically about all the various texts that they have read throughout the week. Students write about opinions or informative/explanatory writing in response to the texts. Students learn to support their ideas and reasons by citing explicit evidence from the texts. The Write About Reading activity in the Your Turn Practice Book pages offers scaffold support and modeling.
	Additionally, throughout each week of instruction, students are asked to discuss and answer the essential questions with evidence from each text read. These activities can be completed as a class, small group, or partner discussion or they can be assigned as a partner or individual writing activity.
	Kindergarten Teacher's Edition, Unit 3 pages T18-T19, T32-T33, T40-T41, T50-T51 Grade 1 Teacher's Edition, Unit 2 pages T21, T27, T35B, T35E, T35K-T35L, T45, 44, T47, T62 Grade 4 Teacher's Edition, Unit 6, pages T148, T153T, T153V, T153W, T157, T158-T159, T160-T161 Grade 5 Teacher's Edition, Unit 2, pages T148-149, T153N, T156-T157, T158-161
Ample time is allocated for writing activities.	As noted in the explanation and examples cited above, each instructional week is filled with writing activities related to texts read at each grade.

	Additional writing activities are provided within the language arts block of instruction. Students are engaged in writing activities each day. Instruction, modeling, and guided practice provides the support students need to develop into proficient writers. At Grades 2-6, students analyze an expert model and student model of writing. They write and revise shorter pieces of writing throughout the week, reflecting on the how their revisions improved their writing. One to two longer pieces of writing is developed in each unit, allowing for 2-3 weeks for students to develop their writing through each stage of the writing process. Minilessons and writing models, as well as rubrics and anchor papers provide the support necessary to develop students writing proficiency.
	See citations above. In addition:
	For all Grades K-6, the Leveled Workstation Activity cards include writing activities that support the instruction of each week. Through these activities, students are spending small group independent time developing writing proficiency.
	Grade 2 Teacher's Edition, Unit 1, pages T22-T23, T36-T37, T48-T49, T62-T63, T480-T491 Grade 3, Teacher's Edition, Unit 2, pages T32-T33, T98-T99, T164-T165 Grades K-6: Workstation Leveled Activity Cards, Writing
Writing curricula includes skill-oriented instruction to enhance text production skills.	The Reading/Writing Workshop includes targeted writing skills –oriented instruction. Beginning at Kindergarten and Grade 1, student writing samples serve as models to teach specific writing traits and skills, including Organization: sequence, Word Choice: descriptive words, and Ideas: adding facts or details. Additional student models focus on the use of proper Standard English grammar usage. In Grades 2-6, more in depth instruction is provided in the Reading/Writing Workshop. Students analyze an expert model, focusing on a specific trait/skill. Students work with partners to discuss how the trait/skill is presented in the writing. Next students analyze a student model revision. Partners evaluate how the trait/skill was revised, how it improves the effectiveness of the writing model, and also propose additional revisions focused on the specific trait/ skill. Grammar and Usage revisions are also included in the model to emphasize for students how knowledge of the conventions of Standard English

| | improves the effectiveness of writing. The Grammar Handbook at the back of the Reading/Writing Workshop is referenced through the writing instruction and is used by students during independent writing.

Kindergarten Reading/Writing Workshop, Unit 7 pages 44, 45; Unit 10 pages 44, 45
Kindergarten Teacher Edition, Unit 4 pages T18, T58, T122
Grade 5 Reading/Writing Workshop pages 246-247, 318-319, 448-480 |
|---|---|
| *Students use specific criteria to evaluate the quality of writing.* | At Kindergarten and Grade 1, Writing checklists are shared with students as they revise and evaluate their writing. At grades 2-6 writing rubrics are provided for Write about Reading activities. In addition, writing rubrics and anchor papers for narratives, informational, explanatory and opinion writing are used in the writing process lessons. Students review the rubrics and anchor papers as they revise their writing and to evaluate their writing. Generic rubrics are also provided. Teachers can work with students to create their own rubrics.

Grade 2 Teacher's Edition, Unit 1, T480-T491
Grade 5 Teacher's Edition, Unit 5, T343-T361

Kindergarten-Grade 1 www.connected.mcgraw-hill.com; see Teacher Resources
Grades 2-6 www.connected.mcgraw-hill.com; see Teacher Resources and Writer's Workspace |
| *Students engage in collaborative learning experiences, such as peer review.* | The power of collaborative learning is a cornerstone of the instructional plan of Reading Wonders in all grades throughout all parts of the instruction, including writing. The Collaborate logo throughout the student and teacher materials signals opportunities for collaborative discussions and learning. At Kindergarten and Grade 1 the shared and interactive writing lessons ask students to work together as a class to write, revise and evaluate their class writing. As they move to work on their independent writing, they work with peers to brainstorm ideas, give feedback on drafts and revisions and help evaluate writing after presentations.

At Grades 2-6, opportunities for student collaboration in writing continues. Students begin analyzing expert and student writing models. Each week they write and revise shorter pieces of |

	writing, meeting with peers to discuss revisions and how the revisions improved the writing. During the process lessons, students work in pairs after each step in the writing process. Peer conferencing checklists and speaking and listening checklists support the collaborative learning. Grade K Teacher's Edition, Unit 3, pages T18-T19, T32-T33, T40-T41, T50-T51 Grade 1 Teacher's Edition, Unit 4, pages T18-T19, T28-T29, T36-T37, T42-T43 Grade 2 Teacher's Edition, Unit 1, pages T22-T23, T36-T37, t48-T49, T54-T55 Grade 6 Teacher's Edition, Unit 2, pages T 30-T31, T32-T33, T34-T35, T344-T356
Lessons require students to compose a variety of text, including narratives, opinion pieces, and informative/exploratory texts, as indicated in the Standards	*Reading Wonders* provides in depth instruction, practice and application opportunities to compose a variety of text including narratives--real and imagined, opinion writing, and informative/explanatory writing. In Kindergarten and Grade 1, the shared, interactive and independent writing activities throughout the weeks focus on one of the required genres. At Grades 2-6, the various Write About Reading activities within each week ask students to write opinion, informative or explanatory writing. Each week, the writing trait and skill is taught and practiced in the context of one of these genres of writing, providing students the opportunity to write frequently within the week focused on a particular type of text. Additionally, the writing process genre lessons in each unit ask students to write longer pieces of writing in all the genres. Grade 1 Teacher's Edition Unit 1, pages T47, T125, T203, T281 Grade 2 Teacher's Edition Unit 6, pages T32, T34, T36, T452, T480-T491 Grade 4 Teacher's Edition Unit 1, pages T20, T25R, T30-T31, T344-T355
Students explore the variety of digital tools to produce and publish writing.	The Writer's Workspace in *Reading Wonders* Connect Ed provides a digital pathway for students to produce and publish their writing. Writer's Workspace takes students through each step of the writing process in a digital environment. Instruction, models, rubrics, checklists, grammar and usage references and other important writing support are included to assist students at each stage of the writing process.

	The writing process genre lessons and research activities encourage students to use various media to publish and present their work. Students learn how audio and visual displays enhance the publication and presentation of their writing. Digital assets accessible within the Student Center of *Reading Wonders* Connect Ed, including image and audio files can be used to publish and present various types of writing. Using the Reading/Writing Workshop, Literature Anthology, and Leveled Reader e Book writing tool, students can write their responses to text-dependent questions and other response to reading online and submit responses for teacher review. The My Binder tool in the student workspace allows students to create, revise, and submit their writing and research assignments as a digital submission to the teacher. Grades 1-6 www.connected.mcgraw-hill.com; Student Workspace-Read Grades K-6 www.connected.mcgraw-hill.com; Student Workspace-Write
Students participate in shared research and writing projects.	In Reading Wonders, students in Kindergarten through Grade 6 participate in shared research and writing projects throughout the year. Each week students work with partners or small groups to complete short research projects to explore and learn more about the topic or concept they are studying. Research Roadmaps provide guided support as they work their way through the steps of the research process. In Grades 1-6, students choose one of the short projects and conduct extended research on the topic. Working collaboratively, students learn how to assign roles, evaluate reliable print and media resources, cite evidence from sources, and organize and synthesize information in writing. Grade 1 Teacher's Edition Unit 2, pages T124-T125, T280-T281 Grade 4 Teacher's Edition Unit 1, pages T28-T29, T220-T221 Grades K-6: www.connected.mgraw-hill.com ,see the Collaborate section on the Teacher Workspace for research assignments online.

Speaking and Listening

"…children's understanding of the meaning of words and concepts and of other aspects of language such as sentence structure and listening comprehension, which they learn through their language interactions, are key foundational skills for later reading achievement"

(National Institute for Literacy, p. 1, para.1)

_____

What are the processes involved in speaking and listening?

Oral language includes critical skills that allow children to:

- Communicate-listen and respond when people are talking
- Understand the meaning of a large number of words and concepts that they hear or read
- Obtain new information about things they want to learn about, and
- Express their own ideas and thoughts using specific language (National Institute for Literacy)

Oral language is divided into two subtypes: receptive language and expressive language. Receptive language is language that is heard and understood. Children exhibit receptive language skills when they listen and comprehend stories, understand vocabulary, engage in social exchanges with peers, and follow directions. Expressive language is the generation of thoughts, ideas, and needs through verbal and visual form. Children exhibit expressive language skills when they retell a story, incorporate vocabulary, and engage in discussion. Woven into these processes are other linguistic features and cognitive abilities, such as vocabulary, grammar, auditory memory, sequencing, and phonological processing, among others. Receptive language skills develop earlier than expressive language skills.

What is instruction in speaking and listening?

Instruction in speaking and listening focus on the following skills and processes:

- Understanding of information by answering questions about key details or facts
- Engaging in collaborative discussions
- Representing ideas and thoughts in oral and written form, as well as through media
- Reporting on topics and relating stories that contain key details and are presented in a logical fashion
- Speaking in complete sentences and utilizing developmentally appropriate vocabulary
- Differentiating contexts that require formal English from contexts where informal exchange is acceptable
- Interpreting and use images, graphics and symbols, as found in media
- Demonstrating understanding by rephrasing, summarizing

Why is instruction important?

There exists a complex interplay between speaking and listening skills and academic achievement. Speaking and listening are language-based processes that are prerequisites for reading and writing. Studies have shown that:

- Oral language skills, in conjunction with spelling and letter-writing fluency, are positively related to writing skills (Young-Suk, Otaiba, Puranik, & Folson, 2011) and reading skills (Cooper, Roth, Speece, & Schatschneider 2002).

- Expressive vocabulary knowledge and listening comprehension skills are related to word identification ability (Wise, Sevcik, Morris, Lovett, & Wolf, 2007, p. 1095).

- Receptive and expressive vocabulary knowledge are related to pre-reading skills (Wise, et.al, 2007)

- Expressive vocabulary and listening comprehension are related to word identification skills (Wise, et.al., 2007)

Common Core State Standards in English Language Arts Standard for Speaking and Listening: Students gain, evaluate, and present increasingly complex information, ideas, and evidence through listening and speaking as well as through media.

Examples by Grade

Kindergarten

- Participate in collaborative conversations with diverse partners about Kindergarten topics and texts with peers and adults in small and large groups

- Describe familiar people, places, things, and events, and with prompting and support, provide additional detail.

- Add drawings or other visual display to descriptions as desired to provide additional detail.

Grade 5

- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expression their own clearly.

- Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

- Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas of themes; speak clearly at an understandable pace.

Who benefits from instruction?

Kindergarten Students. Teachers are well aware that students embark upon their educational careers with varying degrees of development in their receptive and expressive language skills. Instruction at the Kindergarten and early elementary level includes engaging in shared discussions, learning to collaborate with peers, demonstrate understanding by answering and asking questions, turn-taking, and using rich, detailed description and new vocabulary.

Struggling Readers. A study of second- and third-grade students identified with a reading disability concluded that receptive and expressive vocabulary knowledge were related to pre-reading skills, and listening comprehension skills were found to facilitate word identification (Wise et.al., 2007). Engaging in activities designed to foster vocabulary and listening comprehension may benefit students who struggle in reading.

ELL Students. August and Shanahan (2006) state that "instruction in the key components of reading is necessary—but not sufficient—for teaching language-minority students to read and write proficiently in English" (p. 4) and that, "literacy programs that provide support in oral language development in English, aligned with high-quality literacy instruction are the most successful" (p. 4). Research conducted by Miller, Heilmann,, Nockerts, Iglesias, Fabiano, and Francis (2006) indicate that better oral language skills facilitate

passage comprehension and word reading, in both Spanish and English. Further, higher English oral language skills are associated with higher Spanish reading scores, and higher Spanish oral language skills are associated with higher English reading scores, indicating a 'cross-language' effect. August and Shanahan (2006) note that:

> …well-developed oral proficiency in English is associated with English reading comprehension and writing skills for these students. Specifically, English vocabulary knowledge, listening comprehension, syntactic skills, and the ability to handle metalinguistic aspects, such as providing definitions or words, are linked to English reading and writing proficiency (p 4).

Research Recommendations for Speaking and Listening

Range and scope of instruction

Grade Level. The *Standards* address speaking and listening skills from Kindergarten and above. Two areas of focus, *Comprehension and Collaboration*, and *Presentation of Knowledge and Ideas* are listed. Students engage in grade-appropriate collaborative conversations with peers and follow rules of discussions. Students express their thoughts and ideas in verbal and visual form, and add rich detail and relevant facts.

Speaking and Listening Research Recommendations	Demonstration of Alignment in Reading Wonders
Students develop and refine speaking and listening skills by participating in collaborative learning activities.	*Reading Wonders* provides opportunities for students in all grades to engage in partner, small group, and whole class discussions. Each week of the program is organized around a weekly concept. In the Reading/Writing Workshop, students discuss the concept as a class, sharing information and answering an Essential Question related to the concept. In grade 2, unit 5, week 3, page 358, students discuss the concept of heroes and answer the Essential Question: What do heroes do? In grade 6 unit 1, week 3, page 46, students discuss the concept of environments and answer the Essential Question: How do life forms vary in different environments?
	The Talk About It feature supports the essential question and extends the discussion, providing students with an opportunity for collaborative conversations in pairs or groups. Instruction to help students successfully manage collaborative conversations, as both speakers and listeners, is provided in the Teacher's Edition lessons Introduce the Concept and Start Smart.
	The Instructional Routines Handbook provides teaching strategies for conducting Collaborative Conversations in the classroom. The Professional Development Videos also model Collaborative Conversations taking place in the classroom.

	In grades 2-6, the Reading/Writing Workshop instructional lessons: Vocabulary, Comprehension Strategy, Comprehension Skill, Genre, Vocabulary Strategy and Readers to Writers each include a Your Turn activity in which students, working in pairs, engage in additional close reading and discussion of the text. In grade 1, the Words to Know, Phonics/Fluency, Comprehension Skill, and Writing and Grammar lessons also include a Your Turn partner activity. In the Literature Anthology, the Make Connections questions that appear at the end of each selection provide opportunities for students to discuss the text with partners, using text evidence to support their responses. Grade 2 Teacher's Edition, Unit 1, pages S5, S29 Grade 1 Teacher's Edition, Unit 5, page T191L Grade 6 Teacher's Edition: Unit 4, page T89N www.connected.mcgraw-hill.com; see the Teacher's Resources for Instructional Routines Handbook PDFs and Professional Development
Students demonstrate the ability to orally present ideas in a logical, thoughtful manner.	In the Teacher's Edition, the Research and Inquiry activities that wrap up each week provide students with opportunities to practice and demonstrate presentation skills. During Research and Inquiry, students work with a partner or in small groups to complete a project and orally present their findings to the class. In the Research and Inquiry project for grade 1, unit 3, week 5, pages T356-T357, students work with a partner to create a flowchart that shows where food comes from. Partners choose a food to research, find out how that food is produced, and create a flowchart—including illustrations and text— to explain the steps in the process. Students then share their flowcharts with the class. In grade 4, unit 2, week 5, students research an animal that can be found living in their state, gather visuals to support their research, and present the information to the class. As part of the presentation process, students use the online Presentation Checklist to evaluate their roles in the presentation. Oral presentation skills are also reinforced in the Unit Research project. For this activity, students

	are divided into five groups; each group selects a project relating to one of the Essential Questions from the unit. Groups complete their research, organize the information, and take turns presenting their projects to the class.

Evaluation checklists are available both for students, to help them assess their research and presentation skills, and for teachers, providing guidelines and rubrics.

In grades 1-6, writing instruction in the Teacher's Edition provides students with multiple opportunities to orally present their ideas. As part of the Weekly Writing lessons, students select a piece of their own writing to share with peers. In grades 2-6 Unit Writing, students present drafts of their writing pieces for peer review and response.

In each unit of the Teacher's Edition, the CelebrateShare Your Writing lesson invites students to select, prepare, and orally present a piece of writing they have worked on throughout the unit.

Grade 4 Teacher's Edition, Unit 2 page T334-335. Grade 5 Teacher's Edition, Unit 3 pages T31-T32. T346-T347, T352-T353, T334-T335. |
| *Students contribute their own ideas and incorporate the ideas of others when engaging in collaborative discussions.* | The Small Group Differentiated Instruction in the Teacher's Edition includes   Literature Circles; activities for students at all reading levels— Approaching, On-level, Beyond, and English Language Learners—to engage in collaborative conversations, sharing and exchanging ideas. In grades 2-6, students have the opportunity to guide the discussions, using the Thinkmark questions in the Leveled Reader appropriate to their group. In grade 1, the discussions are teacher-led.

The Workstation Activity Cards also provide opportunities for collaborative discussions. Each of the four types of cards: Reading, Writing, Phonics/Word Study, and Science/Social Studies, includes activities that students can complete by working with a partner.

Additional collaborative opportunities in the Teacher's Edition include the Text Connections activities. Students work in groups to compare and analyze the Reading/Writing Workshop and Leveled Reader texts they read throughout the week and orally present their ideas and findings to |

	the class, encouraging further discussion.
	Grade 6 Teacher's Edition, Unit 2 pages T29, T41, T49, T53,T59
Students acquire an understanding of diversity through interpersonal communications and interactions.	The Make Connections questions in the Reading/Writing Workshop and Literature Anthology provide students with opportunities to discuss how the weekly texts they have read relate to their own lives, as well as to the world around them. By sharing information and ideas, students gain a greater understanding and appreciation of diversity. Grade 3 Reading/Writing Workshop pages 48, 123. Grade 5 Literature Anthology page 315.
Students incorporate a variety of media elements when presenting information.	Across grades 1-6, the Research and Inquiry projects in the Teacher's Edition provide opportunities for students to incorporate a variety of media elements as part of their presentations. In grade 3, unit 4, week 5, page T284, pairs of students work together to create a poem and accompanying audio recording about people who have inspired them. In grade 5, unit 5, week 3, page T156, students have the option of creating a website entry or podcast that describes a nature reserve or a wildlife sanctuary they have researched. As part of the Unit Writing instruction in the Teacher's Edition, students select either a print or digital format to use when publishing their final writing products. For example, grade 3 students can choose to present their unit 5, week 6 opinion essay as an art mobile, on a debate wall, as a social networking page, or as a slide show.
Teachers use a variety of instruction methods, such as read-aloud, to assist students in acquiring a rich and varied vocabulary.	In grades K-2, the Interactive Read Aloud cards help students acquire a rich and varied vocabulary through oral exposure to a variety of literature and nonfiction selections. The five oral vocabulary words introduced each week are highlighted and used in the context of the selection. Instructional routines for oral vocabulary and retelling are included for support. In grades 2-6, the Vocabulary Strategy lessons in the Reading/Writing Workshop provide instruction to help students acquire a rich and varied vocabulary. Among the lessons featured are

	those that deal with synonyms, antonyms, homographs, homophones, figurative language, prefixes, suffixes, and morphology. In grades 3-6, the Build Vocabulary lessons in the Teacher's Edition include a variety of collaborative activities that extend the instruction. The activities in grade 6, unit 2, week 3, page T166-T167, for example, can be used to reinforce academic vocabulary, root words, connotation and denotation, shades of meaning, and morphology. Additional opportunities for vocabulary enrichment are provided in the Access Complex Text Vocabulary feature in the Teacher's Edition. This feature provides students with instruction on domain- specific vocabulary words from the week's readings that may be unfamiliar. Grade 1 Teacher's Edition, Unit 3 page T21 Grade 4 Reading/Writing Workshop page 201 Grade 3 Teacher's Edition, Unit pages T38-T39. Grade 5 Teacher's Edition, Unit 5 pages T217E, T217K.

Vocabulary Acquisition and Use

*"Of the many compelling reasons for providing students with instruction
to build vocabulary, none is more important than the contribution of
vocabulary knowledge to reading comprehension"*

– Baumann, Kameʻenui, & Ash, 2003.

_____

What is vocabulary?

Vocabulary is knowledge of the meaning, use, and pronunciation of individual words. It includes both oral vocabulary–words we use in speaking or recognize in listening–and reading vocabulary–words we use or recognize in print. Vocabulary is a key component of comprehension. Before readers can understand the meaning of spoken or written text, they must know what most of the words mean.

The *Standards* conceptualize vocabulary in two ways.   First, the Standards emphasize the need for students to expand the breadth of their vocabulary knowledge; that is, to acquire a healthy stock of words. Second, the *Standards* indicate that students be able to not only interpret the meaning and tone of words in context, but also to use words appropriately. Vocabulary is an important component of many aspects of literacy, including listening comprehension, oral expression, reading comprehension, and written expression.

Why is vocabulary instruction important?

Much of our vocabulary knowledge comes from simple exposure to new words in context. However, research has verified that direct instruction in vocabulary–specifically teaching the meaning of new words, and teaching strategies for vocabulary building–has a positive impact on students' language development.

Two links (to comprehension and to specific skills) to vocabulary development are discussed below:

Link between vocabulary development and reading comprehension. According to the National Reading Panel (NRP), although a direct causal link between vocabulary development and reading comprehension has not been established by research, still a variety of studies "underscore the notion that comprehension gains and improvement on semantic tasks are results of vocabulary learning" (NICHHD, 2000, pp. 4-15, 4-20, citing 7 studies). Similarly, a longitudinal study on early reading development among British school children found evidence that vocabulary knowledge, as tested at the start of the students' first year of school, was one of three predictors of reading comprehension during the first year, as tested at the start of the students' third year of school–a span of two school years (Muter et al., 2004).

Effects on specific skill areas. According to a review of research on early childhood reading commissioned by the National Research Council (NRC), "Vocabulary instruction generally does result in measurable increase in students' specific word knowledge. Sometimes and to some degree it also results in better performance on global vocabulary measures, such as standardized tests, indicating that the instruction has evidently enhanced the learning of words beyond those directly taught. Second, pooling across studies, vocabulary instruction also appears to produce increases in children's reading comprehension" (Snow, Burns, & Griffin, 1998, p. 217). A review of research conducted by the National Early Literacy Panel indicated that "more complex aspects of oral language, such as grammar, definitional vocabulary, and listening comprehension, had more substantial predictive relations with later conventional literacy skills" (National Institute for Literacy, 2008, p. 78).

Who benefits from vocabulary instruction?

All Students. Research suggests that, when provided with direct instruction, children in Kindergarten and first-grade can acquire sophisticated vocabulary (Beck & McKeown, 1991; 2007). The NRP analysis

underscored the fact that development of reading ability is dependent on oral vocabulary: in order for students to understand a word once it has been decoded, it must already be part of their vocabulary (NICHHD, 2000, p. 4-15). Similarly, the NRC report argues that "Learning new concepts and the words that encode them is essential for comprehension development" (Snow, Burns, & Griffin, 1998, p. 217). Based on these factors, it seems reasonable to conclude that even before students can read independently, direct methods for building oral vocabulary may help contribute to students' ultimate success in reading.

Common Core State Standards in English Language Arts:
Standard for Vocabulary Acquisition and Use

Vocabulary acquisition and use is incorporated throughout reading, writing, listening,
and speaking instruction.

Examples

Kindergarten:
- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on Kindergarten reading and content
- With guidance and support from adults, explore word relationships and nuances in word meanings
- Use words and phrases acquired through conversations, reading, and being read to, and responding to texts

Third-Grade:
- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies
- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings
- Acquire and use accurately grade-appropriate conversational, general academic, and domain specific words and phrases, including those that signal spatial and temporal relationships (www.corestandards.org)

Research Recommendations for Vocabulary

Range and Scope of Instruction

Grade Levels. The *Standards* incorporate vocabulary acquisition and use across all grade levels. Grade K-2 materials must provide ample instruction and exercise for those students possessing weak vocabulary knowledge, which may include non-native English speakers. The acquisition of academic vocabulary, or Tier 2 words, is of particular emphasis.

Instructional Methods and Features. Multiple strategies, incorporating direct and indirect vocabulary instruction. Based on research surveyed by the NRP, "It is clear that vocabulary should be taught both directly and indirectly"–that is, using both explicit instruction in vocabulary and methods of decoding word meanings, on the one hand, and more contextual approaches to exposing students to vocabulary on the other (NICHHD, 2000, p. 4-24). Based on both the research results it reviewed and theoretical considerations, the NRP further recommended that reading instruction include a combination of different strategies, both direct and indirect, for building vocabulary, rather than relying on only one method (NICHHD, 2000, p. 4-27).

The *Standards* emphasize that instruction should guide students to extract word meaning from the context in which it is used, and yet provide support for those students unlikely to determine word meaning from text alone. For example, English language learners may require support in mastering high-frequency words that are essential to reading grade-level text.

Instructional Methods and Features

Deriving meaning from context (NICHHD, 2000, 4-23, citing 2 studies) and a combination of context based and definitional approaches (NICHHD, 2000, p. 4-23, citing 2 studies)

"Restructuring the task" of learning new words in a variety of different ways, such as providing redundant information and providing sample sentences along with definitions (NICHHD, 2000, pp. 4-22–4-23, citing 7 studies)

Direct instruction in "vocabulary items that are required for a specific text to be read as part of the lesson" (NICHHD, 2000, pp. 4-24–4-25, citing 4 studies). This includes pre-instruction of vocabulary before the reading or lesson (p. 4-25, citing 3 studies).

Storybook reading. A body of research evidence shows that "reading storybooks aloud to young children . . . results in reliable gains in incidental word acquisition" (Ewers & Brownson, 1999, p. 12, citing 5 additional studies).

"Active student participation," including activities such as student-initiated talk in the context of listening to storybooks (NICHHD, 2000, pp. 4-21, 4-26, 4-27). This calls for active student participation, as in the findings of Ewers and Brownson (1999), who reported on a study in which a storybook with 10 targeted vocabulary words was read aloud individually to 66 kindergarteners. Pretest-posttest comparison found that students in both treatments learned a significant number of the targeted vocabulary words; however, students in the active (question-answering) treatment learned significantly more words than those in the passive treatment. This result was true both of students with a high phonological working memory and of those with a low phonological working memory.

 "Richness of context in which words are to be learned," including "extended and rich instruction of vocabulary (applying words to multiple contexts, etc.)" (NICHHD, 2000, pp. 4-22, 4-27). Along similar lines, the NRC report cites a review of studies in which "methods in which children were given both information about the words' definitions and examples of the words' usages in a variety of contexts resulted in the largest gains in both vocabulary and reading comprehension," compared to drill and practice (Snow, Burns, & Griffin, 1998, pp. 217–218, citing Stahl & Fairbanks, 1986). The NRP further recommended that vocabulary items should be "derived from content learning materials" and likely to appear in a variety of other contexts as well (NICHHD, 2000, p. 4-25).

"High frequency and multiple, repeated exposures to vocabulary material" (NICHHD, 2000)

Vocabulary Acquisition Research Recommendations	Demonstration of Alignment in Reading Wonders
Vocabulary development begins in Kindergarten and increasingly focuses on the acquisition of Tier 2 (academic) vocabulary.	In kindergarten and first grade, exposure to new words begins with oral vocabulary development. The "Talk About It" weekly openers help develop oral vocabulary and build background knowledge about the weekly theme. New oral vocabulary words are introduced with the Visual Vocabulary Cards. The words are incorporated and repeated throughout the week to provide multiple exposure and understanding in context. New vocabulary is also introduced through the Literature Big Books and the Interactive Read-Aloud Cards.

For example, in Grade 1, Unit 1, Week 1, on Day 1 students are introduced to new oral vocabulary with the Visual Vocabulary Words. The words are linked to the theme "At School" and students talk about what they do at school. On Day 2, students review and are introduced to new oral vocabulary words related to the theme using the Visual Vocabulary Cards. Students continue to build on this vocabulary throughout the week by reading and talking about school, using the Interactive Read-Aloud Cards "Schools Around the World" on Day 2, the Literature Big Book on Day 3, and the selections in the Literature Anthology on Day 4 and 5.

Beginning in Grade 1, Unit 4, Tier 2 vocabulary words that have been selected from main selection in the Literature Anthology, are introduced each week. In addition, domain-specific words are introduced in context through selections in the Literature Anthology. The Access Complex Text feature provides scaffolding to help students with specific vocabulary in selections.

For example, in the Grade 4, Unit 6, Week 4, students are introduced to Tier 2 (academic) vocabulary related to money and economics. Students begin the week by discussing the concept "Money Matters." They use a Concept Web to generate words and phrases related to money. The vocabulary, selected from the Main Selection in the Literature Anthology, for the week includes *economics, entrepreneur*, and *currency*. The Shared Read in the Reading/Writing Workshop "The History of Money" and the selection in the Literature Anthology "The Big Picture of Economics" use these Tier 2 words. Students discuss and write with this academic vocabulary throughout the week. The Access Complex Text feature in the main selection provides additional scaffolding for the vocabulary words *scarcity* and *opportunity*. They have the chance to apply the words when they complete the Research and Inquiry project for the week, Researching World Currencies. In addition, the Readers to Writers feature focuses on how to use content words in writing.

Kindergarten Teacher's Edition, Unit 4 pages T11, T25, T41, T49, T87
Grade 1 Teacher's Edition, Unit 1 pages T8-9, T20, T113B, T347B

	Grade 4 Teacher's Edition, Unit 6 pages T202-T203, T206-T207, T217E, T220, T222-223, T230-T231
Reading instruction includes a combination of strategies, both direct and indirect, for building vocabulary.	Reading Wonders includes both direct and indirect strategies to build vocabulary. Students build vocabulary indirectly by listening to, reading, and discussing fiction and nonfiction texts. In Kindergarten and Grade 1, each week of instruction includes reading selections in the Reading/Writing Workshop Big Book, a Literature Big Book, Interactive Read-Aloud Cards, and Leveled Readers. In grades 2 to 6, each week includes reading selections in the Reading/Writing Workshop, the Literature Anthology, an Interactive Read-Aloud, Leveled Readers, and the Classroom Library.

Direct vocabulary instruction is also present throughout Reading Wonders. Key vocabulary words are taught to students before reading. Students also learn vocabulary strategies to help them decode word meanings, including identifying inflectional endings, root words, prefixes and suffixes, and Greek and Latin roots. They learn to recognize homophones, homographs, idioms, and figurative language. They learn to use print and online reference materials, including dictionaries and glossaries.

For example, in Grade 2, Unit 3, Week 5, the Vocabulary Strategy lesson in the Reading/Writing Workshops teaches the prefixes *re,* and *ex-* and students learn how words parts can help them figure out the meaning of a word. Students practice the strategy in the Leveled Practice Book. Prefixes are also shown and taught in context in the main selection in the Literature Anthology.

In Grade 4, Unit 6, Week 3, the Vocabulary Strategy lesson in the Reading/Writing Workshop teaches Latin and Greek Prefixes *non-, pre-*, *bio-*, and *hyper*. Students practice the strategy in the Leveled Practice book. The Latin and Greek Prefixes are also show and taught in context in the main selection in the Literature Anthology.

Grade 2 Reading/Writing Workshop, Unit 3 page 253
Grade 4 Reading/Writing Workshop, Unit 6 page 417
Grade 4 Teacher's Edition, pp. T166-T167, T178 |

Vocabulary is taught using a variety of specific instructional methods, such as context-based approaches, restructuring, and pre-instruction in vocabulary before the reading lesson begins.	Pre-instruction, context-based instruction and restructuring are all used to teach vocabulary in Reading Wonders. New vocabulary words are introduced to student each week before they begin reading the selection. The Visual Vocabulary Cards and the Words to Know section in the Reading/Writing Workshop are used to introduce new vocabulary to students before reading. Beginning in Grade 1, students are also taught to use context clues to figure out the meaning of unknown words. Students are taught to use sentence and paragraph clues, definitions and restatements, synonyms, and antonyms throughout. Students are also given opportunities to learn new words in a variety of ways. Sample sentences and multiple definitions are given for the vocabulary words each week. Grade 5 Reading Writing Workshop, Unit 3 pages 164-165 Grade 5 Teacher's Edition, Unit 3 pages T24-25, T102
Storybooks are read aloud to children.	Students have many opportunities to hear storybooks read aloud. In Kindergarten and Grade 1, teachers read and discuss Literature Big Books and Interactive Read Alouds with the class. In addition, the Reading/Writing Workshop are used for Shared Reading. In grades 2-6, each week's lesson begins with an Interactive Read-Aloud. The Reading/Writing Workshop includes the "Shared Read" Main selections in the Literature Anthology can be read aloud. Interactive Read Alouds and Classroom Library Tradebooks are also read aloud to students. Grade 5 Teacher's Edition, Unit 4 page T77 Grade 5 Reading/Writing Workshop, Unit 4 pages 252-255 Grade 5 Literature Anthology, Unit 4 pages 282-291
Students are given both information about the words' definitions and examples of the words' usages in a variety of contexts.	In Reading Wonders, students encounter the vocabulary words in each week's lesson in a variety of contexts. Teachers use the Visual Vocabulary Cards and a Define/Example/Ask routine to introduce vocabulary words. The vocabulary words also appear in "Words to Know" in the Reading/ Writing Workshop. Each word is used in a sentence and is supported by a picture. The words are also used in the Shared

	Read in the Reading/Writing Workshop, in the main selection in the Literature Anthology, and in the Leveled Readers. Students also generate different forms of the word. For example, in Grade 3, Unit 2, Week 2, the word *immigration* is introduced with the Visual Vocabulary Card. The word is defined and used in a sentence. It appears again in "Words to Know" in the Reading/Writing Workshop. The word is used in a sentence and students are prompted to answer a question using the word. The word is encountered and discussed in "Sailing to America" in the Reading/Writing Workshop and "The Castle on Hester Street" in the Literature Anthology. The Approaching, On, and Beyond Leveled Readers for the week include the word *immigration* in the text. Students also generate different forms of the words by removing, changing of adding inflectional endings. Grade 3 Teacher's Edition, Unit 2 page T80 Grade 3 Reading Writing Workshop, Unit2 page 117 Grade 3 Literature Anthology, Unit 2 pages 130-132
Vocabulary items are derived from content learning materials.	In grades 1-6, vocabulary words are taken from the weekly main selection in the Literature Anthology. The words are introduced in the Shared Read and used again the Leveled Readers The students' leveled Practice Books provide further word exploration. Leveled readers and the Classroom Library also reinforce vocabulary development. In addition, domain-specific vocabulary words used in the Literature Anthology selections are identified and taught. Grade 5 Reading Writing Workshop, Unit 3 pages 166-169 Grade 5 Literature Anthology, Unit 3 pages 182-193 Grade 5 Leveled Reader Unit 3, Week 1
Vocabulary is taught through active (question-answering) student participation.	In Reading Wonders, the vocabulary lessons incorporate active student participation throughout. Each week, new vocabulary is introduced using the Visual Vocabulary Cards. The Vocabulary Routine on the cards ends by asking students a question related to the word. After the new vocabulary has been introduced, students discuss the new words with a partner and

	write questions using the words. This type of active student participation continues throughout the week. Students discuss the words with other students, practice using the words, and write with the words. For example, in Grade 5, Unit 1, Week 2, on Day 1 students practice using the new vocabulary by answering questions that use the new words. On Day 2, they are asked to generate new forms of the words by adding, changing, or removing inflectional endings. On Day 3, students complete sentence stems using the words. On Day 4, student write sentences in their word study notebooks using the words. On Day 5, they complete Word Squares for each vocabulary word. In the first square, they write the word. In the second square, they write a definition, in the third square, they draw an illustration that will help them remember the word. In the fourth square, students write antonyms for the word. Student share and discuss their word squares with a partner. Grade 2 Your Turn Practice Book, Unit 1 pages 1-2, 30 Teacher's Edition Grade 5, Unit 2 pages T78-T79 Grade 5 Your Turn Practice Book, Unit 2 pages 68
Word recognition is regularly assessed in multiple ways.	Assessment matches instructional context. In Leveled Practice Books, students choose vocabulary words from a list to complete each sentence. They write original sentences using the vocabulary words. Words are highlighted in the reading selections, and students stop at each word and identify clues to the meanings. They suggest or review the meanings as well. They complete graphic organizers such as semantic webs, and they add words to the Word Wall. Students also use a Practice Book page each week to demonstrate pronunciation and comprehension of vocabulary words. Weekly Assessments and Unit Test provide formal assessments of students' progress. Grade 3 Your Turn Practice Book, Unit 2 page 68 Grade 3 Teacher's Edition, Unit 2 page T143 Grade 5 Your Turn Practice Book, Unit 2 page 71
Additional instruction is provided for those students who need support mastering high-frequency words.	In K-1, the Visual Vocabulary Cards include high-frequency words. High-frequency words are also covered in the daily Word Work section. In grades 2-6, the small group lessons for

| | Approaching level students include high-frequency word review each week. The high-frequency words cards can be used for repeated practice.

Tier 2 Intervention Fluency Teacher's Edition Guides also include additional instruction of high-frequency words.

Kindergarten Teacher's Edition, Unit 4 page T17
Grade 3 Teacher's Edition, Unit 2 page T112
K- 2 Tier 2 Intervention Fluency Teacher's Edition page 38 |

Conventions of Standard English and Knowledge of Language

Language choice is a matter of craft for both writers and speakers
*(*Common Core State Standards for English Language Arts, Appendix A*, p 28)*

_____

What is meant by 'conventions of standard English' and 'knowledge of language'?

Conventions of standard English include grammatical structures, usage and mechanics, or the 'nuts and bolts' of writing and speaking. For example, students are expected to develop well-constructed sentences that contain correct spelling, punctuation, and grammar. Knowledge of language includes, for example, the ability to select words for effect, compare and contrast varieties of English (e.g., dialects and registers), and differentiate contexts that require formal English from those contexts where informal usage is acceptable and appropriate. In conjunction, students must develop knowledge regarding the 'digital mechanics' of audio-visual formats (Rice, 2008). These are elements that students must master as they increase the range and complexity of encountered text, engage in academic and social discourse, and as they prepare written communications.

Why is instruction important?

The conventions of Standard English and language use and structure extend into all literacy domains, including reading, writing, and speaking and listening. Students benefit from instruction for the following reasons:

- Students who gain control over Standard English grammar, usage, and mechanics are better able to effectively communicate their ideas, knowledge, and opinions through oral discussions and written work.
- Students who gain control over conventions of Standard English grammar, usage, and mechanics can more easily master the use of digital texts than students who lack this control.
- The ability to manipulate the language orally as well as the ability to decode words supports vocabulary development (www.readtennessee.org)

Who benefits from instruction?

All Students. It is recommended that, "an essential element in developing a comprehensive writing policy is the identification of effective instructional procedures, not just at the secondary level…but with younger students as well" (Saddler & Graham, 2005, p 43). The goal of explicit, strategic writing instruction is two-fold: first, to enhance the writing skills all children, from early elementary school on; and second, to minimize the number of children who experience difficulties learning to write (Graham & Harris, 2002). Writing instruction benefits all students, as"the teaching of writing skills such as grammar and spelling reinforces reading skills" (Graham & Herbert, 2010, p. 7).

Common Core State Standards in English Language Arts: Standard for Conventions of Standard English and Knowledge of Language:

Demonstrate command of the conventions of Standard English grammar and usage when writing and speaking. Use knowledge of language and its conventions when writing, speaking, reading, or listening.

Conventions of Standard English are addressed for grades Kindergarten and above. Knowledge of Language begins in grade 2.

Examples

Kindergarten

- Print upper- and lowercase letters
- Use frequently occurring nouns and verbs
- Produce and expand complete sentences in shared language activities
- Understand and use question words (e.g., who, what, where, when, why, how)

Third-Grade

- Form and use regular and irregular verbs
- Produce simple, compound, and complex sentences
- Use spelling patterns and generalizations in writing words
- Ensure subject-verb and pronoun-antecedent agreement

Research Recommendations Conventions of Standard English and Knowledge of Language

Range and Scope of Instruction

Grade Level. Explicit instruction on conventions of Standard English begin in Kindergarten and extend throughout the later grades. Knowledge of language begins in grade 2. Graham and Harris (1994) recommend direct, skill-oriented instruction designed to foster text-production skills (e.g., spelling, grammar). For example, fourth-grade students identified as either more or less skilled in their writing benefitted from strategic instruction designed to improve their ability to construct sentences (Saddler & Graham, 2005). Teaching basic skills, such as grammar within the context of writing— instead of teaching them in isolation—has been shown to enhance writing performance (Fearn & Farnan, 2007).

Conventions of Language Research Recommendations	Demonstration of Alignment in Reading Wonders
Students participate in shared-language activities to refine and develop their language skills.	Shared-language activities are integrated into daily instruction throughout the grades. Teachers encourage students to express their ideas in a thoughtful and organized manner, while incorporating the specific lessons being taught hat week. **All Grades:** Students regularly participate in Collaborative Conversations as they discuss the weekly topics and concepts, talk about selections read, and practice skills in partner activities. Students share ideas speaking in complete sentences, using conventions of Standard English and incorporating the academic vocabulary they have been learning. Teachers model how to speak clearly using more formal standard English in discussions and responses to questions. Students are guided to speak clearly and coherently, using the more formal Standard English conventions while

	speaking and listening carefully and respectfully to others.

At Kindergarten and Grade 1, students engage in shared and interactive writing activities. During these activities, specific grammar and usage skills are introduced, practiced and applied.

In Grades 1-6, as students revise and edit their own writing each week, students discuss revisions and edits in peer conferences.

In Grades K-6, the daily grammar lessons ask students to work together to practice and apply conventions of grammar and usage in writing and speaking and listening activities. These oral activities are identified by the "Talk about It" label in the lessons.

Grade 1 Teacher's Edition: T9, T18, T19, T114–T115
Grade 2 Teacher's Edition, Unit 1: T8, T36, T54–T55
Grade 3 Teacher's Edition, Unit 1 pages T10, T34–T35, T36–T37
Grade 4 Teacher's Edition, Unit 1 pages T10, T32–T33, T34–T35 |
| *Students receive strategic, direct instruction regarding the "rules" of formal written and spoken English.* | Explicit instruction on conventions of Standard English is provided throughout all grade levels. Through daily lessons and activities, students develop understanding of the conventions of Standard English grammar, usage, and mechanics. This knowledge of language allows students to effectively communicate their ideas, knowledge, and opinions in writing and in speaking

All Grades: Daily direct and explicit instruction in standard English grammar, mechanics and usages is provided throughout grades K-6. Grammar is taught in the context of writing. After instruction and guided practice in a particular skill, students apply that skill in speaking activities as well as in their writing

At Grades K-6, the Readers to Writers pages in the Reading/Writing Workshop teach grammar rules as it applies to student writing.

At Grades 2-6, the Grammar Handbook provides specific rules and instruction, as well as activities for practice. Students use the Grammar Handbook as a resource to develop their own writing. |

	Grammar Practice pages provided for grades 1-6 are also another opportunity for students to review and practice the rules of formal English.
	A variety of interactive grammar games and activities that offer practice in grammar, mechanics and usage can be found on the Student Workspace at www.connected.mcgraw-hill.com.
	Kindergarten Teacher's Edition, Unit 1 page T19 Kindergarten Reading/Writing Workshop page 56 Grade 1 Teacher's Edition, Unit 1 page T115 Grade 1 Reading/Writing Workshop pages 46–47; Grade 1 Grammar Practice Book pages 1–5 Grade 5 Teacher's Edition, Unit 1 pages T34–T35 Grade 5 Reading/Writing Workshop pages 30–31; Grade 5 Grammar Practice Book pages 1–5
Students approach language as a matter of craft, and make informed choices among alternatives.	Students are taught to analyze expert models, student models, and their own writing in regards to the use of language. The instruction in *Reading Wonders* emphasizes the power of revision, focusing on the use of language as a craft to improve the effectiveness of writing and speaking. **All Grades:** Across all grades, the Readers to Writers weekly lessons in the Reading/Writing Workshop teaches students how to revise for grammar and usage, such as sentence fluency, or use of punctuation to make their writing more effective. To help develop their proficiency in revising their writing, students are taught to look at how the conventions of language affect their writing. In teacher conferences and peer conferences each week. Choices on how to revise the use of language are discussed. Speaking Checklists and Presentation Rubrics also emphasize the effectiveness of the proper use of language in speaking to an audience. The Workstation Writing Activity Cards provide additional practice in revising writing. Grade 1 Teacher's Edition, Unit 1 pages T50, T114–T115, T402 Grade 1 Reading/Writing Workshop pages 46–47 Grade 3 Teacher's Edition, unit 1 pages T34–T35 T342 Grade 3 Reading/Writing Workshop pages 32–33

	Grade 4 Teacher's Edition, Unit 1 pages T32–T33, T334 Grade 4 Reading/Writing Workshop pages 30–31

References

Used for the Research Alignment of
McGraw-Hill Education

Reading Wonders Comprehensive Reading Curriculum
Synopsis of Findings and Technical Appendix

A

Adams, A., Carnine, D., & Gersten, R. (1982). Instructional strategies for studying content area texts in the intermediate grades. Reading Research Quarterly, 18(1), 27–55.

Anderson, R., & Biddle, W. (1975). On asking people questions about what they are reading. In G. H. Bower (Ed.), The psychology of learning and motivation (Vol. 9, pp. 90–132). New York: Academic Press.

Anderson, R. C., Wilkinson, I. A. G., & Mason, J. M. (1991). A microanalysis of the small-group, guided reading lesson: Effects of an emphasis on global story meaning. Reading Research Quarterly, 26, 417–441.

Anderson, R., & Biddle, W. (1975). On asking people questions about what they are reading. In G. H. Bower (Ed.), The psychology of learning and motivation (Vol. 9, pp. 90-132). New York: Academic Press.

Anderson, V., & Roit, M. (1993). Planning and implementing collaborative strategy instruction for delayed readers in grades 6-20. Special Issue: Strategies instruction. Elementary School Journal, 94(2), 121–137.

Andrews, S., & Bond, R. (2009). Lexical expertise and reading skill: bottom-up and top-down processing of lexical ambiguity. Reading and Writing, 22, 687 – 711.

Armbruster, C. C., Lehr, F., & Osborn, J. (2003). Put reading first: The research building blocks for teaching children to read. Second Edition. Washington, DC: Partnership for Reading, a collaborative effort of the National Institute for Literacy, the National Institute of Child Health and Human Development, and the U.S. Department of Education. Retrieved March 7, 2005, from http://www.nifl.gov/nifl/partnershipforreading/ publications/PFRbooklet.pdf

August, D., & Shanahan, T. (Eds.). (2006). Developing literacy in second-language learners. Mahwah, NJ: Lawrence Erlbaum Associates.

B

Babbs, P. J. (1984). Monitoring cards help improve comprehension. Reading Teacher, 38(2), 200–204.

Baker, L., & Zimlin, L. (1989). Instructional effects on children's use of two levels of standards for evaluating their comprehension. Journal of Educational Psychology, 81(3), 340–346.

Barger, J. (2003). Comparing the DIBELS oral reading fluency indicator and the North Carolina end of grade reading assessment. (Technical Report). Asheville: North Carolina Teacher Academy. Retrieved September 2005 from the DIBELS Technical Reports webpage:

http://dibels.uoregon.edu/techreports/index.php

Baumann, J.F., (1986). Teaching third-grade students to comprehend anaphoric relationships: The application of a direct instruction model. Reading Research Quarterly, 21(1), 70 – 90.

Baumann, J. F., & Bergeron, B. S. (1993). Story map instruction using children's literature: Effects on first graders' comprehension of central narrative elements. Journal of Reading Behavior, 25(4), 407–437.

Baumann, J. F., Seifert-Kessell, N., & Jones, L. A. (1992). Effect of think-aloud instruction on elementary students' comprehension monitoring abilities. Journal of Reading Behavior, 24(2), 143–172.

Beck, I. L., Perfetti, C. A., & McKeown, M. G. (1982). Effects of long-term vocabulary instruction on lexical access and reading comprehension. Journal of Educational Psychology, 74(4), 506–521.

Beck, I. L., & McKeown, M. G. (1991). Conditions of vocabulary acquisition. In R. Barr, M. Kamil, P. Mosenthal, & P. D. Pearson (Eds.), Handbook of reading research, (Vol. 2, pp. 789-814). New York: Longman.

Beck, I. L., & McKeown, M. G. (2001). Text talk: Capturing the benefits of readaloud experiences for young children. The Reading Teacher, 55, 10-20.

Beck, I.L., & McKeown, M. G (2007).   Increasing young low-income children's oral vocabulary repertoires through rich and focused instruction. The Elementary School Journal,107(3), 251-271.

Beck, I. L., McKeown, M. G., & Kucan, L. (2002). Bringing words to life: Robust vocabulary instruction. New York: Guilford.

Beck, I. L., McKeown, M. G., & McCaslin, E. S. (1983). All contexts are not created equal. Elementary School Journal, 83, 177-181.

Bereiter, C., & Bird, M. (1985). Use of thinking aloud in identification and teaching of reading comprehension strategies. Cognition and Instruction, 2, 131–156.

Blachowicz, C. L. Z., & Fisher, P. (2000). Vocabulary instruction. In M.L. Kamil, P.B. Mosenthal, P.D. Pearson, & R. Barr (Eds.), Handbook of reading research: Volume III (pp. 503-525). Mahwah, NJ: Lawrence Erlbaum Associates.

Blaha, B. A. (1979). The effects of answering self-generated questions on reading. Unpublished doctoral dissertation, Boston University.

Blanchard, J. S. (1980). Preliminary investigation of transfer between single-word decoding ability and contextual reading comprehension by poor readers in grade six. Perceptual and Motor Skills, 51(3), p2.t2.

BockBlock, C. C. (1993). Strategy instruction in a literature-based reading program. Special issue: Strategies instruction. Elementary School Journal, 94(2), 139–151.

Brady, P. I. (1990). Improving the reading comprehension of middle school students through reciprocal teaching and semantic mapping strategies. Unpublished doctoral dissertation, University of Alaska.

Bonfiglio, C. M., Daly, E. J., Persampieri, M., & Andersen, M. (2006). An experimental analysis of the effects of reading interventions in a small group reading instruction context. Journal of Behavioral Education, 15, 93-109.

Bramlett, R. K. (1994). Implementing cooperative learning: A field study evaluating issues for school-based consultants. Journal of School Psychology, 32(1), 67–84.

Brett, A., Rothlein, L., & Hurley, M. (1996). Vocabulary acquisition from listening to stories and explanations of target words. Elementary School Journal, 96(4), 415–422.

Breznitz, Z. Fluency in reading: Synchronization of process. Mahwah, NJ: Lawrence Erlbaum Associates. Brown, R., Pressley, M., Van Meter, P., & Schuder, T. (1996). A quasi-experimental validation of transactional strategies instruction with low-achieving second-grade readers. Journal of Educational Psychology, 88(1), 18–37.

Buck, J., & Torgesen, J. (2003). The relationship between performance on a measure of oral reading fluency and performance on the Florida Comprehensive Assessment Test. (FCRR Technical Report No. 1). Tallahassee: Florida Center for Reading Research.

Retrieved September 2005 from the DIBELS Technical Reports Web webpage:

http://dibels.uoregon.edu/techreports/index.php

Burley, J. E. (1980). Short-term, high intensity reading practice methods for Upward Bound Students: An appraisal. Negro Educational Review, 31, 156–161.

Burns, M. K. (2007). Reading at the instructional level with children identified as learning disabled: Potential implications for Response-to-Intervention. *School Psychology Quarterly, 22,* 297-313.

Burns, M. K., Dean, V. J., & Foley, S. (2004). Preteaching unknown key words with incremental rehearsal to improve reading fluency and comprehension with children identified as reading disabled. *Journal of School Psychology, 42,* 303–314.

Buss, R. R., Ratliff, J. L., & Irion, J. C. (1985). Effects of instruction on the use of story structure in comprehension of narrative discourse. National Reading Conference Yearbook, 34, 55–58.

C

Camilli, G., Vargas, S., Yurecko, M. (2003). Teaching children to read: The fragile link between science and federal policy. Education Policy Analysis Archives, 11, 1-52.

Carney, J. J., Anderson, D., Blackburn, C., & Blessing, D. (1984). Preteaching vocabulary and the comprehension of social studies materials by elementary school children. Social Education, 48(3), 195–196.

Carnine, D., & Kinder, D. (1985). Teaching low-performing students to apply generative and schema strategies to narrative and expository material. Remedial and Special Education, 6, 20–30.

Carr, E., Bigler, M., & Morningstar, C. (1991). The effects of the CVS strategy on children's learning.

Carr, E. M., Dewitz, P., & Patberg, J. P. (1983). The effect of inference training on children's comprehension of expository text. Journal of Reading Behavior, 15(3), 1–18.

Carr, E., Bigler, M., & Morningstar, C. (1991). The effects of the CVS strategy on children's learning.

Carver, R. P., & Liebert, R. E. (1995). The effect of reading library books in different levels of difficulty on gain in reading ability. Reading Research Quarterly, 30, 26–48.

Center, Y., Freeman, L., Robertson, G., & Outhred, L. (1999). The effect of visual imagery training on the reading and listening comprehension of low listening comprehenders in year 2. Journal of Research in Reading, 2293), 241-256.

Chan, L. D. S., & Cole, P. G. (1986). Effects of inference training on children's comprehension of expository text. Remedial and Special Education, 7, 33–40.

Clay, M. M. (1972). The early detection of reading difficulties. Auckland, NZ: Heinemann.

Cline, R. K. J., & Kretke, G. L. (1980). An evaluation of long-term SSR in the junior high school. Journal of Reading, 23, 503–506.

Cohen, R. (1983). Students generate questions as an aid to reading comprehension. Reading Teacher, 36, 770–775.

Coleman, D., & Pimentel, S. (2011)1. Publishers' criteria for the common core state standards in English language arts and literacy, grades K-2. Retrieved May 2012 from the Core Standards webpage: http://www.corestandards.org/assets/Publishers_Criteria_for_K-2.pdf

Coleman, D., & Pimentel, S. (2011)2. Publishers' criteria for the common core state standards in English language arts and literacy, grades 3-12. Retrieved May 2012 from the Core Standards webpage: http://www.corestandards.org/assets/Publishers_Criteria_for_3-12.pdf.

Collins, C. (1980). Sustained silent reading periods: Effects on teachers' behaviors and students' achievement. Elementary School Journal, 81, 108–114.

Cooper, D.H., Roth, F.P., Speece, D. L. & Schatschneider, C. (2002). The contribution of oral language skills to the development of phonological awareness. Applied Psycholinguistics, 23, 399 – 416.

Cross, D. R., & Paris, S. G. (1988). Developmental and instructional analyses of children's metacognition and reading comprehension. Journal of Educational Psychology, 80(2), 131–142.

D

Daly, E., & Martens, B. (1994). A comparison of three interventions for increasing oral reading performance: Application of the instructional hierarchy. *Journal of Applied Behavior Analysis, 27,* 459-469.

Davey, B., & McBride, M. (1986). Effects of question-generation on reading comprehension. Journal of Educational Psychology, 22, 2–7.

Davis, Z. T. (1988). A comparison of the effectiveness of sustained silent reading and directed reading activity on students' reading achievement. The High School Journal, 72(1), 46–48.

Dermody, M. (1988). Metacognitive strategies for development of reading comprehension for younger children. Paper presented at the American Association of Colleges for Teacher Education, New Orleans, LA.

Dole, J. A., Sloan, C., & Trathen, W. (1995). Teaching vocabulary within the context of literature. Journal of Reading, 38(6), 452–460.

Dreher, M. J., & Gambrell, L. B. (1985). Teaching children to use a self-questioning strategy for studying expository text. Reading Improvement, 22, 2–7.

Dunn, L. M., Dunn, L. M., Whetton, C., & Burley, J. (1997). British Picture Vocabulary Scale II. Windsor, England: NFER-Nelson.

E

Eckert, T. L., Ardoin, S. P., Daisey, D. M., & Scarola, M. D. (2000). Empirically evaluating the effectiveness of reading interventions: The use of brief experimental analysis and single-case designs. *Psychology in the Schools, 37,* 463-474.

Elbro, C., & Petersen, D. K. (2004). Long-term effects of phoneme awareness and letter sound training: An intervention study with children at risk for dyslexia. Journal of Educational Psychology, 96(4), 660–670.

Elder, L., & Paul, R. (2004). Critical thinking…and the art of close reading (part IV). Journal of Developmental Education, 28(2), 36-37.

Eldredge, J. L. (1990). Increasing the performance of poor readers in the third grade with a group-assisted strategy. Journal of Educational Research, 84(2), 69–77.

Eller, R. G., Pappas, C. C., & Brown, E. (1988). The lexical development of kindergartners: Learning from written context. Journal of Reading Behavior, 10, 5–23.

Elley, W. B. (1989). Vocabulary acquisition from listening to stories. Reading Research Quarterly, 24, 174-187.

Elliot-Faust, D. J., & Pressley, M. (1986). How to teach comparison processing to increase children's short- and long-term listening comprehension monitoring. Journal of Educational Psychology, 78, 27–33.

Evans, H. M., & Towner, J. C. (1975). Sustained silent reading: Does it increase skills? Reading Teacher, 29, 155–156.

Ewers, C. A., & Brownson, S. M. (1999). Kindergartners' vocabulary acquisition as a function of active vs. passive storybook reading, prior vocabulary, and working memory. Journal of Reading Psychology, 20, 11–20.

Ezell, H. K., et al. (1992). Use of peer-assisted procedures to teach QAR reading comprehension strategies to third-grade children. Education and Treatment of Children, 15(3), 205–227.

F

Faulkner, H. J., & Levy, B. A. (1999). Fluent and nonfluent forms of transfer in reading: Words and their message. Psychonomic Bulletin and Review, 6, 111–116.

Fearn, L., & Farnan, N. (2007). When is a verb? Using functional grammar to teach writing. Journal of Basic Writing, 26(1), 63 – 87.

Fischer Galbert, J. L. (1989). An experimental study of reciprocal teaching of expository test with third, fourth, and fifth grade students enrolled in chapter 1 reading. Unpublished doctoral dissertation, Ball State University, Muncie, IN.

Fischer, J. A. (1973). Effects of cue synthesis procedure and post questions on the retention of prose material. Dissertation Abstracts International, 34, 615.

Fitzgerald, J., & Spiegel, D. L. (1983). Enhancing children's reading comprehension through instruction in narrative structure. Journal of Reading Behavior, 15(2), 1–17.

Fizzano, W.J., Jr. (2000). The impact of story drama on the reading comprehension, oral language complexity, and the attitudes of third graders. Dissertation Abstracts International, 60(11), 3908.

Foorman, B. R., Francis, D. J., Fletcher, J. M., Schatschneider, C., & Mehta, P. (1998). The role of instruction in learning to read: Preventing reading failure in at-risk children. Journal of Educational Psychology, 90, 37–55.

Fuchs, L. S., Fuchs, D., & Maxwell, L. (1988). The validity of informal measures of reading comprehension. Remedial and Special Education, 9(2), 20–28.

Fuchs, L. S., Fuchs, D., Eaton, S., & Hamlett, C. L. (2000). [Relation between reading fluency and reading comprehension as a function of silent versus oral reading mode]. Unpublished data.

Fuchs, L. S., Fuchs, D., Hosp, M. K., & Jenkins, J. R. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. Scientific Studies of Reading, 5(3), 239–256.

Fuchs, L. S., Fuchs, D., & Maxwell, L. (1988). The validity of informal measures of reading comprehension. Remedial and Special Education, 9(2), 20-28.

G

Garner, R., Hare, V. C., Alexander, P. A., Haynes, J., & Winograd, P. (1984). Inducing use of a text lookback strategy among unsuccessful readers. American Educational Research Journal, 21, 789–798.

Garner, R., Macready, G. B., & Wagoner, S. (1984). Readers' acquisition of the components of the text-lookback strategy. Journal of Educational Psychology, 76, 300–309.

Gathercole, S. E., Willis, C. S., Baddeley, A. D., & Emslie, H. (1994). The Children's Test of Nonword Repetition: A test of phonological working memory. Memory, 2, 103–127.

Gersten, R., Compton, D., Connor, C.M., Dimino, J., Santoro, L., Linan-thompson, S., & Tilly, W.D. (2008). Assisting students struggling with reading: Response to intervention and multi-tier intervention for reading in the primary grades. A practice guide. (NCEE 2009-4045). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Gickling, E. E., & Armstrong, D. L. (1978). Levels of instructional difficulty as related to on-task behavior, task completion, and comprehension. Journal of Learning Disabilities, 11, 559-566.

Gilroy, A., & Moore, D. W. (1988). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities with ten primary school girls. Special Issue: Changing academic behavior. Educational Psychology, 8(1–2), 41–49.

Gipe, J. P., & Arnold, R. D. (1979). Teaching vocabulary through familiar associations and contexts. Journal of Reading Behavior, 11(3), 281–285.

Good, R. H., Simmons, D. C., & Kame'enui, E. J. (2001). The importance and decision-making utility of a continuum of fluency-based indicators of foundational reading skills for third-grade high-stakes outcomes. Scientific Studies of Reading, 5(3), 257–288.

Good, R. H., Simmons, D. S., Kame'enui, E. J., Kaminski, R. A., & Wallin, J. (2002). Summary of decision rules for intensive, strategic, and benchmark instructional recommendations in kindergarten through third grade. (Technical Report No. 11). Eugene: University of Oregon.

Goodman, Y. M., & Burke, C. L. (1972). Reading miscue inventory: Procedure for diagnosis and correction. New York: Macmillan.

Gordon, C. J., & Rennie, B. J. (1987). Restructuring content schemata: An intervention study. Reading Research and Instruction, 26(3), 162–188.

Gordon, J., Schumm, J. S., Coffland, C., & Doucette, M. (1992). Effects of inconsiderate vs. considerate text on elementary students' vocabulary learning. Reading Psychology, 13(2), 157–169.

Graham, S., & Harris, K.R. (1994). Implications of constructivism for teaching writing to students with special needs. The Journal of Special Education, 28(3), 275-289.

Graham, S., & Harris, K.R. (2002). Prevention and intervention for struggling writers. In M. Shinn, H. Walker. & G. Stone (Eds.) Interventions for Academic and Behavior Problems: II. Preventive and Remedial Approaches (pp. 589-610). Bethesda, MD: National Association of School Psychologists.

Graham, S. & Herbert, M.A. (2010). Writing to read: Evidence for how writing can improve reading. A Carnegie Corporation Time to Act Report. Washington, DC: Alliance for Excellent Education.

Graham, S. & Perin, D. (2007). Writing next: Effective strategies to improve writing of adolescents in middle and high schools. A Report to Carnegie Corporation in New York. Washington, DC: Alliance for Excellent Education.

Grant, J., Elias, G., & Broerse, J. (1989). An application of Palinscar and Brown'scomprehension instruction Psychology, 14(2), 164–172.

Greenewald, M. J., & Rossing, R. L. (1986). Short-term and long-term effects of story grammar and self-monitoring training on children's story comprehension. National Reading Conference Yearbook, 35, 210–213.

Griffey, Q. L., Jr., et al. (1988). The effects of self-questioning and story structure training on the reading comprehension of poor readers. Learning Disabilities Research, 4(1), 45–51.

Guthrie, J. T., et al. (1996). Growth of literacy engagement: Changes in motivations and strategies during concept-oriented reading instruction. Reading Research Quarterly, 31(3), 306–332.

Gutherie, J.T., Wigfield, A., Barbosa, P., Perencevich, K.C., Taboada, A., & Barbosa, P.(2006). Influences of stimulating tasks on reading motivation and comprehension. The Journal of Educational Research, 99(4), 232-245.

Gutherie, J.T., Wigfield, A., Humenick, N.M., Perencevich, K.C., Taboada, A., Davis, H.H. et.al, (2004). Increasing reading comprehension and engagement through concept-oriented reading instruction. Journal of Educational Psychology, 96(3), 403-423.

H

Hall, K. M., Sabey, B. L., & McClellan, M. (2005). Expository text comprehension: Helping primary-grade teachers use expository texts to full advantage. *Reading Psychology, 26,* 211-234.

Hansen, J. (1981). The effects of inference training and practice on young children's reading comprehension. Readign Research Quarterly, 16(3), 391-417.

Hansen, J., & Pearson, P. D. (1983). An instructional study: Improving the inferential comprehension of good and poor fourth-grade readers. Journal of Educational Psychology, 75(6), 821–829.

Hosp, M. K., & Fuchs, L. S. (2000). The relation between word reading measures and reading comprehension: A review of the literature. Manuscript submitted for publication.

Hasbrouck, J., & Tindal, G. A. (2006). Oral reading fluency norms: A valuable tool for reading teachers.The Reading Teacher. Vol. 59, Issue 7, April 2006.

Hasbrouck, J. E., & Tindal, G. (1992). Curriculum-based oral reading fluency norms for students in grades 2 through 5. Teaching Exceptional Children, 24(3), 41–44.

Hasbrouck, J. E., Woldbeck, T., Ihnot, C., & Parker, R. I. (1999). One teacher's use of curriculum-based measurement: A changed opinion. Learning Disabilities: Research & Practice, 14(2), 118–126.

Hasselhorn, M., & Koerkel, J. (1986). Metacognitive versus traditional reading instructions: The mediating role of domain-specific knowledge on children's text-processing. Human Learning: Journal of Practical Research and Applications, 5(2), 75–90.

Heise, B. L., Papalewis, R., & Tanner, D. E. (1991). Building base vocabulary with computer-assisted instruction. Teacher Education Quarterly, 18(1), 55–63.

Helfeldt, J. P., & Lalik, R. (1976). Reciprocal student-teacher questioning. Reading Teacher, 33, 283–287.

Hiebert, E., & Fisher, C. (2005). A review of the National Reading Panel's studies on fluency: The role of text. Elementary School Journal, 105, 443-460.

Hiebert, E. H., & Kamil, M. L. (Eds.). (2005). Teaching and learning vocabulary: Bringing research to practice. Mahwah, NJ: Lawrence Erlbaum Associates.

Holt, S. B., & O'Tuel, F. S. (1989). The effect of sustained silent reading and writing on achievement and attitudes of seventh and eighth grade students reading two years below grade level. Reading Improvement, 26, 290–297.

I

Idol, L. (1987). Group story mapping: A comprehension strategy for both skilled and unskilled readers. Journal of Learning Disabilities, 20, 196–205.

Idol, L., & Croll, V. J. (1987). Story-mapping training as a means of improving reading comprehension. Learning Disability Quarterly, 10, 214–229.

J

Jacobs, J. E., & Paris, S. G. (1987). Children's metacognition about reading: Issues in definition, measurement, and instruction. Educational Psychologist, 22, 255–278.

Jenkins, J. R., Fuchs, L. S., van den Broek, P., Espin, C., & Deno, S. L. (2003). Sources of individual differences in reading comprehension and reading fluency. Journal of Educational Psychology, 95(4), 719–729.

Johnson, M. S., Kress, R. A., & Pikulski, J. J. (1987). Informal Reading Inventories (2nd ed.). Newark, IL: International Reading Association.

Jones, M. P. (1987). Effects of reciprocal teaching method on third graders' decoding and comprehension abilities. Unpublished doctoral dissertation, Texas A&M University.

Judy, J. E., Alexander, P. A., Kulikowich, J. M., & Wilson, V. L. (1988). Effects of two instructional approaches and peer tutoring on gifted and non- gifted sixth-grade students' analogy performance. Reading Research Quarterly, 23(2), 236–256.

K

Kameenui, E., Carnine, D., & Freschi, R. (1982). Effects of text construction and instructional procedures for teaching word meanings on comprehension and recall. Reading Research Quarterly, 17(3), 367–388.

Kelly, M., Moore, D. W., & Tuck, B. F. (1994). Reciprocal teaching in a regular primary school classroom. Journal of Educational Research, 88(1), 53–61.

Kim, Y.S., Petscher, Y., Schatschneider, C., & Foorman, B. (2010). Does growth rate in oral reading fluency matter in predicting reading comprehension achievement? Journal of Educational Psychology, 102(3), 652-667.

King, A. (1989). Effects of self-questioning training on college students' comprehension of lectures. Contemporary Educational Psychology, 14, 366–381.

King, A. (1990). Improving lecture comprehension: Effects of a metacognitive strategy. Applied Educational Psychology, 29, 331–346.

King, A. (1992). Comparison of self- questioning, summarizing, and note taking-review as strategies for learning from lectures. American Educational Research Journal, 29, 303–325.

Kirk, S. A., McCarthy, J. J., & Kirk, W. D. (1968). Illinois Test of Psycholinguistic Abilities. Urbana: University of Illinois Press.

Klingner, J. K., Vaughn, S., & Schumm, J. S. (1998). Collaborative strategic reading during social studies in heterogeneous fourth-grade classrooms. Elementary School Journal, 99(1), 3-22.

Kolich, E. M. (1991). Effects of computer-assisted vocabulary training on word knowledge. Journal of Educational Research, 84(3), 177–182.

Kuhn, M. R., Schwanenflugel, P. J., Morris, R. D., Morrow, L. M., Woo, D. G., Meisinger, E. B., Sevcik, R, A., Bradley, B. A., & Stahl, S. A. (2006).

L

Labercane, G., & Battle, J. (1987). Cognitive processing strategies, self-esteem, and reading comprehension of learning disabled students. Journal of Special Education, 11, 167–185.

Langford, J. C., & Allen, E. G. (1983). The effects of U.S.S.R. on students' attitudes and achievement. Reading Horizons, 23, 194–200.

Leung, C. B., & Pikulski, J. J. (1990). Incidental learning of word meanings by kindergarten and first grade children through repeated read aloud events. In J. Zutell & S. McCormick (Eds.), Literacy theory and research: Analyses from multiple paradigms (pp. 231–241). Chicago: National Reading Conference. (ERIC Document Reproduction Service No. 324646)

Lever, R., & Senechal, M. (2011). Discussing stories: On how a dialogic reading intervention improves Kindergarteners' oral narrative construction. Journal of Experimental Child Psychology, 108(1), 1-24.

Levin, J., Johnson, D., Pittelman, S., Levin, K., Shriberg, L., Toms-Bronowski, S., & Hayes, B. (1984). A comparison of semantic- and mnemonic-based vocabulary-learning strategies. Reading Psychology, 5(1–2), 1–15.

Levin, J., McCormick, C., Miller, G., & Berry, J. (1982). Mnemonic versus nonmnemonic vocabulary-learning strategies for children. American Educational Research Journal, 19(1), 121–136.

Levy, B. A., Nicholls, A., & Kohen, D. (1993). Repeated readings: Process benefits for good and poor readers. Journal of Experimental Child Psychology, 56, 303–327.

Lonberger, R. (1988). The effects of training in a self-generated learning strategy on the prose processing abilities of fourth- and sixth- graders. Unpublished doctoral dissertation, State University of New York at Buffalo.

Loranger, A. L. (1997). Comprehension strategies instruction: Does it make a difference? Reading Psychology, 18(1), 31–68.

Lysynchuk, L. M., Pressley, M., & Vye, N. J. (1990). Reciprocal teaching improves standardized reading-comprehension performance in poor comprehenders. Elementary School Journal, 90(5), 469–484.

M

MacGregor, S. K. (1988). Use of self-questioning with a computer-mediated text system and measures of reading performance. Journal of Reading Behavior, 20(2), 131–148.

Malone, R. A., & McLaughlin, T. F. (1997). The effects of reciprocal peer tutoring with a group contingency on quiz performance in vocabulary with seventh- and eighth-grade students. Behavioral Interventions, 12(1), 27–40.

Manning, G. L., & Manning, M. (1984). What models of recreational reading make a difference. Reading World, 23, 375–380.

Manzo, A. V. (1969). Improving reading comprehension through reciprocal teaching. Unpublished doctoral dissertation, Syracuse University.

Markman, E. M. (1977). Realizing that you don't understand: A preliminary investigation. Child Development, 46, 986–992.

Marston, D. (1989). A curriculum-based measurement approach to assessing academic performance: What is it and why do it? In M. R. Shinn (Ed.), Curriculum-based measurement: Assessing special children (pp. 18–78). New York: Guilford.

Mathes, P. G., et al. (1994). Increasing strategic reading practice with Peabody classwide peer tutoring. Learning Disabilities Research and Practice, 9(1), 44–48.

McComas, J. J., Wacker, D. P. & Cooper, L. J. (1996). Experimental analysis of academic performance in an academic setting. *Journal of Behavioral Education, 6,* 191-201.

McGee, A., & Johnson, H. (2003). The effect of inference training on skilled and less skilled comprehenders. Educational Psychology, 23(1), 49-59.

McKeown, M.G., Beck, I.L., & Blake, R.G.K. (2009). Rethinking reading comprehension instruction: A comparison of instruction for strategies and content approaches. Reading Research Quarterly, 44(3), 218-253.

McKeown, M. G., Beck, I. L., Omanson, R. C., & Perfetti, C. A. (1983). The effects of long-term vocabulary instruction on reading comprehension: A replication. Journal of Reading Behavior, 15(1), 3–18.

Medo, M. A., & Ryder, R. J. (1993). The effects of vocabulary instruction on readers' ability to make causal connections. Reading Research and Instruction, 33(2), 119–134.

Millar, D. C., Light, J. C., & McNaughton, D. B (2004). The effect of direct instruction and writer's workshop on the early writing skills of children who use augmentative and alternative communication. Augmentative and Alternative Communication, 20(3), 164-178.

Miller, G. E. (1985). The effects of general and specific self-instruction training on children's comprehension monitoring performances during reading. Reading Research Quarterly, 20(5), 616–628.

Miller, G. E. (1987). The influence of self-instruction on the comprehension monitoring performance of average and above average readers. Journal of Reading Behavior, 19(3), 303–317.

Miller, G. E., Giovenco, A., & Rentiers, K. A. (1987). Fostering comprehension monitoring in below average readers through self-instruction training. Journal of Reading Behavior, 19(4), 379–394.

Miller, J., & Schwanenflugel, P.J. (2006). Prosody of syntactically complex sentences in the oral reading of young children. Journal of Educational Psychology, 98, 839-853.

Miller, J.F., Heilmann, J., & Nockerts, A. (2006). Oral language and reading in bilingual children. Learning Disabilities Research & Practice, 21(1), 30-43.

Morris, D., Bloodgood, J. W., Lomax, R. G., & Perney, J. (2003). Developmental steps in learning to read: A longitudinal study in kindergarten and first grade. Reading Research Quarterly, 38(3), 302–328.

Morrow, L.M. 91984). Reading stories to young children: Effects of story structure and traditional questioning strategies on comprehension. Journal of Reading Behavior, 16(4), 273-288.

Morrow, L.M., Pressley, M., & Smith, J.K. (1995). The effect of a literature-based program integrated into literacy and science instruction on achievement use and attitude toward literacy and science. (Reading Research Report no. 37). College Park, MD: National Reading Research Center.

Morrow, L.M., Rand, M.K., & Young, J. (1997). Differences between social and literacy behaviors of first, second, and third graders in social cooperative literacy settings. New Brunswick, NJ: Rutgers University.

Morrow, L. M., & Weinstein, C. S. (1986). Encouraging voluntary reading: The impact of a literature program on children's use of library centers. Reading Research Quarterly, 21, 330–346.

Muter, V., Hulme, C., Snowling, M. J., & Stevenson, J. (2004). Phonemes, rimes, vocabulary, and grammatical skills as foundations of early reading development: Evidence from a longitudinal study. Developmental Psychology, 40(5), 665–681.

N

Nagy, W. E., & Scott, J. A. (2000). Vocabulary processes. In M.L. Kamil, P.B. Mosenthal, P.D. Pearson, & R. Barr (Eds.), Handbook of reading research: Volume III (pp. 269-284). Mahwah, NJ: Lawrence Erlbaum Associates.

National Assessment Governing Board, U.S. Department of Education (2011). Reading framework for the 2011 national assessment of educational progress. National Assessment of Educational Progress. Washington: DC.

National Center for Education Statistics (2011). The nation's report card: Reading 2011. (NCES 2012-457). Institute of Education Sciences. Washington: DC.

National Governors Association Center for Best Practices, Council of Chief State School Officers (2010). Common Core State Standards, English Language Arts. Washington, DC: National Governors Association Center for Best Practices, Council of Chief State.

National Institute of Child Health and Human Development. (2000). Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups (NIH Publication No. 00-4754). Washington, DC: U.S. Government Printing Office. II. Window, England: NFER-Nelson.

National Institute for Literacy, (2008). Developing Early Literacy: Report of the National Early Literacy Panel. Retrieved May 2012 from http://lincs.ed.gov/publications/pdf/NELPReport09.pdf

National Institute for Literacy, (n.d.). Learning to talk and listen: An oral language resource for early childhood caregivers. Retrieved May 2012 from http://lincs.ed.gov/publications/pdf/LearningtoTalkandListen.pdf

National Literacy Panel (2006). Developing literacy in second-language learners. Report of the National Literacy Panel on Language-Minority Children and Youth. D. August & T. Shanahan (Eds.), Mahwah, NJ: Erlbaum.

Neill, K. (1979). Turn kids on with repeated reading. Teaching Exceptional Children, 12, 63–64.

Nelson, C. S., et al. (1996). The effect of teacher scaffolding and student comprehension monitoring on a multimedia/interactive videodisc science lesson for second graders. Journal of Educational Multimedia and Hypermedia, 5(3–4), 317–348.

Nelson, J.S., Alber, S.R., Gordy, A. (2004). Effects of systematic error correction and repeated readings on the reading accuracy and proficiency of second grades with disabilities. Education and Treatment of Children, 27(3). 186- 198.

Neale, M. (1997). Neale Analysis of Reading Ability

Nolte, R. Y., & Singer, H. (1985). Active comprehension: Teaching a process of reading comprehension and its effects on reading achievement. Reading Teacher, 39(1), 24–31.

O

O'Connor, R. E., Swanson, L. H., & Geraghty, C. (2010). Improvement in reading rate under independent and difficult text levels: Influences on word and comprehension skills. *Journal of Educational Psychology, 102,* 1-19.

Olinghouse, N.G., & Graham, S. (2009). The relationship between the discourse knowledge and the writing performance of elementary-grade students. Journal of Educational Psychology, 101(1), 37-50.

Omanson, R. C., Beck, I. L., Voss, J. F., McKeown, M. G., et al. (1984). The effects of reading lessons on comprehension: A processing description. Cognition and Instruction, 1(1), 45–67.

O'Shea, L. J., Sindelar, P. T., & O'Shea, D. J. (1985). The effects of repeated readings and attentional cues on reading fluency and comprehension. Journal of Reading Behavior, 17, 129–142.

Omanson, R. C., Beck, I. L., Voss, J. F., McKeown, M. G., et al. (1984). The effects of reading lessons on comprehension: A processing description. Cognition and Instruction, 1(1), 45-67.

P

Padron, Y. N. (1985). Utilizing cognitive reading strategies to improve English reading comprehension of Spanish-speaking bilingual students. Unpublished doctoral dissertation, University of Houston.

Palinscar, A. S. (1987). Collaborating for collaborative learning of text comprehension. Paper presented at the Annual Meeting of the American Educational Research Association, Washington, D.C.

Palinscar, A. S., & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. Cognition and Instruction, 2, 117–175.

Palinscar, A. S., David, Y. M., Winn, J. A., & Stevens, D. D. (1991). Examining the context of strategy instruction. Special issue: Cognitive instruction and problem learners. RASE: Remedial and Special Education, 12(3), 43–53.

Pany, D., & McCoy, K. M. (1988). Effects of corrective feedback on word accuracy and reading comprehension of readers with learning disabilities. Journal of Learning Disabilities, 21, 546-550.

Paris, S.G., Cross, D.R., & Lipson, M.Y. (1984). Informed strategies for learning: A program to improve children's reading awareness and comprehension. Journal of Educational Psychology, 76(6), 1239-1252.

Paris, S. G., & Stahl, S. A. (Eds.). (2005). Children's reading comprehension and assessment. Center for improvement of early reading achievement (CIERA). Mahwah, NJ: Lawrence Erlbaum Associates.

Partnership for Reading. (2001, September). Put reading first: The research building blocks for teaching chidren to read. Washington, D.C.: National Institute for Literacy; National Institute of Child Health and Human Development; and U.S. Department of Education.

Payne, B. D., & Manning, B. H. (1992). Basal reader instruction: Effects of comprehension monitoring training on reading comprehension, strategy use and attitude. Reading Research and Instruction, 32(1), 29–38.

Peak, J., & Dewalt, M. W. (1994). Reading achievement: Effects of computerized reading management and enrichment. ERS Spectrum, 12(1), 31–34.

Pearson, D. P. (1994). Integrated language arts: sources of controversy and seeds of consensus. In L. M. Morrow, J. K. Smith, and L. C. Wilkinson (eds.), Integrated Language Arts: Controversy to Consensus. Boston: Allyn and Bacon.

Perfetti, C. (2007). Reading ability: Lexical quality to comprehension. Scientific Studies of Reading, 11(4), 357 – 383.

Piercy, T. (2011). How close reading increases students access into complex text as expected in the ELA common core state standards. Retrieved May 2012 from the Leadership and Learning Center webpage, http://www.leadandlearn.com.

Pelow, R. A., & Colvin, H. M. (1983). PQ4R as it affects comprehension of social studies reading material. Social Studies Journal, 12, 14–22 (Spring).

Pickens, J., & McNaughton, S. (1988). Peer tutoring of comprehension strategies. Educational Psychology: An International Journal of Experimental Educational Psychology, 8(1–2), 67–80.

Pinnell, G. S., Pikulski, J. J., Wixson, K. K., Campbell, J. R., Gough, P. B., & Beatty, A. S. (1995). Listening to children read aloud. Washington, DC: Office of Educational Research and Improvement, U. S. Department of Education.

Pressley, M., & Forrest-Pressley, D. (1985). Questions and children's cognitive processing. In A. C. G. B. Black (Ed.), The psychology of questions (pp. 277–296). Hillsdale, NJ: Erlbaum.

R

RAND Reading Study Group. (2002). Reading for understanding: Toward a R&D program in reading comprehension. Santa Monica, CA: RAND Corporation.

Raphael, T. E., & McKinney, J. (1983). An examination of fifth- and eighth-grade children's question-answering behavior: An instructional study in metacognition. Journal of Reading Behavior, 15(3), 67–86.

Raphael, T. E., & Pearson, P. D. (1985). Increasing students' awareness of sources of information for answering questions. American Educational Research Journal, 22, 217–235.

Raphael, T. E., & Wonnacott, C. A. (1985). Heightening fourth-grade students' sensitivity to sources of information for answering comprehension questions. Reading Research Quarterly, 20(3), 282–296.

Rasinski, T. V. (1990). Effects of repeated reading and listening-while-reading on reading fluency. Journal of Educational Research, 83, 147–150.

Rasinski, T. Blachowicz, C, & Lems, K. (2012). Fluency instruction: Research-based best practices. New York: Guilford.

Rasinski, T. V., & Hoffman, J.V. (2003). Oral reading in the school literacy curriculum. Reading Research Quarterly, 38, 510-522.

Reitsma, P. (1998). Reading practice for beginners: Effects of guided reading, reading-while-listening, and independent reading with computer-based speech feedback. Reading Research Quarterly, 23, 219–235.

Reutzel, D. R. (1984). Story mapping: An alternative approach to communication. Reading World, 24(2), 16–25.

Reutzel, D. R. (1985). Story maps improve comprehension. Reading Teacher, 38(4), 400–404.

Reutzel, D. R. (1986). Clozing in on comprehension: The clozeclozeclozeCloze story map. Reading Teacher, 39(6), 524–528.

Reutzel, D. R., & Hollingsworth, P. M. (1991a). Reading comprehension skills: Testing the distinctiveness hypothesis. Reading Research and Instruction, 30, 32–46.

Reutzel, D. R., & Hollingsworth, P. M. (1991b). Reading time in school: Effect on fourth graders' performance on a criterion-referenced comprehension test. Journal of EducationalResearch, 84(3), 170–176.

Reutzel, D.R., Smith, J.A. & Fawson, P.C. (2005). An evaluation of two approaches for teaching reading comprehension strategies in the primary years using science information texts. Early Childhood Research Quarterly, 20, 276-305.

Rice, J.E. (2008). Rhetoric's mechanics: Retooling the equipment of writing production. College Composition and Communication, 60(2), 366-387.

Rich, R. Z. (1989). The effects of training adult poor readers to use text comprehension strategies. Unpublished doctoral dissertation, Columbia University, New York.

Richmond, M. G. (1976). The relationship of the uniqueness of prose passages to the effect of question placement and question relevance on the acquisition and retention of information. In G. H. McNinch (Ed.), Reflections and investigations on reading. Twenty-fifth Yearbook of the National Reading Conference (pp. 268–278). Clemson, SC: National Reading Conference.

Rinaldi, L., Sells, D., & McLaughlin, T. F. (1997). The effects of reading racetracks on the sight word acquisition and fluency of elementary students. Journal of Behavioral Education, 7(2), 219–233.

Ritchie, P. (1985). Graduate research: Reviews and commentary: The effects of instruction in main idea and question generation. Reading-Canada-Lecture, 3(2),139–146.

Robbins, C., & Ehri, L. C. (1994). Reading storybooks to kindergartners helps them learn new vocabulary words. Journal of Educational Psychology, 86(1), 54–64.

Roberts, T. A., & Meiring, A. (2006). Teaching phonics in the context of children's literature or spelling: Influences on first-grade reading, spelling, and writing and fifth-grade comprehension. Journal of Educational Psychology, 98, 690-713.

Rose, T. L., & Beattie, J. R. (1986). Relative effects of teacher-directed and taped previewing on oral reading. Learning Disability Quarterly, 9, 193-199.

Rosenshine, B., & Meister, C. (1994). Reciprocal teaching: A review of the research. Review of Educational Research, 64(4), 479–530.

Rosenshine, B., Meister, C., & Chapman, S. (1996). Teaching students to generate questions: A review of the intervention studies. Review of Educational Research, 66(2), 181–221.

Rowls, M. D. (1976). The facilitative and interactive effects of adjunct questions on retention of eighth-graders across three prose passages: Dissertation in prose learning. Journal of Educational Psychology, 68, 205–209.

Rush, R. T., & Milburn, J. L. (1988). The effects of reciprocal teaching on self-regulation of reading comprehension in a post-secondary technical school program. Paper presented at the National Reading Conference, Tucson, AZ.

S

Saddler, B., & Graham, S. (2005). The effects of peer-assisted sentence-combining instruction on the writing performance of more and less skilled young writers. Journal of Educational Psychology, 97(1), 43-54.

Sanford, A. K., & Horner, R. H. (2013). Effects of matching instruction difficulty to students with escape-maintained problem behavior. *Journal of Positive Behavior Interventions, 15,* 79-89.

Schmitt, M. C. (1988). The effects of an elaborated directed reading activity on the metacomprehension skills of third graders. National Reading Conference Yearbook, 37, 167–181.

Schumm, J. S. (Ed.). (2006). Reading assessment and instruction for all learners. New York:Guilford Press.

Schunk, D. H., & Rice, J. M. (1984). Strategy self-verbalization during remedial listening comprehension instruction. Journal of Experimental Education, 53(1), 49–54.

Schunk, D. H., & Rice, J. M. (1985). Verbalization of comprehension strategies: Effects on children's achievement P. Human Learning: Journal of Practical Research and Applications, 4(1), 1–10.

Schwartz, R. M., & Raphael, T. E. (1985). Instruction in the concept of definition as a basis for vocabulary acquisition. In J. A. Niles & R. V. Lalik (Eds.), Issues in literacy: A research perspective: Thirty-fourth Yearbook of the National Reading Conference (pp. 116–124). Rochester, NY: The National Reading Conference.

Scott, J., & Nagy, W. (1997). Understanding the definitions of unfamiliar verbs. Reading Research Quarterly, 32, 184–200.

Senechal, M. (1997). The differential effect of storybook reading on preschoolers' acquisition of expressive and receptive vocabulary. Journal of Child Language, 24(1), 123–138.

Senechal, M., & Cornell, E. H. (1993). Vocabulary acquisition through shared reading experiences. Reading Research Quarterly, 28, 360–374.

Serenty, M. L., & Dean, R. S. (1986). Interspersed post- passage questions and reading comprehension achievement. Journal of Educational Psychology, 78(3), 228–229.

Shanahan, T., Callison, K., Carriere, C., Duke, N.K., Pearson, P.D., Schatschneider, C., & Torgesen, J. (2010). Improving reading comprehension in kindergarten through 3rd grade: A practice guide (NCEE2010-4038). Washington, DC: National Center for Educational Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved May 2012 from: whatworks.ed.gov/publications/practiceguides.

Shaw, R., & Shaw, D. (2002). DIBELS oral reading fluency-based indicators of third grade reading skills for Colorado State Assessment Program (CSAP). (Technical Report). Eugene: University of Oregon. Retrieved September 2005 from the DIBELS Technical Reports webpage: http://dibels.uoregon.edu/techreports/index.php

Sheldon, S. A. (1984). Comparison of two teaching methods for reading comprehension. Journal of Research in Reading, 7(1), 41–52.

Shinn, M. R. (1998). Identifying and defining academic problems: CBM Screening and eligibility procedures. In M. R. Shinn (Ed.), Curriculum-based measurement: Assessing special children (pp. 90–129). New York: Guilford.

Short, E. J., & Ryan, E. B. (1984). Metacognitive differences between skilled and less skilled readers: Remediating deficits through story grammar and attribution training. Journal of Educational Psychology, 76(2), 225–235.

Shortland-Jones, B. (1986). The development and testing of an instructional strategy for improving reading comprehension based on schema and metacognitive theories. Unpublished doctoral dissertation, University of Oregon.

Silven, M. (1992). The role of metacognition in reading instruction. Scandinavian Journal of Educational Research, 36(3), 211–221.

Simpson, P. S. (1989). The effects of direct training in active comprehension on reading achievement, self-concepts, and reading attitudes of at-risk sixth grade students. Unpublished doctoral dissertation, Texas Technological University.

Sindelar, P. T. (1982). The effects of cross-aged tutoring on the comprehension skills of remedial reading students. Journal of Special Education, 16(2), 199–206.

Sindelar, P. T., Monda, L. E., & O'Shea, L. J. (1990). Effects of repeated readings on instructional- and mastery-level readers. Journal of Educational Research, 83, 220–226.

Singer, H., & Donlan, D. (1982). Active comprehension: Problem-solving schema with question generation for comprehension of complex short stories. Reading Research Quarterly, 17(2), 166–186.

Slavin, R.E., Lake, C., Davis, S., & Madden, N.A. (2011). Effective programs for struggling readers: A best-evidence synthesis. Educational Research Review, 6, 1-26.

Smith, D. D. (1979). The improvement of children's oral reading through the use of teacher modeling. Journal of Learning Disabilities, 12(3), 39–42.

Smith, K., Johnson, D. W., & Johnson, R. T. (1981). Can conflict be constructive? Controversy versus concurrence seeking in learning groups. Journal of Educational Psychology, 73(5), 651–663.

Smith, N. J. (1977). The effects of training teachers to teach students at different reading ability levels to formulate three types of questions on reading comprehension and question generation ability. Unpublished doctoraldissertation, University of Georgia.

Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). Preventing reading difficulties in young children. Washington, D.C.: National Academy Press.

Soriano, M., Vidal-Abarca, E., & Miranda, A. (1996). Comparación de dos procedimentos de instrucción en comprensión y aprendizaje de textos: Instrucción directa y enseñanza recíproca. [Comparison of two procedures for instruction in comprehension and text learning: Direct instruction and reciprocal teaching]. Infancia y Aprendizaje, 74, 57–65.

Spiegel, D. L., & Fitzgerald, J. (1986). Improving reading comprehension through instruction about story parts. Reading Teacher, 39(7), 676–682.

Stahl, S. (1983). Differential word knowledge and reading comprehension. Journal of Reading Behavior, 15(4), 33–50.

Stahl, S., Duffy-Hester, A., & Stahl, K. (1998). Everything you wanted to know about phonics (but were afraid to ask). Reading Research Quarterly, 33, 338-355.

Stahl, S. A., & Fairbanks, M. M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. Review of Educational Research, 56(1), 72– 110.

Stahl, S.A., & Kuhn, M.R. (2003). Fluency: A review of developmental and remedial practice. Journal of Educational Psychology, 95, 3-21.

Stevens, R. J. (1988). Effects of strategy training on the identification of the main idea of expository passages. Journal of Educational Psychology, 80(1), 21–26.

Stevens, R. J., Madden, N. A., Slavin, R. E., & Farnish, A. M. (1987). Cooperative integrated reading and composition: Two field experiments. Reading Research Quarterly, 22(4), 433–454.

Stevens, R.J., & Slavin, R.E. (1995a). Effects of a cooperative learning approach in reading and writing on academically handicapped and non-handicapped students. Elementary School Journal, 95(3), 241-262.

Stevens, R.J., & Slavin, R.E. (1995b). The cooperative elementary school: Effects on students' achievement, attitudes and social relations. American Educational Research Journal, 32(2), 321-351.

Stevens, R. J., Slavin, R. E., & Farnish, A. M. (1991). The effects of cooperative learning and instruction in reading comprehension strategies on main idea identification. Journal of Educational Psychology, 83(1), 8–16.

Stuart, M. (1999). Getting ready for reading: Early phoneme awareness and phonics teaching improves reading and spelling in inner-city second language learners. British Journal of Educational Psychology, 69, 587-605.

Stuart, M. (2004). Getting ready for reading: A follow-up study of inner-city second language learners at the end of key state 1. British Journal of Educational Psychology, 74, 15 – 36.

Stoddard, K., Valcante, G., Sindelar, P., O'Shea, L., & Algozzine, B. (1993). Increasing reading rate and comprehension: The effects of repeated readings, sentence segmentation, and intonation training. Reading Research and Instruction, 32, 53–65.

Summers, E. G., & McClelland, J. V. (1982). A field-based evaluation of sustained silent reading (SSR) in intermediate grades. Alberta Journal of Educational Research, 28, 100–112.

T

Taylor, B. M., & Frye, B. J. (1992). Comprehension strategy instruction in the intermediate grades. Reading Research and Instruction, 32(1), 39–48.

Taylor, B. M., Pearson, P.D., Peterson, D. S., & Rodriguez, M.C. (2003). Reading growth in high-poverty classrooms: The influence of teacher practices that encourage cognitive engagement in literacy learning. Elementary School Journal, 104, 3-28.

Taylor, N. E., Wade, M. R., & Yekovich, F. R. (1985). The effects of text manipulation and multiple reading strategies on the reading performance of good and poor readers. Reading Research Quarterly, 20, 566–574.

Tennessee Department of Education Division of Special Education Office of Early Learning. Tennessee early grades reading toolkit: Conventions of standard English. Retrieved May 2012 from http://www.readtennessee.org/teachers/common_core_standards/

Tindal, G., & Marston, D. (1990). Classroom-based assessment: Testing for teachers. Columbus, OH: Merrill Publishing.

Tomesen, M., & Aarnoutse, C. (1998). Effects of an instructional programme for deriving word meanings. Educational Studies, 24(1), 107–128.

Torgesen, J.K. & Mathes, P.G. (1998). What every teacher should know about phonological awareness. Retrieved May 2012 from http://www.fldoe.org/ese/pdf/phon9872.pdf.

Torgesen, J.K., & Mathes, P.G. (2000). A basic guide to understanding, assessing, and teaching phonological awareness. Austin, TX: Pro-Ed

Tregaskes, M. R., & Daines, D. (1989). Effects of metacognitive strategies on reading comprehension. Reading Research and Instruction, 29(1), 52–60.

Tunmer, W. E. (1989). The role of language-related factors in reading disability. In D Shankweiler & I. Y. Liberman (Eds.), Phonology and reading disability: Solving the puzzle (pp. 91–131). Ann Arbor: University of Michigan Press.

Turpie, J. J., & Paratore, J. R. (1995). Using repeated reading to promote success in a heterogeneously grouped first grade. In K. A. Hinchman, D. J. Leu, & C. K. Kinzer (Eds.), Perspectives on literacy research and practice: Forty-fourth Yearbook of the National Reading Conference (pp. 255–263). Chicago: The National Reading Conference.

U

Uttero, D. A. (1988). Activating comprehension through cooperative learning. Reading Teacher, 41(4), 390–395.

V

Van Bon, W. H. J., Boksebeld, L. M., Font Freide, T. A. M., & van den Hurk, A. J. M. (1991). A comparison of three methods of reading-while-listening. Journal of Learning Disabilities, 24, 471–476.

Van Bon, W. H. J., & van Leeuwe, J. F. .J. (2003). Assessing phonemic awareness in kindergarten: The case for the phoneme recognition task. Applied Psycholinguistics, 24, 195–219.

VanWagenen, M. A., Williams, R. L., & McLaughlin, T. F. (1994). Use of assisted reading to improve reading rate, word accuracy, and comprehension with ESL Spanish-speaking students. Perceptual and Motor Skills, 79, 227–230.

Varnhagen, C. K., & Goldman, S. R. (1986). Improving comprehension: Causal relations instruction for learning handicapped learners. Reading Teacher, 39(9), 896–904.

Vollands, S. R., Topping, K. J., & Evans, R. M. (1999). Computerized self-assessment of reading comprehension with the Accelerated Reader: Action Research. Reading and Writing Quarterly, 15, 197–211.

W

Watts, G. H. (1973). The "arousal" effect of adjunct questions on recall from prose materials. Australian Journal of Psychology, 25, 81–87.

Weinstein, G., & Cooke, N. L. (1992). The effects of two repeated reading interventions on generalization of fluency. *Learning Disability Quarterly, 15,* 21–28.

White, T. G., Graves, M. F., & Slater, W. H. (1990). Growth of reading vocabulary in diverse elementary schools: Decoding and word meaning. Journal of Educational Psychology, 82(2), 281–290.

Williams, J. P., Hall, K. M., Lauer, K. D., Stafford, K. B., DeSisto, L. A., & deCani, J. S. (2005). Expository text comprehension in the primary grade classroom. Journal of Educational Psychology, 97, 538-550.

Williams, J.P., Nubla-King, A.M., Pollini, S., Stafford, K.B., Garcia, A., & Snyder, A.E. (2007). Teaching cause-effect text structure through social studies content to at-risk second graders. Journal of Learning Disabilities, 40(2), 111-120.

Williamson, R. A. (1989). The effect of reciprocal teaching on student performance gains in third grade basal reading instruction. Unpublished doctoral dissertation, Texas A&M University.

Wilson, J. (2005). The relationship of Dynamic Indicators of Basic Early Literacy Skills (DIBELS) oral reading fluency to performance on Arizona Instrument to Measure Standards (AIMS). (Research Brief). Assessment and Evaluation Department, Tempe School District No. 3. Retrieved September 2005 from the DIBELS Technical Reports webpage: http://dibels. uoregon.edu/techreports/index.php 37(3), 287–293.

Wise, J.C., Sevcik, R.A., Morris, R.D., Lovett, M.W., & Wolf, M. (2007). The relationship among receptive and expressive vocabulary, listening comprehension, pre-reading skills, word identification skills, and reading comprehension by children with reading disabilities. Journal of Speech, Language, and Hearing Research, 50, 1093-1109.

Wixson, K. K. (1983). Questions about a text: What you ask about is what children learn. Reading Teacher,

Wixson, K. K. (1986). Vocabulary instruction and children's comprehension of basal stories. Reading Research Quarterly, 21(3), 317–329.

Wong, Y. L., & Jones, W. (1982). Increasing metacomprehension in learning disabled and normally achieving students through self-questioning training. Learning Disability Quarterly, 5, 228–239.

Wu, H.-M., & Solman, R. T. (1993). Effective use of pictures as extra stimulus prompts. British Journal of Educational Psychology, 63(1), 144–160.

Y

Young-Suk, K., Otaiba, S. A., Puranik, C., & Folson, J. S. (2011). Componential skills of beginning writing: An exploratory study. Learning and Individual Differences, 21, 517-525.

Technical Appendix (IESD)

IESD Research:
McGraw-Hill Education

- Recent research related to reading instruction was identified through a combination of referral by reading experts and review of important research journals.

McGraw-Hill Education has a longstanding tradition and commitment to helping every child learn to read–a tradition that continues today with McGraw-Hill Education's *Reading Wonders*. Our commitment to helping all American children master the skills and strategies they need to become successful readers and lifelong learners is as strong as ever.

Increasingly, federal, state, and local requirements in every area focus on the need for research-verified instructional strategies, methods, and approaches. McGraw-Hill Education *Reading Wonders* has stepped up to this challenge by identifying reputable research related to effective reading instruction, summarizing relevant instructional recommendations based on that research, and then showing how those recommendations are incorporated into McGraw-Hill Education *Reading Wonders*. This paper presents the results of that research-based process.

Development of this research-based white paper included the following steps.

- Recent research related to reading instruction was identified through a combination of referral by reading experts and review of important research journals.
- Research sources were reviewed and summarized, with special reference to

  - Details of the supporting research evidence

  - Strength of the link between the research and specific instructional recommendations.

Sources and findings were excluded which failed in one of these respects, or in overall quality of the research as reported.

- Cross-comparison of the research-based recommendations and McGraw-Hill Education Reading verified that each research-based recommendation listed in this white paper is supported by McGraw-Hill Education Reading Research Sources.

This paper summarizes key research findings and research-based recommendations related to effective reading instruction from several key sources:

- Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups (National Institute of Child Health and Human Development [NICHHD], 2000). This source presents an extensive, detailed research review related to five broad categories (see above under Reading First Content Focus). In cases where the data were of sufficient quality and uniformity, research results were summarized in a meta-analysis, a method for statistically combining research results across an entire body of research studies.
- Preventing reading difficulties in young children, a review of research on early childhood reading commissioned by the National Research Council (Snow, Burns, & Griffin, 1998). This source represents a broad-ranging research summary and review, but without inclusion of specific details of the research.
- Writing to Read: Evidence for How Writing Can Improve Reading. A Report from the Carnegie Corporation of New York (Graham & Herbert, 2010). This document provides a meta-analysis of research on the effects of specific types of writing interventions found to enhance students' reading skills.

- Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High Schools. A Report from the Carnegie Corporation of New York (Graham & Perin, 2007). This report provides a review of research-based techniques designed to enhance the writing skills of 4th to 12th grade students.
- Improving Reading Comprehension in Kindergarten Through 3rd Grade: A Practice Guide. (Shanahan, Callison, Carriere, Duke, Pearson, Schatschneider, & Torgesen, 2010). This article contains recommended research-based practices in reading, according to level of evidence assigned by a panel of experts.

Additionally, specific findings have been incorporated from other recent, reputable research related to reading development, instruction, and assessment:

Correlation

Barger, J. (2003). Comparing the DIBELS oral reading fluency indicator and the North Carolina end of grade reading assessment. (Technical Report). Asheville: North Carolina Teacher Academy.

Quasi-experimental

Beck, I.L., & McKeown, G. (2007). Increasing young children's oral vocabulary repertoires through rich and focused instruction. The Elementary School Journal, 107(3), 251-271.

Correlation

Buck, J., & Torgesen, J. (2003). The relationship between performance on a measure of oral reading fluency and performance on the Florida Comprehensive Assessment Test. (FCRR Technical Report No. 1). Tallahassee: Florida Center for Reading Research. Retrieved September 2005 from the DIBELS Technical Reports webpage: http://dibels.uoregon.edu/techreports/index.php

Cooper, D.H., Roth, F.P., Speece, D. L. & Schatschneider, C. (2002). The contribution of oral language skills to the development of phonological awareness. Applied Psycholinguistics, 23, 399 – 416

Correlation

Elbro, C., & Petersen, D. K. (2004). Long-term effects of phoneme awareness and letter sound training: An intervention study with children at risk for dyslexia. Journal of Educational Psychology, 96(4), 660-670.

Experimental/ Quasi-experimental

Ewers, C. A., & Brownson, S. M. (1999). Kindergartners' vocabulary acquisition as a function of active vs. passive storybook reading, prior vocabulary, and working memory. Journal of Reading Psychology, 20, 11-20.

Experimental

Fearn, L., & Farnan, N. (2007). When is a verb? Using functional grammar to teach writing. Journal of Basic Writing, 26(1), 63 – 87.

Fuchs, L. S., Fuchs, D., Hosp, M.D., & Jenkins, J.R. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. Scientific Studies of Reading, 5(3), 239-256.

Research review/ research-based theoretical analysis

Good, III, R.H., Simmons, D.C., & Kame'enui, E.J. (2001). The importance and decision-making utility of a continuum of fluency-based indicators of foundational reading skills for third-grade high-stakes outcomes. Scientific Studies of Reading, 5(3), 257-288.

Meta-Analysis

Graham, S. & Herbert, M.A. (2010). Writing to read: Evidence for how writing can improve reading. A Carnegie Corporation Time to Act Report. Washington, DC: Alliance for Excellent Education

Correlation

Hasbrouck, J., & Tindal, G. A. (2006). Oral reading fluency norms: A valuable tool for reading teachers. The Reading Teacher, 59(7), 636-644.

Norming research

Jenkins, J.R., Fuchs, L.S., van den Broek, P., Espin, C., & Deno, S.L. (2003). Sources of individual differences in reading comprehension and reading fluency. Journal of Educational Psychology, 95(4), 719-729.

Experimental

Lever, R., & Senechal, M. (2011). Discussing stories: On how a dialogic reading intervention improves Kindergarteners' oral narrative construction. Journal of Experimental Child Psychology, 108(1), 1-24.

Miller, J.F., Heilmann, J., & Nockerts, A. (2006). Oral language and reading in bilingual children. Learning Disabilities Research & Practice, 21(1), 30-43.

Correlation and statistical modeling

Morris, D., Bloodgood, J. W., Lomax, R. G., & Perney, J. (2003). Developmental steps in learning to read: A longitudinal study in kindergarten and first grade. Reading Research Quarterly, 38(3), 302-328.

Statistical modeling

Muter, V., Hulme, C., Snowling, M. J., & Stevenson, J. (2004). Phonemes, rimes, vocabulary, and grammatical skills as foundations of early reading development: Evidence from a longitudinal study. Developmental Psychology, 40(5), 665-681.

Olinghouse, N.G., & Graham, S. (2009). The relationship between the discourse knowledge and the writing performance of elementary-grade students. Journal of Educational Psychology, 101(1), 37-50

Saddler, B., & Graham, S. (2005). The effects of peer-assisted sentence-combining instruction on the writing performance of more and less skilled young writers. Journal of Educational Psychology, 97(1), 43-54

Statistical modeling

Shaw, R., & Shaw, D. (2002). DIBELS oral reading fluency-based indicators of third grade reading skills for Colorado State Assessment Program (CSAP). (Technical Report). Eugene: University of Oregon. Retrieved September 2005 from the DIBELS Technical Reports webpage: http://dibels.uoregon.edu/techreports/index. php

Slavin, R.E., Lake, C., Davis, S., & Madden, N.A. (2011). Effective programs for struggling readers: A best-evidence synthesis. Educational Research Review, 6, 1-26.

Stuart, M. (2004). Getting ready for reading: A follow-up study of inner-city second language learners at the end of key state 1. British Journal of Educational Psychology, 74, 15 – 36.

Correlation

van Bon, W. H. J., & van Leeuwe, J. F .J. (2003). Assessing phonemic awareness inkindergarten: The case for the phoneme recognition task. Applied Psycholinguistics, 24, 195-219.

Statistical modeling

Wilson, J. (2005). The relationship of Dynamic Indicators of Basic Early Literacy Skills (DIBELS) oral reading fluency to performance on Arizona Instrument to Measure Standards (AIMS). (Research Brief). Assessment and Evaluation Department, Tempe School District No. 3. Retrieved September 2005 from the DIBELS Technical Reports webpage: http://dibels.uoregon.edu/techreports/index.php

Statistical Modeling

Wise, J.C., Sevcik, R.A., Morris, R.D., Lovett, M.W., & Wolf, M. (2007). The relationship among receptive and expressive vocabulary, listening comprehension, pre-reading skills, word identification skills, and reading comprehension by children with reading disabilities. Journal of Speech, Language, and Hearing Research, 50, 1093-1109

Statistical Modeling

Young-Suk, K., Otaiba, S. A., Puranik, C., & Folson, J. S. (2011). Componential skills of beginning writing: An exploratory study. Learning and Individual Differences, 21, 517-525.

Key Research in topics aligned with the
Common Core State Standards:

- Reading Comprehension and Text

- Reading Foundations, which include:

  - Phonological Awareness

  - Phonics and Word Recognition

  - Fluency

- Writing

- Speaking and Listening

- Language, which includes:

  - Vocabulary Acquisition and Use

  - Conventions of Standard English and Knowledge
    of Language

Reading Instruction
Each section presents a summary of relevant research findings and recommendations.
Top-level descriptions of each research finding and research-based recommendation are
presented in the main text, with details of the supporting research provided in footnotes.

Reading: Comprehension and Text

Comprehension is often identified as the primary goal of reading: children and adults read in order to understand. If children can "read" words but cannot understand them, they are merely decoding. Real reading requires understanding. Over the past 30 years, reading researchers have come to understand that such comprehension is not merely passive, but is the result of active involvement on the part of the reader.

Researchers have identified a variety of strategies effective readers use in order to actively comprehend texts. Additional research has verified the positive impact of teaching such strategies to students as a means of improving comprehension.

- Effectiveness of comprehension instruction. In examining research on reading comprehension instruction, the National Reading Panel (NRP) identified 16 broad categories, or methods, of comprehension instruction. Of these, seven methods were identified as having "a firm scientific basis for concluding that they improve comprehension in normal readers" (NICHHD, 2000, p. 4-42)– demonstrating that comprehension can be improved through explicit, formal instruction. Five of these methods were in use by the third- grade level, and are thus research-verified as appropriate and effective for instruction in the early elementary grades. Similarly, a review of research on early childhood reading commissioned by the National Research Council (NRC) concluded that "Explicit instruction in comprehension strategies has been shown to lead to improvement" (Snow, Burns, & Griffin, 1998, p. 322).

- Effects on specific skill areas. According to the NRP, research "favors the conclusion that teaching of a variety of reading comprehension strategies leads to increased learning of the strategies, to specific transfer of learning, to increased memory and understanding of new passages, and, in some cases, to general improvements in comprehension" (NICHHD, 2000, p. 4-52).

- Grade levels. The NRP's review of research verified the effectiveness of some methods of text comprehension instruction as early as grades 2-3, ranging up to grade 9. The NRC, based on its interpretation of the research evidence, recommended such instruction as early as the kindergarten and first- grade levels, advocating explicit instruction on text comprehension "throughout the early grades" (Snow, Burns, & Griffin, 1998, p. 323). A study conducted by Lever and Senechal (2011)[1] found that dialogic reading, or a discussion of text through elaborative questioning, was found to have positive impacts on the structure and content of children's narratives.

Range and Scope of Instruction

- Early grades. According to the NRC report recommendations for reading instruction in grades K-3, "Throughout the early grades, reading curricula should include explicit instruction on strategies such as summarizing the main idea, predicting events and outcomes of upcoming text, drawing inferences, and monitoring for coherence and misunderstandings. This instruction can take place while adults read to students or when students read [to] themselves" (Snow, Burns, & Griffin, 1998, p. 323). More recently, What Works Clearinghouse released a review (Shanahan et.al, 2010)[2] citing "strong research evidence" demonstrating that reading comprehension is improved through explicit teaching in grades K-3.

- Grade levels for comprehension strategies. Of the seven instructional methods verified by the NRP as having a research base, one (comprehension monitoring) was in use by grade 2 in the studies examined, and an additional four were in use by grade 3. The NRP concluded that "the instruction of comprehension appears to be effective on grades 3 through 6" (NICHHD, 2000, p. 4-51). This suggests a solid research base for including comprehension instruction as part of the reading curriculum by the third- grade level.

In addition to this NRP-verified research base in the upper elementary grades, many research-based instructional recommendations, such as those from the NRC, and many state standards call for explicit

comprehension instruction at earlier grades as well. Such instruction may help to build a foundation for development of such skills in later grades. It is worth noting that the lack of NRP verification for comprehension instruction at the K–2 levels appears to reflect a scarcity of reputable research on comprehension instruction at these grade levels–a lack of evidence, as opposed to negative or ambivalent evidence.

Instructional Methods and Features

- Specific effective methods. Methods that were identified by the NRP as having "a firm scientific basis for concluding that they improve comprehension in normal readers" (NICHHD, 2000, p. 4-42) and that were used by grade 3 in the research studies included the following:

Question answering (17 studies, mostly grades 3–5), in which teachers ask questions about the Text[3]

Question generation (27 studies, grades 3–9), in which students "generate questions during reading" (NICHHD, 2000, p. 4-45)[4]

Story structure (17 studies, grades 3–6), in which students are instructed in the "content and organization of stories," including use of graphic organizers in conjunction with story content and structure (NICHHD, 2000, p. 4-45)[5]

Comprehension monitoring (22 studies, grades 2–6), in which students learn how to monitor their own understanding of texts using procedures such as think-aloud[6]

Cooperative learning (10 studies, grades 3–6), in which "peers instruct or interact over the use of reading strategies" (NICHHD, 2000, p. 4-45)[7]

Methods identified by Shanahan, et.al, (2010) as having 'strong evidence' include:
Teaching students to use comprehension strategies, such as:
- Activating prior knowledge, or predicting (5 studies)[8]
- Questioning (4 studies)[9] when taught in conjunction with other strategies
- Visualization (2 studies)[10]
- Monitoring and clarifying (3 studies)[11]
- Inference training (1 study)[12]
- Retelling (4 studies)[13]

Methods identified by Shanahan, et.al, (2010) as having 'moderate evidence' include:

- Identifying text structure (5 studies, 3 using narrative text, 2 using informational text)[14], in which students were taught to understand text structure through story-mapping, paying attention to story structure during retelling, using cause-effect statements and related clue words, for example.
- Cooperative learning (10 studies)[15]
- Multiple strategies. In looking at 36 studies featuring instruction that combined a variety of different comprehension methods, the NRP concluded that "considerable success has been found in improving comprehension by instructing students on the use of more than one strategy during the course of reading" (NICHHD, 2000, p. 4-47).[16] One particular advantage of this approach is its ability to guide students through the kind of "coordinated and flexible use of several different kinds of strategies" that is required for skilled reading (NICHHD, 2000, p. 4-47).
- Instructional model. In its discussion of the research, the NRP identified a four-part model for building student comprehension strategies in which "teachers demonstrate, explain, model, and implement interaction with students in teaching them how to comprehend a text" (NICHHD, 2000, p. 4-47, citing 6 studies).[17]

- Regular assessment. According to the NRC report, "Conceptual knowledge and comprehension strategies should be regularly assessed in the classroom, permitting timely and effective instructional response where difficulty or delay is apparent" (Snow, Burns, & Griffin, 1998, p. 323).

[1] Participants included 40 Kindergarten students randomly assigned to either the diaglogic reading group (n=21) or the alternative group (n=19). Those in the diaglogic reading group evidenced higher story grammar scores on the production task (p = .001, d = .38) and the retelling task (p = .032, d=.28).

[2] Shanahan, et.al, (2010) reviewed 812 studies, 27 of which met What Works Clearinghouse standards with or without reservations. These studies represent the strongest evidence of the effectiveness of various practices on reading comprehension for students in grades K – 3.

[3] Anderson & Biddle, 1975; Ezell et al., 1992; Fischer, 1973; Garner, Hare, Alexander, Haynes, & Winograd, 1984; Garner, Macready, & Wagoner, 1984; Griffey et al., 1988; Levin & Pressley, 1981; Pressley & Forrest-Pressley, 1985; Raphael & McKinney, 1983; Raphael & Pearson, 1985; Raphael & Wonnacott, 1985; Richmond, 1976; Rowls, 1976; Serenty & Dean, 1986; Sheldon, 1984; Watts, 1973; Wixson, 1983.

[4] Blaha, 1979; Brady, 1990; Cohen, 1983; Davey & McBride, 1986; Dermody, 1988; Dreher & Gambrell, 1985; Hansen & Pearson, 1983; Helfeldt & Lalik, 1976; King, 1989; King, 1990; King, 1992; Labercane & Battle, 1987; Lonberger, 1988; Lysynchuk, Pressley, & Vye, 1990; MacGregor, 1988; Manzo, 1969; Nolte & Singer, 1985; Palinscar, 1987; Palinscar & Brown, 1984; Ritchie, 1985; Short & Ryan, 1984; Simpson, 1989; Singer & Donlan, 1982; Smith, 1977; Taylor & Frye, 1992; Williamson, 1989; Wong & Jones, 1982.

[5] Baumann & Bergeron, 1993; Buss, Ratliff, & Irion, 1985; Fitzgerald & Spiegel, 1983; Gordon & Rennie, 1987; Greenewald & Rossing, 1986; Griffey et al., 1988; Idol, 1987; Idol & Croll, 1987; Nolte & Singer, 1985; Omanson, Beck, Voss, McKeown, et al., 1984; Reutzel, 1984; Reutzel, 1985; Reutzel, 1986; Short & Ryan, 1984; Singer & Donlan, 1982; Spiegel & Fitzgerald, 1986; Varnhagen & Goldman, 1986.

[6] Babbs, 1984; Baker & Zimlin, 1989; Baumann, Seifert-Kessell, & Jones, 1992; Block, 1993; Carr, Dewitz, & Patberg, 1983; Cross & Paris, 1988; Elliot-Faust & Pressley, 1986; Hasselhorn & Koerkel, 1986; Markman, 1977; Miller, 1985; Miller, 1987; Miller, Giovenco, & Rentiers, 1987; Nelson et al., 1996; Paris, Cross, & Lipson, 1984; Paris & Jacobs, 1984; Paris, Saarnio, & Cross, 1986; Payne & Manning, 1992; Schmitt, 1988; Schunk & Rice, 1984; Schunk & Rice, 1985; Silven, 1992; Tregaskes & Daines, 1989.

[7] Bramlett, 1994; Guthrie et al., 1996; Judy, Alexander, Kulikowich, & Wilson, 1988; Klingner, Vaughn, & Schumm, 1998; Mathes et al., 1994; Pickens & McNaughton, 1988; Soriano, Vidal-Abarca, & Miranda, 1996; Stevens, Madden, Slavin, & Farnish, 1987; Stevens, Slavin, & Farnish, 1991; Uttero, 1988.

[8] Brown et.al, 1995; Hansen, 1981; Paris, Cross, & Lipson 1984; Williamson, 1989; Morrow, 1984.

[9] Brown et.al, 1995;   Williamson 1989; McGee & Johnson, 2003; Morrow 1984.

[10] Center, et.al, 1999; Brown et.al., 1995

[11] Brown et.al, 1995; Paris, Cross, and Lipson, 1984; Williamson, 1989.

[12] Hansen, 1981.

[13] Brown et.al., 1995; Morrow, 1985; Morrow, Pressley, & Smith, 1995; Williamson, 1989.

[14] Baumann & Bergeron, 1993; Morrow, 1996; Reutzel, Smith, & Fawson, 2005; Williams et.al., 2007; Morrow, 1984.

[15] Gutherie et.al. 2004; Morrow, 1996; Morrow, Pressley, & Smith, 1995; Morrow, Rand, & Young, 1997; Stevens & Slavin, 1995a, 1995b; Fizzano, 2000; Gutherie et.al, 2006; Baumann 1986; Baumann & Gergeron, 1993.

[16] Adams, Carnine, & Gersten, 1982; Anderson & Roit, 1993; Blanchard, 1980; Brady, 1990; Brown, Pressley, Van Meter, & Schuder, 1996; Carnine & Kinder, 1985; Carr, Bigler, & Morningstar, 1991; Chan & Cole, 1986; Dermody, 1988; Fischer Galbert, 1989; Gilroy & Moore, 1988; Grant, Elias, & Broerse, 1989; Jacobs & Paris, 1987; Jones, 1987; Kelly, Moore, & Tuck, 1994; Klingner, Vaughn, & Schumm, 1998; Labercane & Battle, 1987; Loranger, 1997; Lysynchuk, Pressley, & Vye, 1990; Padron, 1985; Palinscar, 1987; Palinscar & Brown, 1984; Palinscar, David, Winn, & Stevens, 1991; Pelow & Colvin, 1983; Reutzel & Hollingsworth, 1991a; Reutzel & Hollingsworth, 1991b; Rich, 1989; Ritchie, 1985; Rush & Milburn, 1988; Shortland-Jones, 1986; Sindelar, 1982; Smith, Johnson, & Johnson, 1981; Soriano, Vidal-Abarca, & Miranda, 1996; Stevens, 1988; Taylor & Frye, 1992; Williamson, 1989.

[17] Palinscar & Brown, 1984; Rosenshine, Meister, & Chapman, 1996; Rosenshine & Meister, 1994; Bereiter & Bird, 1985; Block, 1993; Brown, Pressley, Van Meter, & Schuder, 1996.

Phonological Awareness

Phonological awareness includes the ability to work with larger units in spoken language such as syllables and rhymes, which often include more than one phoneme. Children typically find it easier to work with these larger units (e.g., rhyming words) before proceeding on to develop skills with individual phonemes (NICHHD, 2000, p. 2-10).

Strong phonemic awareness is considered an early indicator of eventual success in beginning reading. Phonemic awareness instruction helps children learn to read words, spell words, and comprehend text.

- Phonemic awareness instruction has a positive overall effect on reading and spelling. A meta-analysis by the National Reading Panel (NRP) found that instruction in phonemic awareness (PA) had a "moderate" effect on both reading skills (based on 90 comparisons)[18] and spelling (39 comparisons) (NICHHD, 2000, pp. 2-3, 2-63, 2-69).[19] Results across several categories of assessments "show that teaching children to manipulate phonemes in words was highly effective across all the literacy domains and outcomes" (p. 2-3).
- Phonemic awareness instruction leads to lasting reading improvement. The NRP meta-analysis found that the effect of PA instruction on reading outcomes was moderate on both immediate and first follow-up post-tests, and small on second follow-up posttests (NICHHD, 2000, p. 2-63).[20] Based on these results, the NRP concluded that "effects of PA training on reading lasted well beyond the end of training" (NICHHD, 2000, p. 2-5).
- Phonemic awareness instruction can be effectively carried out by teachers. PA instruction had a positive impact on students' reading and spelling, whether the instruction was carried out by classroom teachers or by individuals with specialized training, such as researchers (NICHHD, 2000, pp. 2-65, 2-74).[21]

Additionally, the National Early Literacy Panel (2008) reports that phonological awareness was one of six precursor literacy skills (e.g., alphabet knowledge, rapid automatic naming, phonological memory, writing name, rapid automatic naming of objects or colors) that had medium to large predictive relationships with later measures of literacy development (National Institute for Literacy, 2008, p vii.).[22]

Reading

PA instruction has been shown to have a positive impact on reading skills across many student categories and grade levels (NICHHD, 2000, pp. 2-5, 2-66–2-67):

- Normally developing readers[23]
- Children at risk for future reading problems.[24]

Later research suggests the benefits of PA instruction specifically for kindergartners at risk for developing dyslexia (Elbro & Petersen, 2004).[25]

- Disabled readers[26]
- Preschoolers[27]
- Kindergartners[28]
- First-graders[29]
- Second- through 6th-graders (most of whom were disabled readers)[30]
- Children across various SES (socioeconomic status) levels[31]
- Children learning to read in English as well as in other languages[32]

In a review of 97 studies on the achievement outcomes of various approaches for teaching struggling readers, "almost all successful programs have a strong emphasis on phonics" (Slavin, Lake, Davis, & Madden, 2011, p 19).[33]

Spelling

PA instruction has been shown to have a positive impact on spelling skills across many student categories and grade levels (NICHHD, 2000, pp. 2-6, 2-70–2-74):

• Kindergartners[34]
• First-graders[35]
• Children at risk for future reading problems[36]
• Normally developing readers[37]
• Children across various SES levels[38]
• Children learning to spell in English as well as children learning in other languages[39]

The following tasks are commonly used to assess PA skills and/or teach them to students (NICHHD, 2000, p. 2-2):

- Phoneme isolation–Recognizing individual sounds in words. For example: What sound do you hear at the beginning of pin? (/p/)

- Phoneme identification–Recognizing the common sound in different words. For example: What sound do you hear that is the same in sat, sun, and soup? (/s/)

- Phoneme categorization–Recognizing the odd sound in a set of words. For example: Listen to these words–hand, heart, sun. Which word begins with a different sound? (sun)

- Phoneme blending–Listening to a sequence of separately spoken sounds and then blending them naturally into a recognizable word. For example: What word is /b/ - /a/ - /t/? (bat)

- Phoneme segmentation–Breaking a word into its sounds by tapping out or counting the sounds. For example: How many sounds do you hear in cat? (three)

- Phoneme deletion–Recognizing the word that remains when a specific phoneme is removed. For example: What word do we have when we say smile without the /s/? (mile)

Range and scope of instruction

- Grade level. Research summarized by the NRP suggests that PA instruction should be provided

   – At the kindergarten level

   – At the first-grade level

   – At elementary levels above first grade as supplemental instruction for students with special needs.

Similarly, a review of research on early childhood reading commissioned by the National Research Council (NRC) concluded that "kindergarten instruction should be designed to provide practice with the sound structure of words [and] the recognition and production of letters," and "first-grade instruction should be designed to provide explicit instruction and practice with sound structures that lead to phonemic awareness" (Snow, Burns, & Griffin, 1998, p. 322).

Instructional methods and features

- Spoken and written versus spoken only. Instruction that used letters to teach phoneme manipulation had a considerably greater impact on both reading and spelling than instruction that did not use letters but was limited to spoken sounds only (NICHHD, 2000, pp. 2-64, 2-73).[40]

- Assessment for kindergarteners based on phoneme recognition. A study of Dutch children analyzing the relationship among several different assessments of PA found that a group-administered phoneme

recognition assessment was the "best paper and pencil representative" of PA skill in kindergarten,[41] and that it "equals phoneme segmentation" (an individually administered assessment) in "sensitivity and specificity when predicting later literacy failure" (van Bon & van Leeuwe, 2003, p. 195).[42] These findings suggest that a group-administered assessment based on phoneme recognition can serve as a useful screening tool for identifying the general level of students' PA skills in kindergarten, which in turn is a useful indicator of students who might
need targeted PA skills intervention.

- Guidance by initial and ongoing assessment at first and second grades. Based on the research findings, the NRP recommended a design in which assessment results drive PA instruction at the first- and second-grade levels, both initially and through ongoing formative assessments.

Assessments conducted before PA instruction begins should "indicate which children need the instruction and which do not, which children need to be taught rudimentary levels of PA (e.g., segmenting initial sounds in words), and which children need more advanced levels involving segmenting or blending with letters" (NICHHD, 2000, p. 2-6).

In order to determine the length of PA instruction, "What is probably most important is to tailor training time to student learning by assessing who has and who has not acquired the skills being taught as training proceeds" (NICHHD, 2000, p. 2-42). Similarly, the NRC research review argued that "intensity of nstruction should be matched to children's needs" in acquiring phonological skills (Snow, Burns, & Griffin, 1998, p. 321).

[18] Each comparison is a single instance of one treatment group being compared to one control group. Some studies included multiple comparisons (e.g., a single treatment group being compared to multiple comparison groups, or a single comparison group being compared to multiple treatment groups).

[19] Effect size (ES) = 0.53 for reading, 0.59 for spelling. Both results were statistically significant at p < 0.05. According to the NRP, an effect size of 0.20 is considered "small," 0.50 is considered "moderate," and 0.80 is considered "large" (2000, p. 2-Characterizations of meta-analysis results as small, moderate, or large in this paper are based on rounding to the nearest of these values.

[20] ES = 0.53 on immediate posttests (90 comparisons), 0.45 on first follow-up posttests (35 comparisons), and 0.23 on second follow-up posttests (8 comparisons). All of these results were statistically significant at p < 0.05.

[21] On immediate-reading posttests, ES = 0.41 for classroom teachers (22 comparisons) and 0.64 for researchers and others (68 comparisons). On follow-up reading posttests, ES = 0.32 for classroom teachers (12 comparisons) and 0.63 for researchers and others (23 comparisons). On immediate-spelling posttests when reading-disabled comparisons were removed from the analysis, ES = 0.74 for classroom teachers (8 comparisons) and 0.96 for researchers and others (20 comparisons). All of these results were statistically significant at p < 0.05. (The NRP found that of the groups they analyzed, PA instruction did not have a statistically significant impact on spelling outcomes for reading-disabled students. Results were therefore reported separately by the NRP after excluding reading disabled comparisons. Unless otherwise stated, PA research results in this paper related to spelling do not include reading-disabled comparisons. Additionally, results in some categories for both reading and spelling were reported by the NRP separately for immediate posttests and follow-up posttests, while other results were reported for immediate posttests only. In cases where both immediate posttests and follow-up posttests were reported, both sets of results are included in this paper.)

[22] Average correlations for predicting decoding by precursor literacy skill: Alphabet knowledge, 0.50 (52 studies); phonological awareness, 0.40 (69 studies); phonological short-term memory, 0.26 (33 studies); rapid automatic naming letters and digits, 0.40 (12 studies); rapid automatic naming objects and colors, 0.32 (16 studies); writing or writing name, 0.49 (10 studies). Average correlations for predicting reading

comprehension by precursor literacy skill: Alphabet knowledge, 0.48 (17 studies); phonological awareness, 0.44 (20 studies); phonological short-term memory, 0.39 (13 studies); rapid automatic naming letters and digits, 0.43 (3 studies); rapid automatic naming objects and colors, 0.42 (6 studies); writing or writing name, 0.33 (4 studies).

[23] ES = 0.47 on immediate posttests (46 comparisons), 0.30 on follow-up posttests (12 comparisons). Both results were statistically significant at p < 0.05.

[24] ES = 0.86 on immediate posttests (27 comparisons), 1.33 on follow-up posttests (15 comparisons). Both results were statistically significant at p < 0.05.

[25] At-risk students who received 17 weeks of PA and letter knowledge instruction during their kindergarten year significantly outperformed untrained at-risk students in letter knowledge (d = .67, F(1, 78) = 15.4, p < .01), phoneme deletion (d = .47, F(1, 78) = 4.7, p < .05), and phoneme identification (d = .54, F(1, 78) = 6.6, p < .05) at the beginning of grade 1 (p. 664), and "significantly outperformed the at-risk controls on all measures of reading, with effect sizes in the range from .40 to .69" in tests at the beginning of grades 2 and 3 (p. 665; all effects were significant at p < .01 or p < .05). Even at the beginning of grade 7, "there were still significant effects" for oral-word reading efficiency (d = .48), oral-nonword-reading efficiency (d = .53) and phonological coding (d = .49) (p. 665; all effects were significant at p < .05). There was also a nonsignificant but positive trend at grade 7 in reading comprehension (d = .49), a trend that "was present in both accuracy and efficiency of reading comprehension" (p. 665). At-risk status was determined by having at least one parent with dyslexia.

[26] ES = 0.45 on immediate posttests (17 comparisons), 0.28 on follow-up posttests (8 comparisons). Both results were statistically significant at p < 0.05.

[27] ES = 1.25 on immediate posttests (7 comparisons), p < 0.05.

[28] ES = 0.48 on immediate posttests (40 comparisons), p < 0.05.

[29] ES = 0.49 on immediate posttests (25 comparisons), p < 0.05.

[30] ES = 0.49 on immediate posttests (18 comparisons), p < 0.05.

[31] ES = 0.45 on immediate posttests for low SES (11 comparisons), 0.84 for mid & high SES (29 comparisons). Both results were statistically significant at p < 0.05.

[32] For children learning to read in English, ES = 0.63 on immediate posttests (72 comparisons), 0.42 on follow-up posttests (17 comparisons). For children learning to read in a language other than English, ES = 0.36 on immediate posttests (18 comparisons), 0.47 on follow-up posttests (18 comparisons). All of these results were statistically significant at p < 0.05.

[33] Mean ES = .62 across studies for students participating in one-to-one tutoring programs with a heavy emphasis on phonics. This compares to a mean ES = .23 for students participating in program.ms with less emphasis on phonics.

[34] ES = 0.97 on immediate posttests (15 comparisons), p < 0.05.

[35] ES = 0.66 on immediate posttests (13 comparisons), p < 0.05.

[36] ES = 0.76 on immediate posttests (13 comparisons), p < 0.05.

[37] ES = 0.88 on immediate posttests (15 comparisons), p < 0.05.

[38] ES = 0.76 on immediate posttests for low SES (6 comparisons), 1.17 for mid and high SES (9 comparisons). Both results were statistically significant at $p < 0.05$. (These statistics include reading disabled comparisons. SES results were not reported separately with reading disabled comparisons removed.)

[39] For children learning to spell in English, ES = 0.95 on immediate posttests (22 comparisons). For children learning to spell in a language other than English, ES = 0.51 on immediate posttests (6 comparisons). Both results were statistically significant at $p < 0.05$.

[40] For reading on immediate posttests, ES = 0.67 for programs that used letters (48comparisons), v. 0.38 for programs that did not use letters (42 comparisons). On follow-up posttests, ES = 0.59 for programs that used letters (16 comparisons), v. 0.36 for programs that did not use letters (19 comparisons). For spelling on immediate posttests, ES = 1.00 for programs that used letters (17 comparisons), v. 0.57 for programs that did not use letters (11 comparisons). All of these ES comparisons were significantly different in favor of programs that use letters at $p < 0.05$.

[41] A confirmatory structural analysis using linear structured relations (LISREL) was conducted on assessments administered in May/June of kindergarten (Time 1) and March of grade 1 (Time 2), producing a factor loading score for each of eight PA assessments carried out during the Time 1 administration (four of which were also repeated at Time 2). The analysis also included an Early Reading Test at Time 1 and a spelling test and two portions of the Three-Minute Test (a standardized word reading test) at Time 2. The highest loading factor among Time 1 PA tests was for phoneme segmentation (.91), followed by phoneme recognition (.78), one of two phoneme counting measures (.72), phoneme blending (.70), the second of two phoneme counting measures (.57), phoneme deletion (.50), rhyme judgment (.49), and pseudoword repetition (.40) (p. 206). Analysis also showed a single common factor underlying PA scores, which "is closely related to literacy performance" (p. 209).

[42] "Averaged over reading and spelling, maximum specificity of maximum sensitivity was 46% for Phoneme Segmentation and 47% for Phoneme Recognition. Conversely, choosing 80% as the desired level of specificity, the average sensitivity was found to be 45% for Phoneme Recognition whereas Phoneme Segmentation did not even attain an 80% level of specificity. Maximum Phoneme Segmentation specificity averaged over the three literacy measures was 65%, associated with 77% sensitivity (cf. 75% sensitivity at the same specificity level for Phoneme Recognition). This shows that both the Phoneme Segmentation and Phoneme Recognition Tests tend to identify too many children at kindergarten as running the risk of meeting with literacy problems in Grade 1 and that Phoneme Recognition is not inferior to Phoneme Segmentation in that respect" (p. 213).

Phonics and Word Recognition

Phonics instruction teaches children the relationship between letters (graphemes) and the sounds in spoken language (phonemes), and how to apply that knowledge in reading and spelling words.

Phonics instruction builds on phonemic awareness. Although it includes some types of phonemic awareness activities, in which students "use grapheme-phoneme correspondences to decode or spell words," it extends beyond such tasks to "include other activities such as reading decodable text or writing stories" (NICHHD, 2000, p. 2-11).

Research recommendations favor phonics instruction that is "systematic and explicit." An explicit approach includes specific directions to teachers for teaching letter-sound correspondences. A systematic approach is one that incorporates a planned, sequential set of phonetic elements to master. These elements are explicitly and systematically introduced in meaningful reading and writing tasks.

Systematic and explicit phonics instruction includes teaching a full spectrum of key letter-sound correspondences: not just major correspondences between consonant letters and sounds, but also short and long vowel letters and sounds, and vowel and consonant digraphs such as oi, ea, ou, sh, and th.

Several different methods have been developed to teach phonics systematically and explicitly, including synthetic phonics, analytic phonics, embedded phonics, analogy phonics, onset-rime phonics, and phonics through spelling. Broadly speaking, these approaches are all effective (NICHHD, 2000, p. 2-89).

Phonics instruction leads to an understanding of the alphabetic principle–the set of systematic and predictable relationships between written letters and spoken sounds. For children to learn how to sound out word segments and blend these parts to form recognizable words, they must know how letters correspond to sounds.

- Phonics instruction has a positive overall effect on reading. A meta-analysis by the National Reading Panel (NRP) found that systematic and explicit phonics instruction had a significantly stronger effect on children's reading than every category of nonsystematic or non-phonics instruction that was studied. This was true whether nonsystematic or non-phonics instruction occurred in the context of "basal programs, regular curriculum, whole language approaches, whole word programs, [or] miscellaneous programs" (NICHHD, 2000, pp. 2-95, 2-160).[43] Similarly, a review of research on early childhood reading commissioned by the National Research Council (NRC) cited a research finding that "children taught via the direct code approach" (i.e., systematic and explicit phonics instruction) showed better reading gains than students receiving whole-language or embedded phonics instruction (Snow, Burns, & Griffin, 1998, p. 205, citing Foorman et al., 1998).

- Phonics instruction has positive overall effects on specific skill areas. The NRP metaanalysis found that across grades K-6, phonics instruction was "most effective in improving children's ability to decode regularly spelled words . . . and pseudowords," but also helped students to read miscellaneous words (some of which were irregularly spelled) and read text orally (NICHHD, 2000, pp. 2-94, 2-159). Phonics instruction positively impacted spelling and text comprehension for kindergarten and first-grade students, but not for those in grades 2-6 (NICHHD, 2000, p. 2-159).[44]

- Phonics instruction has a lasting impact on reading. Follow-up tests in the NRP meta-analysis found that the effects of phonics instruction were reduced, but still significant, several months after the instruction ended, "indicating that the impact of phonics instruction lasted well beyond the end of training" (NICHHD, 2000, pp. 2-113, 2-159, 2-161).[45]

Grade levels

The NRP meta-analysis found that:

- Kindergarten and first-grade students experienced significantly better improvement from phonics instruction than from other types of instruction in all six areas measured (decoding regular words, decoding pseudowords, reading miscellaneous words, spelling, reading text orally, and comprehending text), with a moderate to large effect size for all areas except reading text orally (NICHHD, 2000, p. 2-159). Overall levels of achievement were very similar for kindergartners and first-graders.[46]

- Grades 2–6 students (the majority of which were disabled readers) also experienced significantly better improvement from phonics instruction in four out of six areas (decoding regular words, decoding pseudowords, reading miscellaneous words, and reading text orally), with effect sizes for the various areas ranging from small to moderate (NICHHD, 2000, p. 2-159).[47]

A meta-analysis of 97 studies investigating the effects of reading interventions for struggling readers revealed that "almost all successful programs have a strong emphasis on phonics" (Slavin, Lake, Davis, and Madden, 2011, p 19). For example, one-to-one tutoring models that focus on phonics obtain much better outcomes than programs that do not emphasize phonics (Slavin et.al., 2011).[48]

One of the major findings of the National Literacy Panel's report, Developing Literacy in Second Language Learners: Report of the National Literacy Panel on Language-Minority Children and Youth, indicates, "Instruction that provides substantial coverage in the key components of reading—identified by the National Reading Panel (NICHD, 2000) as phonemic awareness, phonics, fluency, vocabulary, and text comprehension—has clear benefits for language-minority students (National Literacy Panel, 2006, p 3). For instance, research has demonstrated that phonics instruction enhances the reading and writing skills of children for whom English is a second language, and the positive effects remain a year later (Stuart, 1999; Stuart, 2004).[49]

Student categories

Phonics instruction has been shown to have a statistically significant positive impact across many student categories (NICHHD, 2000, p. 2-160):

- Kindergartners at risk of developing future reading problems[50]
- First-graders at risk[51]
- First-grade normally achieving readers[52]
- Second through sixth grade normally achieving readers[53]
- Second through sixth graders identified as disabled readers[54]
- Children across various SES (socioeconomic status) levels[55]

Range and scope of instruction

- Grade level. The NRP finding that phonics instruction benefited students in kindergarten, grade 1, and grades 2–6 (the majority of which were disabled readers) suggests a value to including phonics instruction at the kindergarten and first-grade levels and beyond, particularly for disabled readers.

- Level at which phonics instruction begins. The NRP meta-analysis found that phonics instruction in kindergarten and first grade was "much more effective" than phonics instruction that began in second grade or later, after students have learned to read independently (NICHHD, 2000, p. 2-93, emphasis added).

- Letter knowledge as precursor. Two developmental studies, drawing on and extending a body of existing research, suggest that knowledge of letter names and/or letter sounds is an important precursor to the earliest stages of reading knowledge. Muter et al. (2004) found that students' ability to identify letter sounds and/or names on entering schooling (average age 4 years, 9 months) was one of two

significant predictors, together with phoneme sensitivity, of word recognition ability a year later (pp. 671–672).[56] Similarly, word recognition ability the following year (two
years after the first set of tests) was significantly predicted by the three factors of earlier word recognition, letter knowledge, and phoneme sensitivity.[57]

- In another study involving five assessment rounds spread across kindergarten and first grade, Morris et al. (2003) determined that alphabet knowledge, defined as the ability to name 15 uppercase and lowercase letters, was the first of seven sets of tested reading-related skills to develop chronologically58.

- These findings suggest a possible value for the common practice of explicitly teaching letter names and sounds to students early in kindergarten. One note of caution: these findings are not based on research comparisons of a group of students exposed to such instruction and a similar group of students not so exposed. Thus, a causal link between teaching letter names and sounds to students early in kindergarten and later development of reading skills has not been firmly established from this research.

- Instruction over multiple years. Results of a few multi-year studies examined by the NRP "suggest that when phonics instruction is taught to children at the outset of learning to read and continued for 2 to 3 years, the children experience significantly greater growth in reading at the end of training than children who receive phonics instruction for only 1 year after 1st grade" (NICHHD, 2000, p. 2-118).[59]

Instructional methods and features

- Varieties of effective programs. The NRP meta-analysis found small to moderate statistically significant effects that "did not differ statistically from each other" (NICHHD, 2000, p. 2-93) for several types of systematic and explicit phonics instructional programs. Included among these were "Synthetic phonics programs which emphasized teaching students to convert letters into sounds and then to blend the sounds to form recognizable words" (NICHHD 2000, pp. 2-93, 2-160).[60]

- Spelling instruction. An analysis of research commissioned by the NRC claimed that spelling instruction, in particular at the 2nd grade level, is important in building "phonemic awareness and knowledge of basic letter-sound correspondences" (Snow, Burns, & Griffin, 1998, p. 212).

- Phonics instruction as means to an end. Based on their interpretation of the research results, the NRP argued that phonics instruction (i.e., "the teaching of letter-sound relations") should not be pursued as an end in itself, but should be directed toward the goal of helping students in their "daily reading and writing activities" (NICHHD, 2000, p. 2-96). Students should understand that this is the goal of learning letter-sounds, and should have practice in putting their skills to use.

- Part of an integrated reading program. Based on their interpretation of the research results, the NRP argued that phonics instruction "should be integrated with other reading instruction to create a balanced reading program" including vocabulary and literature (NICHHD, 2000, p. 2-97). Phonics "should not become the dominant component in a reading program, neither in the amount of time devoted to it nor in the significance attached" (NICHHD, 2000, p. 2-97).

- Variable, guided by assessment. Based on their interpretation of the research results, the NRP argued that, ideally, phonics instruction should be variable based on the needs of individual students as determined through assessment (NICHHD, 2000, pp. 2-96, 2-97). Similarly, the NRC research review argued that "intensity of instruction should be matched to children's needs" in applying explicit instruction on the connection between phonemes and spellings (Snow, Burns, & Griffin, 1998, p. 321).

[43] ES = 0.46 v. basal programs (10 comparisons), 0.41 v. regular curriculum (16 comparisons), 0.31 v. whole language (12 comparisons), 0.51 v. whole word programs (10 comparisons), and 0.46 v. miscellaneous programs (14 comparisons); all differences were significant at $p < 0.05$. Note that these categories included only instructional programs that did not feature explicit, systematic phonics instruction. For example, a basal

program that included systematic and explicit phonics instruction would not be included in the category of "basal programs" as defined here.

[44] Across grades K–6, ES = 0.67 for decoding regular words (30 comparisons), 0.60 for decoding pseudowords (40 comparisons), 0.40 for reading miscellaneous words (59 comparisons), 0.25 for reading text orally (16 comparisons), 0.35 for spelling words (37 comparisons), and 0.27 for comprehending text (35 comparisons). All of these results were statistically significant at $p < 0.05$. However, in separate analyses for grades K–1 and 2–6, results for spelling and comprehending text were found to be statistically significant at $p < 0.05$ for grades K–1 but not for grades 2–6. (For ES data from these separate grade range analyses, see footnote 24 for grades K–1 and footnote 25 for grades 2–6.)

[45] In six studies, the experimental and control groups were tested at the end of training and again "after a delay following training to assess long-term effects" (2000, p. 2-110). ES = 0.51 for testing at the end of training and ES = 0.27 for follow-up testing. In both cases, the results were statistically significant at $p < 0.05$. However, the two effect sizes did not significantly differ from one another at $p < 0.05$.

[46] For K–1 combined, ES = 0.98 for decoding regular words (8 comparisons), 0.67 for decoding pseudowords (14 comparisons), 0.45 for reading miscellaneous words (23 comparisons), 0.23 for reading text orally (6 comparisons), 0.67 for spelling words (13 comparisons), and 0.51 for comprehending text (11 comparisons). ES for all measures together = 0.56 for kindergartners (7 comparisons), 0.54 for first graders (23 comparisons). All of these results were statistically significant at $p < 0.05$. Results were not reported separately for kindergartners and first graders for the six areas measured. The relatively small number of studies at the kindergarten level is partly the result of studies that were incorporated by the NRP into the meta-analysis on phonemic awareness (PA), which were therefore excluded from the phonics meta-analysis. The NRP notes that taking the PA studies measuring reading outcomes into account, "Combined, these findings clearly support the importance of teaching phonemic awareness and grade-appropriate phonics in kindergarten" (NICHHD, 2000, p. 2-115)

[47] ES = 0.49 for decoding regular words (17 comparisons), 0.52 for decoding pseudowords (13comparisons), 0.33 for reading miscellaneous words (23 comparisons), and 0.24 for reading text orally (6 comparisons). All of these results were statistically significant at $p < 0.05$.

[48] Mean ES = .62 across studies for students participating in one-to-one tutoring programs with a heavy emphasis on phonics. This compares to a mean ES = .23 for students participating in programs with less emphasis on phonics.

[49] This study represents a follow-up from the previous study (1999) investigating the effectiveness of phoneme awareness and phonics teaching as an introduction to reading for ESL students. When compared to students utilizing a more holistic approach, students receiving 12 weeks of phoneme awareness and phonics teaching exhibited significantly higher scores on tests of initial phoneme identification, phoneme segmentation, letter-sound recognition, and recall, word and non-word reading, and dictation. Post-tests were administered 18 months after the end of intervention. The 2004 study sought to determine whether these gains had been retained in the long term, 30 months post intervention. Findings were significant for phoneme segmentation, $F(2, 98) = 27.48$, $p < .0001$; letter-sound recall, $F(2, 98) = 30.9$, $p < .0001$, non-word reading, $F(2, 98) = 8.66$, $p < .0001$, and in spelling $F(2. 98) = 6.65$, $P < .002$.

[50] ES = 0.58 (6 comparisons), $p < 0.05$. Results were not reported separately for kindergarten students not at risk.

[51] ES = 0.74 (9 comparisons), $p < 0.05$.

[52] ES = 0.48 (14 comparisons), $p < 0.05$.

[53] ES = 0.27 (7 comparisons), $p < 0.05$.

[54] ES = 0.32 (17 comparisons), p < 0.05.

[55] ES = 0.66 for low SES (6 comparisons), 0.44 for middle SES (10 comparisons), 0.37 where the SES was varied (14 comparisons), and 0.43 where the SES was not given (32 comparisons); p < 0.05 for all results.

[56] Standardized path coefficient for the effect of letter knowledge on word recognition = .63, based on a path analysis of factors from all three sets of tests. Chi square (24, N=90) = 28.80, not significant, comparative fit index = 0.988, goodness of fit index = 0.941, root mean square error of approximation = 0.049 (90% confidence interval = 0.000 to 0.102) (p. 674).

[57] Standardized path coefficient for the effect of letter knowledge on word recognition = .22, based on a path analysis of factors predicting word recognition in the third set of assessments from factors in the second set of assessments. Chi square (2, N=90) = 0.64, not significant, comparative fit index = 1.00, goodness of fit index = 0.998, root mean square error of approximation = 0.000 (90% confidence interval = 0.000 to 0.149) (p. 674).

[58] Structural equation modeling found that alphabet knowledge preceded beginning consonant awareness (standardized path coefficient of .42, p < .05), which in turn preceded concept of word in text and spelling with beginning and ending consonants. These two factors in turn preceded phoneme segmentation, which preceded word recognition, which preceded contextual reading. Chi square (12df) = 44.23, goodness of fit index = .90, normed chi square = 3.69, comparative fit index = .90 (pp. 315316). All of the standardized path coefficients were significant at p < .05.

[59] ES = 0.43 at the end of second grade for students who had received 2–3 years of phonics instruction (4 comparisons), v. 0.27 for "older children receiving only 1 year of phonics instruction in grades beyond 1st" (p. 2-118; number of comparisons not given). Because of the small number of comparisons, the results are described as "mainly suggestive" (p. 2-118).

[60] ES = 0.45 overall for synthetic programs (39 comparisons). Among specific groups taught using synthetic programs, ES = 0.64 for kindergartners and first-graders at risk of developing future reading problems (9 comparisons), 0.54 for first-grade normally achieving readers (8 comparisons), 0.27 for second through sixth grade normally achieving readers (6 comparisons), and 0.36 for disabled readers (9 comparisons). All of these results are significant at p < 0.05.

Fluency

_____

Fluency is the ability to read text quickly, accurately, and with expression. It provides a bridge between word recognition and comprehension. Fluency includes word recognition, but extends beyond knowledge of individual words to reflect the meaningful connections among words in a phrase or sentence. Fluent readers are able to recognize words and comprehend them simultaneously.

Fluency is widely acknowledged to be a critical component of skilled reading. A study conducted by the National Assessment of Educational Progress (NAEP) found a "close relationship between fluency and reading comprehension" (NICHHD, 2000, p. 3-1, citing Pinnell et al., 1995). More generally, a National Research Council report stated that "adequate progress in learning to read English beyond the initial level depends on . . . sufficient practice in reading to achieve fluency with different kinds of texts written for different purposes" (Snow, Burns, & Griffin, 1998, p. 223). Additional evidence of this link between fluency and the development of general reading ability, particularly reading comprehension, is provided by several studies that found student performance on fluency assessments was an effective predictor of their performance on other types of reading measures.[61]

It is generally agreed that fluency results from reading practice. However, approaches to developing fluency have ranged from simply encouraging independent reading to more structured approaches to oral reading practice, designed to guide students toward developing specific fluency skills (e.g., reading with expression). In reviewing the research on fluency instruction, the National Reading Panel (NRP) found value in approaches that incorporated repeated oral reading, guided or unguided, as opposed to less focused attempts to encourage reading in general.

- Repeated oral reading instruction has a positive overall effect on reading. A meta-analysis by the NRP found that fluency instruction in the form of repeated oral reading (guided or unguided) "had a consistent, and positive impact on word recognition, fluency, and comprehension as measured by a variety of test instruments and at a range of grade levels" (NICHHD, 2000, p. 3-3). The weighted average of these effect sizes resulted in a moderate effect on student reading (NICHHD, 2000, p. 3-16).[62]

- Repeated oral reading instruction has a positive impact on specific skill areas. The NRP meta-analysis found that repeated oral reading had a moderate effect on reading accuracy, a somewhat less strong effect on reading fluency, and a smaller effect on reading comprehension (NICHHD, 2000, pp. 3-3, 3-18).[63]

- In contrast, encouraging children to read on their own has no research-verified impact on reading achievement. The NRP reviewed research studies on attempts to build fluency through encouraging independent student reading; most of these were studies of sustained silent reading. It found that the body of research failed to confirm any positive effects (NICHHD, 2000, pp. 3-3, 3-24–3-26, citing 14 studies).[64]

Analysis of grade levels covered by the studies in the NRP meta-analysis led to the conclusion that "repeated reading procedures have a clear impact" on reading ability among

- "Nonimpaired readers at least through grade 4"
- "Students with various kinds of reading problems throughout high school"
(NICHHD, 2000, p. 3-17)

Range and scope of instruction

- Grade level. The NRP research findings suggest a value to including fluency instruction in the form of repeated oral reading procedures at least through the fourth grade level, and possibly beyond in a supporting capacity for students with reading problems. A review of research on early childhood reading commissioned by the National Research Council (NRC) identified fluency instruction as a key component of first-1st grade instruction and argued that "throughout the early grades, time,

materials, and resources should be provided" for both daily independent reading and daily supported reading and rereading (Snow, Burns, & Griffin, 1998, p. 195). However, the NRC did not cite specific studies as the basis for recommending that such activities occur daily.

Instructional methods and features

- Effective methods. Small sample sizes in studies reviewed by the NRP made it impossible to compare the effectiveness of different methods that fell within the category of repeated (guided or unguided) oral reading. However, some of the methods that produced "clear improvement" (NICHHD, 2000, p. 3-15) included the following:

Repeated readings (set number of repetitions, set amount of time, or until fluency criteria were reached) (NICHHD, 2000, p. 3-15, citing 9 studies)[65] Repeated readings "combined with other [guiding] procedures such as a particular type of oral reading feedback . . . or phrasing support for the reader" (NICHHD, 2000, p. 3-15, citing 2 studies)[66]

Practice of oral reading "while listening to the text being read simultaneously" (NICHHD, 2000, p. 3-15, citing 3 studies)[67]

- Oral reading practice. In the NRP's description of effective repeated oral reading programs, the NRP stated that many of these programs provided increased oral reading practice "through the use of one-to-one instruction, tutors, audiotapes, peer guidance, or other means," compared to earlier approaches (NICHHD, 2000, p. 3-11).

- Incorporation of independent reading. The report commissioned by the NRC identified independent reading, whether silent or spoken, as a key strategy for helping students develop fluency. Such reading requires that students read texts at the appropriate instructional level, neither too easy nor too difficult (i.e. at the instructional level) (Snow, Burns, & Griffin, 1998, p. 213). In light of the NRP research results, this recommendation should be considered not as an alternative to repeated oral reading, but as a supplement to it.

- Part of a larger reading program context. According to the NRP, in all of the programs reviewed, "the fluency work was only part of the instruction that students received" (NICHHD, 2000, p. 3-20). They cited a study cautioning against too much focus on fluency issues as a potential distraction from reading comprehension, then concluded that repeated oral reading should occur "in the context of an overall reading program, not as stand-alone interventions" (NICHHD, 2000, p. 320, citing Anderson, Wilkinson, & Mason, 1991).

- Regular assessment. Based on the research, the NRP recommended that "teachers should assess fluency regularly," using both formal and informal methods (NICHHD, 2000, p. 3-4). Such informal methods can include "reading inventories . . . miscue analysis . . . pausing indices . . . running records . . . and reading speed calculations" (NICHHD, 2000, p. 3-9, citing 5 studies).[68] Similarly, the NRC report recommended that "because the ability to obtain meaning from print depends so strongly on the development of . . . reading fluency," fluency "should be regularly assessed in the classroom, permitting timely and effective instructional response" (Snow, Burns, & Griffin, 1998, p. 323).

- Validity of oral reading fluency measures. According to Hasbrouck and Tindal (2006), measuring student oral reading fluency in terms of words correct per minute "has been shown, in both theoretical and empirical research, to serve as an accurate and powerful indicator of overall reading competence, especially in its correlation with comprehension. The validity and reliability of these measures has been well established in a body of research extending over the past 25 years" (citing Fuchs, Fuchs, Hosp, & Jenkins, 2001; Shinn, 1998). For example, Fuchs et al. (2001) summarized research showing that measures of oral reading fluency involving text passages that were several paragraphs in length corresponded well with "traditional, commercial, widely used tests of reading comprehension" (p. 243), and were superior in this regard to reading words from a list,[69] measures of silent fluency,[70] and more direct measures of reading comprehension.[71]

More specifically, several studies have shown that third-grade tests of oral reading fluency from

the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) correlated well to high-stakes reading assessments from Arizona,[72] Colorado,[73] Florida,[74] North Carolina,[75] and Oregon.[76]

- Oral reading fluency norms. Based on analysis of assessment data from a pool ranging from approximately 3,500 to over 20,000 students collected between 2000 and 2005, Hasbrouck and Tindal (2006) have developed a new set of oral reading fluency norms to replace the widely used norms that were published in 1992 (Hasbrouck & Tindal, 1992). The new norms "align closely with both those published in 1992, and also closely match the widely used DIBELS norms . . . and those developed by Edformation with their AIMSweb system . . . with few exceptions." These new norms cover grades 1–8 and provide information for 90th, 75th, 50th, 25th, and 10th percentile rankings. The researchers also provided specific norm-related recommendations for using oral reading results for screening, diagnosis, and monitoring student progress:

- Screening. According to the authors, "fluency-based assessments have been proven to be efficient, reliable, and valid indicators of reading proficiency when used as screening measures" (citing Fuchs et al., 2001; Good, Simmons, & Kame'enui, 2001).

For screening in grades 2–8, the authors recommended that "a score falling within 10 words above or below the 50th percentile should be interpreted as within the normal, expected, and appropriate range for a student at that grade level at that time of year."

For screening in grade 1, the authors recommended following guidelines established by Good et al. (2002) that identified students reading at or above 40 words correct per minute (wcpm) by the end of the school year as being "at low risk of reading difficulty," students reading at 20–40 wcpm as being "at some risk," and students reading below 20 wcpm as being "at high risk of failure."

[61] Barger, 2003; Buck & Torgesen, 2003; Fuchs, Fuchs, Eaton, & Hamlett, 2000; Fuchs, Fuchs, Hosp, & Jenkins, 2001; Fuchs, Fuchs, & Maxwell, 1988; Good, Simmons, & Kame'enui, 2001; Jenkins, Fuchs, van den Broek, Espin, & Deno, 2003; Shaw & Shaw, 2002; Wilson, 2005. For additional information on results of these studies, see below under Validity of oral reading fluency measures.

[62] Weighted ES = 0.41, based on 14 studies incorporating 99 comparisons. Weighting reflected the number of subjects per study (i.e., studies with larger numbers of subjects weighted more than studies with smaller numbers of subjects). The NRP meta-analysis for fluency did not report statistical significance or p-values.

[63] Weighted ES = 0.55 for word recognition (11 comparisons from 8 studies), 0.44 for fluency (35 comparisons from 10 studies), and 0.35 for comprehension (49 comparisons from 12 studies).

[64] Evans & Towner, 1975; Reutzel & Hollingsworth, 1991a; Collins, 1980; Langford & Allen, 1983; Cline & Kretke, 1980; Davis, 1988; Holt & O'Tuel, 1989; Burley, 1980; Summers & McClelland, 1982; Manning & Manning, 1984; Morrow & Weinstein, 1986; Peak & Dewalt, 1994; Vollands, Topping, & Evans, 1999; Carver & Leibert, 1995. These studies were not considered to be of sufficiently high quality and quantity to conduct a meta-analysis.

[65] Faulkner & Levy, 1999; Levy, Nicholls, & Kohen, 1993; Neill, 1979; O'Shea, Sindelar, & O'Shea, 1985; Rasinski, 1990; Sindelar, Monda, & O'Shea, 1990; Stoddard, Valcante, Sindelar, O'Shea, & Algozzine, 1993; Turpie & Paratore, 1995; VanWagenen, Williams, & McLaughlin, 1994..

[66] Reitsma, 1998; Taylor, Wade, & Yekovich, 1985.

[67] van Bon, Boksebeld, Font Freide, & van den Hurk, 1991; Rasinski, 1990; Smith, 1979.

[68] Johnson, Kress, & Pikulski, 1987; Goodman & Burke, 1972; Pinnell et al., 1995; Clay, 1972; Hasbrouck & Tindal, 1992.

[69] Jenkins, Fuchs, van den Broek, Espin, & Deno (2003) compared measures of oral reading fluency of (a) connected text (a folktale) and (b) a context-free word list (list of words from the folktale) to performance on the Iowa Test of Basic Skills (ITBS) subtest for reading comprehension for 113 fourth- graders. They found that speed of oral reading from the folktale correlated more strongly to the ITBS score than did speed of oral reading from the word list (criterion validity coefficients of .83 and .54, respectively; the difference was statistically significant, t(110) = 7.86, p < .001) (p. 723).

[70] Fuchs, Fuchs, Eaton, & Hamlett (2000) compared measures of oral and silent reading speed with "the number of questions answered correctly on the passages that had been read" and with the raw score on the Iowa Test of Basic Skills (ITBS) subtest for reading comprehension (Fuchs et al., 2001, p. 247, summarizing Fuchs et al., 2000). They found that "for For silent reading, the correlation with the questions answered on the passage was .38, and with the Iowa test, it was .47. For oral reading, the correlation with the passage questions was .84, and with the Iowa test, it was .80. So, correlations for the oral reading fluency score were substantially and statistically significantly higher than for the silent reading fluency scores" (Fuchs et al., 2001, p. 247; p- values not reported).

[71] Fuchs, Fuchs, & Maxwell (1988) compared measures of oral reading fluency, short-answer question answering, passage recall, and cloze (all based on the same 400-word passages) with the Reading Comprehension subtest of the Stanford Achievement Test for 70 middle school and junior high school students with reading disabilities. They found that criterion validity coefficients (average correlations across the different scoring methods) for the question answering, the recall, and the cloze measures were .82, .70, and .72, respectively. The coefficient for oral reading fluency was .91. Tests for differences between these correlations demonstrated that the correlation for oral reading fluency was significantly higher than the correlation for each of the three direct measures of reading comprehension" (Fuchs et al., 2001, p. 244, summarizing Fuchs et al., 1988; p-values not reported). Additionally, according to Fuchs et al. (2001), "high correlations have also been documented for nondisabled elementary school age children within a variety of studies that (a) incorporated different criterion measures of reading accomplishment, (b) examined within-grade as well as across-grade coefficients, and (c) used instructional level as well as a fixed level of text across students" (p. 245, citing as research reviews Hosp & Fuchs, 2000; Marston, 1989).

[72] "The correlation between [Arizona Instrument to Measure Standards] and [DIBELS oral reading fluency assessment] for the overall group was . . . r = .741," based on scores of 241 third- graders (Wilson, 2005; p-value not reported).

[73] The DIBELS oral reading fluency assessment was administered three times: in fall, winter, and spring. The fall and winter administrations each had a correlation coefficient of .73 with the spring assessment of the Colorado State Assessment Program (CSAP). The spring administration of DIBELS oral reading fluency assessment had a correlation of .80 with CSAP (Shaw & Shaw, 2002; p-values not reported). Each correlation was based on the scores of more than 50 third-graders.

[74] "There was a significant correlation between [DIBELS oral reading fluency] scores and reading [Florida Comprehensive Assessment Test–Sunshine State Standards] scores (r = .70, p < .001) . . . and reading scores on the [Florida Comprehensive Assessment Tests norm-referenced test] (r = .74, p < .001)," based on scores of 1,102 third- grade students (Buck & Torgesen, 2003).

[75] "The correlation between [DIBELS oral reading fluency] Spring scores and [North Carolina] End of Grade reading scores was . . . r = .73," based on scores of 38 third-grade students (Barger, 2003; no p-value reported).

[76] The correlation coefficient between DIBELS oral reading fluency assessment and the Oregon Statewide Assessment was .67 (45% of variance explained, p < .001), based on the scores of 364 third- graders (Good, Simmons, & Kame'enui, 2001, p. 275.

Standard: Writing

What are the processes involved in writing?

At the most basic level, writing by definition is the translation of thought into visual form; however, the process of writing is remarkably complex. The act of writing is rarely linear and requires the iteration of planning, drafting, and revising while simultaneously employing critical thinking skills to analyze, summarize, and evaluate. Writing is a language-based activity that naturally overlaps with other processes included elsewhere in the *Standards*, such as reading, expressive language, receptive language, vocabulary use, and writing mechanics.

Graham & Perin (2007) in their meta-analysis of research on writing instruction, identified 11 key elements for writing instruction:

1. Writing strategies, including planning revising, and editing;[77]
2. Summarization, which includes explicit and systematic teaching[78]
3. Collaborative writing, where students work together to plan, draft, revise, and edit[79]
4. Specific product goals[80]
5. Word processing, using computers and word processors as supports[81]
6. Sentence combining, where students are taught to construct complex sentences[82]
7. Prewriting, which assists students in generating and organizing ideas[83]
8. Inquiry activities, where students analyze concrete data to help develop ideas and content[84]
9. Process writing approach, which utilizes a workshop environment stressing extended writing opportunities, authentic writing, personalized instruction, and cycles[85]
10. Study of models, which allows student to read, analyze, and emulate good writing[86]
11. Writing for content learning, which uses writing as a tool for learning content maiterial. (p. 4 – 5).[87]

Writing is a central form of communication. It requires a deep knowledge of subject matter and employs critical thinking skills. As students transition to high school and college, writing becomes one of the primary methods by which their work is judged.

When students increase their knowledge about writing processes, they become better writers. It has been demonstrated that students' knowledge of discourse writing—that is, knowledge about various genres of and schemas for writing, coupled with linguistic knowledge (e.g., grammar, procedures for constructing sentences, spelling)—are factors that uniquely contribute to student variation in writing performance. Olinghouse and Graham (2009) found the following five types of discourse knowledge significantly contribute to story writing quality, length, and vocabulary diversity:

- Substantive processes (role of process in good writing and carrying out the writing process;
- Production procedures (role of linguistic and mechanical factors in good writing, story writing, and carrying out the writing process);
- Motivation (role of effort in good writing and carrying out the writing process);
- Story elements (basic structural elements in a story);
- Irrelevant information (p 47). [88]

In their meta-analysis examining the effects of various writing practices on reading performance, Graham and Herbert (2010) found that when students write about text, are explicitly taught writing skills and processes, and increase the amount of time spent writing, students demonstrate greater text comprehension.

In Writing Next, the majority of research articles reviewed in Graham & Perin's (2007) meta-analysis included students across the full range of normal classroom variation. The 11 key elements of writing instruction were found to benefit a wide variety of learners. Students who struggle with foundational writing skills, for example, ESL students or students with a disability, may benefit from direct, targeted instruction.

For example, a study conducted by Saddler & Graham (2005) indicated that when provided with direct instruction designed to foster sentence-combining skills, fourth-grade students who were considered less skilled in writing improved their story writing and revising skills.[89] Graham & Perin's (2007) meta-analysis indicated that writing strategy instruction was found particularly effective for low-achieving students[90] (11 studies).

Range and scope of Instruction:

Young children are naturally inclined to express ideas in print, primarily through illustration. Writing instruction typically begins informally in preschool, as children begin to master basic concepts of print and letter formation, and becomes more sophisticated as children move into Kindergarten and beyond. Pearson (1994) indicates that the "synergistic" relationship between reading and writing renders it critical to begin writing instruction in the early grades.

Instructional Methods and Features:

Graham & Harris (1994) advocate for an integrated approach by incorporating elements from direct skill instruction and the process-oriented methodology, including:

- Skill-oriented instruction designed to foster text production skills (e.g., spelling, phonemic awareness)
- Opportunities for children to engage in writing activities
- Frequent opportunities to apply specific skills in a variety of writing activities
- Peer review and collaboration

Writing practices demonstrated to increase students' reading comprehension skills, include the following:

- **Have students write about texts they read**. Write personal reactions, analyze and interpret text (9 studies)[91], write summaries (19 studies)[92], keep notes (23 studies)[93], and answer and create questions about text (8 studies[94]);
- **Teach students the writing skills and processes that create text**. Teach the process of writing, text structures for writing, paragraph (12 studies)[95] and sentence construction and spelling (4 studies)[96]; spelling (5 studies)[97]
- **Increase the frequency allocated for writing** (6 studies)98 (Graham & Herbert, 2010, p 11).

[77] ES = .82 (20 studies; 11 with low-achieving students, 9 with normal variation)

[78] ES = .82 (4 studies)

[79] ES = .75 (7 studies)

[80] ES = .70 (5 studies)

[81] ES = .55 (18 studies)

[82] ES = .50 (5 studies)

[83] ES = .32 (5 studies)

[84] ES = .32 (5 studies)

[85] ES = .32 (21 studies

[86] ES = .25 (6 studies)

[87] ES = .23 (26 studies)

[88] These five factors accounted for 14% (p < .001) of the variability in quality of writing, when selected variables (gender, grade, basic reading skills, handwriting fluency, spelling, written story plan, and attitude toward writing) were controlled.

[89] Students receiving instruction in sentence-combining were twice as likely as comparison students to product a correctly written sentence $(F(1, 39) = 31.3, MSE = 37.7, p = .00$. Findings were similar when sentence combining was assessed via researcher-designed progress monitoring assessments and using a norm-referenced measure of sentence combining.

[90] ES = 1.02 (11 studies).

[91] Peronal reactions. ES = .77 (9 studies)

[92] ES = .52 (19 studies)

[93] ES = .47 (23 studies)

[94] ES = .27 (8 studies

[95] ES = .18 (12 studies, published tests); ES = .27 (5 studies, researcher-created tests)

[96] ES = .79 (4 studies)

[97] ES = .68 (5 studies)

[98] ES = .30 (11 studies)

Standard: Speaking and Listening

Oral language includes critical skills that allow children to:

- Communicate-listen and respond when people are talking
- Understand the meaning of a large number of words and concepts that they hear or read
- Obtain new information about things they want to learn about, and
- Express their own ideas and thoughts using specific language (National Institute for Literacy)

Oral language is divided into two subtypes: receptive language and expressive language. Receptive language is language that is heard and understood. Children exhibit receptive language skills when they listen and comprehend stories, understand vocabulary, engage in social exchanges with peers, and follow directions. Expressive language is the generation of thoughts, ideas, and needs through verbal and visual form. Children exhibit expressive language skills when they retell a story, incorporate vocabulary, and engage in discussion. Woven into these processes are other linguistic features and cognitive abilities, such as vocabulary, grammar, auditory memory, sequencing, and phonological processing, among others. Receptive language skills develop earlier than expressive language skills.

Instruction in speaking and listening focus on the following skills and processes:

- Understanding of information by answering questions about key details or facts
- Engaging in collaborative discussions
- Representing ideas and thoughts in oral and written form, as well as through media
- Reporting on topics and relating stories that contain key details and are presented in a logical fashion
- Speaking in complete sentences and utilizing developmentally appropriate vocabulary
- Differentiating contexts that require formal English from contexts where informal exchange is acceptable
- Interpreting and use images, graphics and symbols, as found in media
- Demonstrating understanding by rephrasing, summarizing

There exists a complex interplay between speaking and listening skills and academic achievement. Speaking and listening are language-based processes that are prerequisites for reading and writing. Studies have shown that:

- Oral language skills, in conjunction with spelling and letter-writing fluency, are positively related to writing skills (Young-Suk, Otaiba, Puranik, & Folson, 2011)[99] and reading skills (Cooper, Roth, Speece, & Schatschneider 2002).[100]
- Expressive vocabulary knowledge and listening comprehension skills are related to word identification ability (Wise, Sevcik, Morris, Lovett, & Wolf, 2007, p. 1095).
- Receptive and expressive vocabulary knowledge are related to pre-reading skills (Wise, et.al, 2007)
- Expressive vocabulary and listening comprehension are related to word identification skills (Wise, et.al., 2007)[101]

Teachers are well aware that students embark upon their educational careers with varying degrees of development in their receptive and expressive language skills. Instruction at the Kindergarten and early elementary level includes engaging in shared discussions, learning to collaborate with peers, demonstrate understanding by answering and asking questions, turn-taking, and using rich, detailed description and new vocabulary.

A study of second- and third-grade students identified with a reading disability concluded that receptive and expressive vocabulary knowledge were related to pre-reading skills, and listening comprehension skills were found to facilitate word identification (Wise et.al., 2007). Engaging in activities designed to foster vocabulary and listening comprehension may benefit students who struggle in reading.

Research conducted by Miller, Heilmann,, Nockerts, Iglesias, Fabiano, & Francis (2006) indicate that better oral language skills facilitate passage comprehension and word reading, in both Spanish and English. Further, higher English oral language skills are associated with higher Spanish reading scores, and higher Spanish oral language skills are associated with higher English reading scores, indicating a 'cross-language' effect. [102]

[99] Young-Suk, et.al., employed structural equation modeling to investigate the relationships between oral language skills, spelling, letter-writing fluency and writing skills. Oral language (γ=.16, p = .03), spelling, γ=.30, p = < .001), and letter writing fluency (γ=.26, p = < .001) were positively and uniquely related to writing (γ=.26, p = .003). The predictors explained 33% of total variance. The hypothesized model demonstrates a good fit for the data, X^2 (76) = 190.67, p < .001, CFI = .98, TLI = .98 RMSEA = .079, CI= .06 to .09.

[100] General oral language was found to be the sole predictor of 28% of the variance in phonological awareness for nonreaders in Kindergarten; in first grade 42% of the variance in phonological awareness; and in second grade, 41% of the variance in phonological awareness.

[101] Wise, et.al. employed structural equation modeling to investigate the relationship among receptive and expressive vocabulary, listening comprehension, pre-reading skills, word identification skills, and reading comprehension by children identified as disabled in reading. 279 students in 2nd to 3rd grade were administered selected subtests from standardized, norm-referenced assessments (e.g., PPVT, WISC, WIAT) to assess receptive vocabulary, expressive vocabulary, and listening comprehension skills. Pre-reading skills and word identification skills were assessed via selected subtests from standardized, norm-referenced assessments (CTRRPP; SSI; WRMT, WRAT). Findings indicate that receptive vocabulary and expressive vocabulary knowledge evidenced independent and significant paths to pre-reading skills (.29 and .12, respectively). Expressive vocabulary knowledge and listening comprehension skills evidenced independent and significant paths to word identification skills (.19 and .23, respectively). The path from word identification skills to pre-reading skills was significant (.72). The model selected fit the data well, X^2 (21, n = 279) = 56.84, p < .05, X^2 / df = 2.71, NFI = .96, NNFI = .95 CFI = .97, SRMR = .046.

[102] Measures of oral Spanish were found to predict Spanish passage comprehension, accounting for 10% of the variance after accounting for grade. Measures of oral English were found to predict English passage comprehension for Spanish speaking students, accounting for 22% of the variance in reading scores after accounting for grade. Measures of oral English were found to predict Spanish passage comprehension, accounting for 6% of the variance in Spanish reading outcomes. Measures of oral Spanish were found to predict English passage comprehension, accounting for 2% of the variation in English reading comprehension.

Vocabulary Acquisition and Use

_____

Vocabulary is knowledge of the meaning, use, and pronunciation of individual words. It includes both oral vocabulary–words we use in speaking or recognize in listening–and reading vocabulary– words we use or recognize in print. Vocabulary is a key component of comprehension. Before readers can understand the meaning of spoken or written text, they must know what most of the words mean.

Much of our vocabulary knowledge comes from simple exposure to new words in context. However, research has verified that direct instruction in vocabulary–specifically teaching the meaning of new words, and teaching strategies for vocabulary building–has a positive impact on students' language development.

- Link between vocabulary development and reading comprehension. According to the National Reading Panel (NRP), although a direct causal link between vocabulary development and reading comprehension has not been established by research, still a variety of studies "underscore the notion that comprehension gains and improvement on semantic tasks are results of vocabulary learning" (NICHHD, 2000, pp. 4-15, 4-20, citing 7 studies).[103] Similarly, a longitudinal study on early reading development among British schoolchildren found evidence that vocabulary knowledge, as tested at the start of the students' first year of school, was one of three predictors of reading comprehension during the first year, as tested at the start of the students' third year of school–a span of two school years (Muter et al., 2004).[104]

- Effects on specific skill areas. According to a review of research on early childhood reading commissioned by the National Research Council (NRC), "Vocabulary instruction generally does result in measurable increase in students' specific word knowledge. Sometimes and to some degree it also results in better performance on global vocabulary measures, such as standardized tests, indicating that the instruction has evidently enhanced the learning of words beyond those directly taught. Second, pooling across studies, vocabulary instruction also appears to produce increases in children's reading comprehension" (Snow, Burns, & Griffin, 1998, p. 217). Most of the studies reviewed by the NRP occurred within the grades 3–8 range, with only a few studies addressing vocabulary instruction before grade 3. At least five studies reviewed by the NRP supported vocabulary instruction by the third- grade level.[105] The NRC report expanded the grade range of students who can benefit from vocabulary instruction, advocating direct instruction in vocabulary development for "children who have started to read independently, typically second graders and above" so that they will "sound out and confirm the identities of visually unfamiliar words" (Snow, Burns, & Griffin, 1998, p. 322). A review of research conducted by the National Early Literacy Panel indicated that "more complex oral language skills are dependent on vocabulary", and "vocabulary provides the foundation for grammatical knowledge, definitional vocabulary, and listening comprehension (National Institute for Literacy, 2008, p. 75). [106]

It is worth noting that these research findings and recommendations relate specifically to reading vocabulary, and are thus dependent on the development of independent reading skills. In contrast, development of children's oral vocabulary starts much earlier–as soon as children can begin to understand spoken language. Research suggests that, when provided with direct instruction, children in Kindergarten and first-grade can acquire sophisticated vocabulary (Beck & McKeown, 2007).
 Although the NRP research did not cover development of oral vocabulary per se, the NRP analysis underscored the fact that development of reading ability is dependent on oral vocabulary: in order for students to understand a word once it has been decoded, it must already be part of their vocabulary (NICHHD, 2000, p. 4-15). Similarly, the NRC report argues that "Learning new concepts and the words that encode them is essential for comprehension development" (Snow, Burns, & Griffin, 1998, p. 217). Based on these factors, it seems reasonable to conclude that even before students can read independently, direct methods for building oral vocabulary may help contribute to students' ultimate success in reading.

_____

Range and Scope of Instruction

- Grade levels. Grade K-2 materials must provide ample instruction and exercise for those students possessing weak vocabulary knowledge, which may include non-native English speakers. The acquisition of academic vocabulary, or Tier 2 words, is of particular emphasis.

Instructional Methods and Features

- Multiple strategies, incorporating direct and indirect vocabulary instruction. Based on research surveyed by the NRP, "It is clear that vocabulary should be taught both directly and indirectly"–that is, using both explicit instruction in vocabulary and methods of decoding word meanings, on the one hand, and more contextual approaches to exposing students to vocabulary on the other (NICHHD, 2000, p. 4-24). Based on both the research results it reviewed and theoretical considerations, the NRP further recommended that reading instruction include a combination of different strategies, both direct and indirect, for building vocabulary, rather than relying on only one method (NICHHD, 2000, p. 4-27).
- Specific instructional methods. The NRP found that a variety of instructional methods led to improvements in student vocabulary, including deriving meaning from context (NICHHD, 2000, p. 4-23, citing 2 studies)[108] and a combination of context-based and definitional approaches (NICHHD, 2000, p. 4-23, citing 2 studies)[109]

"Restructuring the task" of learning new words in a variety of different ways, such as providing redundant information and providing sample sentences along with definitions (NICHHD, 2000, pp. 4-22–4-23, citing 7 studies)[110]

Direct instruction in "vocabulary items that are required for a specific text to be read as part of the lesson" (NICHHD, 2000, pp. 4-24–4-25, citing 4 studies).[111] This includes pre-instruction of vocabulary before the reading or lesson (p. 4-25, citing 3 studies).[112]

- Storybook reading. A body of research evidence shows that "reading storybooks aloud to young children . . . results in reliable gains in incidental word acquisition" (Ewers & Brown-son, 1999, p. 12, citing 5 additional studies).[113]
- Characteristics of effective instructional methods. Summarizing the characteristics of instructional methods that were found to be effective according to the research surveyed, the NRP identified several factors, including the following:

"Richness of context in which words are to be learned," including "extended and rich instruction of vocabulary (applying words to multiple contexts, etc.)" (NICHHD, 2000, pp. 4-22, 4-27). Along similar lines, the NRC report cites a review of studies in which "methods in which children were given both information about the words' definitions and examples of the words' usages in a variety of contexts resulted in the largest gains in both vocabulary and reading comprehension," compared to drill and practice (Snow, Burns, & Griffin, 1998, pp. 217–218, citing Stahl & Fairbanks, 1986). The NRP further recommended that vocabulary items should be "derived from content learning materials" and likely to appear in a variety of other contexts as well (NICHHD, 2000, p. 4-25).

"Active student participation," including activities such as student-initiated talk in the context of listening to storybooks (NICHHD, 2000, pp. 4-21, 426, 4-27). This calls for active student participation supported by the findings of Ewers and Brownson (1999), who reported on a study in which a storybook with 10 targeted vocabulary words was read aloud individually to 66 kindergarteners. After each sentence that included a targeted vocabulary word, readers either would "recast" the target word using a familiar synonym (e.g., after reading "He is wearing his favorite fedora," the reader would say, "He is wearing his favorite hat"), or would ask a what or where question (e.g., "What was he wearing?" with a follow-up question asking "What was the word I used?" if the student answered with a synonym). Pretest-posttest comparison found that students in both treatments learned a significant number of the targeted vocabulary words; however, students in the

active (question-answering) treatment learned significantly more words than those in the passive treatment.[114] This result was true both of students with a high phonological working memory and of those with a low phonological working memory.[115]

"High frequency and multiple, repeated exposures to vocabulary material" (NICHHD, 2000, p. 4-22)

- Assessment. Both the NRP and the NRC report included specific research-based recommendations related to assessment. The NRC report recommended that "Because the ability to obtain meaning from print depends so strongly on the development of word recognition accuracy," this skill "should be regularly assessed in the classroom, permitting timely and effective instructional response" (Snow, Burns, & Griffin, 1998, p. 323).

Based on the variety of measures used to assess student vocabulary and the different results those measures can achieve, the NRP recommended that vocabulary be assessed in multiple ways in the classroom. In particular, they argued that "the more closely the assessment matches the instructional context, the more appropriate the conclusions about the instruction will be" (NICHHD, 2000, p. 4-26).

[103] Beck, Perfetti, & McKeown, 1982; McKeown, Beck, Omanson, & Perfetti, 1983; Wixson, 1986; Carney, Anderson, Blackburn, & Blessing, 1984; Kameenui, Carnine, & Freschi, 1982; Stahl & Fairbanks, 1986; Medo & Ryder, 1993.

[104] Standardized path coefficient for the effect of vocabulary knowledge on reading comprehension = .16, based on a path analysis of factors from all three sets of tests. Chi square (2, N=90) = 3.92, not significant, comparative fit index = 0.992, goodness of fit index = 0.986, root mean square error of approximation = 0.104 (90% confidence interval = 0.000 to 0.257) (p. 675). Vocabulary knowledge was measured by the British Picture Vocabulary Scale II (Dunn, Dunn, Whetton, & Burley, 1997); reading comprehension was measured by the Neale Analysis of Reading Ability II (Neale, 1997). Note that vocabulary knowledge was measured in the first of three annual sets of assessments when students first entered school (average age four years nine months), but was not measured during the second set of assessments. Reading comprehension was measured during the third set of assessments. Thus, vocabulary knowledge from when students first entered school was still a significant predictor of reading comprehension two years later. This held true "even when the effects of early word recognition, phoneme sensitivity, and letter knowledge were controlled" (p. 678). Other significant predictors of reading comprehension were word recognition and grammatical awareness, from the second set of assessments.

[105] Heise, Papalewis, & Tanner, 1991; Levin, Levin, Glasman, & Nordwall, 1992; Eldredge, 1990; Gipe & Arnold, 1979; Rinaldi, Sells, & McLaughlin, 1997.

[106] Results of the meta-analysis discriminate between expressive vocabulary and definitional vocabulary. Analysis indicates relatively weaker correlations for expressive vocabulary and decoding (r = 0.24) and expressive vocabulary and reading comprehension (r = 0.34) pooled across studies. While the authors suggest that "building vocabulary alone is unlikely to be sufficient for improving outcomes not only in literacy but also in oral language itself" they also state that "these results should not be taken to imply that well-developed vocabularies are unimportant for literacy. The results suggest that well-developed vocabularies are insufficient for literacy. More complex oral language skills are dependent upon vocabulary" (p 75). However, stronger correlations are noted for *definitional* vocabulary and decoding (r = 0.38) and *definitional* vocabulary and reading comprehension (r = 0.45).

[107] The article reports on 2 studies with Kindergarten and first-grade children. Study 1 compared the number of sophisticated words learned for children who were directly taught words and children who received no such instruction. The instructed Kindergarten group demonstrated significant gains in vocabulary, F(1,45) = 15.93, p = .000 as did the first-grade group, F(1, 51) = 7.25, p = .010. The effect size (*d*) for the Kindergarten and first-grade group equaled 1.17 and .744, respectively. Study 2 assessed whether increasing the length of

instructional time had an effect on the number of sophisticated words learned by Kindergarten and first-grade children. Findings revealed that the number of words increased with length of additional instructional time. For Kindergarten students, $F(1, 35) = 69.47$, $p < .001$. For first-grade students, $F(1, 39) = 64.10$, $p < .001$. The effect size (d) for the Kindergarten and first-grade group equaled 2.09 and 2.09, respectively.

[108] Gipe & Arnold, 1979; Tomesen & Aarnoutse, 1998.

[109] Kolich, 1991; Stahl, 1983.

[110] Kameenui, Carnine, & Freschi, 1982; Gordon, Schumm, Coffland, & Doucette, 1992; Schwartz & Raphael, 1985; Scott & Nagy, 1997; Wu & Solman, 1993; Eldredge, 1990; Malone & McLaughlin, 1997.

[111] Tomesen & Aarnoutse, 1998; White, Graves, & Slater, 1990; Dole, Sloan, & Trathen, 1995; Rinaldi, Sells, & McLaughlin, 1997.

[112] Brett, Rothlein, & Hurley, 1996; Wixson, 1986; Carney, Anderson, Blackburn, & Blessing, 1984.

[113] Eller, Pappas, & Brown, 1988; Elley, 1989; Leung & Pikulski, 1990; Senechal, 1997; Senechal & Cornell, 1993.

[114] $F(1, 62) = 19.59$, $p < .01$ (p. 15).

[115] $F(1, 62) = 18.60$, $p < .001$ (p. 16). Level of phonological working memory was determined by administration of the Children's Test of Nonword Repetition (CNRep) (p. 14, citing Gathercole, Willis, Baddeley, & Emslie, 1994).

Conventions of Standard English and Knowledge of Language

Conventions of Standard English include grammatical structures, usage and mechanics, or the 'nuts and bolts' of writing and speaking. For example, students are expected to develop well-constructed sentences that contain correct spelling, punctuation, and grammar. Knowledge of language includes, for example, the ability to select words for effect, compare and contrast varieties of English (e.g., dialects and registers), and differentiate contexts that require formal English from those contexts where informal usage is acceptable and appropriate. In conjunction, students must develop knowledge regarding the 'digital mechanics' of audio-visual formats (Rice, 2008). These are elements that students must master as they increase the range and complexity of encountered text, engage in academic and social discourse, and as they prepare written communications.

The conventions of Standard English and language use and structure extend into all literacy domains, including reading, writing, and speaking and listening. Students benefit from instruction for the following reasons:

- Students who gain control over Standard English grammar, usage, and mechanics are better able to effectively communicate their ideas, knowledge, and opinions through oral discussions and written work.
- Students who gain control over conventions of Standard English grammar, usage, and mechanics can more easily master the use of digital texts than students who lack this control.
- The ability to manipulate the language orally as well as the ability to decode words supports vocabulary development (www.readtennessee.org)

It is recommended that, "an essential element in developing a comprehensive writing policy is the identification of effective instructional procedures, not just at the secondary level…but with younger students as well" (Saddler & Graham, 2005, p 43). The goal of explicit, strategic writing instruction is two-fold: first, to enhance the writing skills all children, from early elementary school on; and second, to minimize the number of children who experience difficulties learning to write (Graham & Harris, 2002).

Range and Scope of Instruction

Graham and Harris (1994) recommend direct, skill-oriented instruction designed to foster text-production skills (e.g., spelling, grammar). For example, fourth-grade students identified as either more or less skilled in their writing benefitted from strategic instruction designed to improve their ability to construct sentences (Saddler & Graham, 2005).[116] Teaching basic skills, such as grammar within the context of writing— instead of teaching them in isolation—has been shown to enhance writing performance (Fearn & Farnan, 2007).[117]

[116] Students receiving instruction in sentence-combining were twice as likely as comparison students to product a correctly written sentence $(F(1, 39) = 31.3$, MSE = 37.7, p = .00. Findings were similar when sentence combining was assessed via researcher-designed progress monitoring assessments and using a norm-referenced measure of sentence combining.

[117] Four classes were randomly assigned to either the treatment or the control condition. Treatment students participated in a classroom where attention was focused on grammar as an aid in thinking about writing. The authors consider this "directed writing" (p 73). Results were significant for both treatment classrooms, $p < .002$ and $p < .003$.

General Conclusions

_____

General conclusions that can be reached about assessment based on the recommendations of the National Reading Panel (NRP)and the National Research Council (NRC) reports include the following:

- Assessment should guide instruction.
- Assessment should be frequent and/or regular. This was explicitly mentioned for most of the areas.
- Assessment should use appropriate measures.
- This was particularly a concern with fluency and vocabulary.

Area-Specific Conclusions

- Phonemic awareness (PA)–kindergarten assessment based on phoneme recognition; guidance by initial and ongoing assessment at 1st and 2nd grades. A study of kindergartners suggested that PA assessment at this level should focus on phoneme recognition. Additionally, the NRP recommended, based on its research findings, an instructional design in which assessment results drive PA instruction at the 1st and 2nd grade levels, both initially and through ongoing formative assessments. All these research-based recommendations are described in more detail below.

Assessment for kindergarteners based on phoneme recognition. A study of Dutch children analyzing the relationship among several different assessments of PA found that a group-administered phoneme recognition assessment was the "best paper and pencil representative" of PA skill in kindergarten,[118] and that it "equals phoneme segmentation" (an individually administered assessment) in "sensitivity and specificity when predicting later literacy failure" (van Bon & van Leeuwe, 2003, p. 195).[119] These findings suggest that a group-administered assessment based on phoneme recognition can serve as a useful screening tool for identifying the general level of students' PA skills in kindergarten, which in turn is a useful indicator of students who might need targeted PA skills intervention.

Pre-assessment.

Assessments conducted before PA instruction begins should "indicate which children need the instruction and which do not, which children need to be taught rudimentary levels of PA (e.g., segmenting initial sounds in words), and which children need more advanced levels involving segmenting or blending with letters" (NICHHD, 2000, p. 2-6).

Ongoing assessments and instructional time.

In order to determine the length of PA instruction, "What is probably most important is to tailor training time to student learning by assessing who has and who has not acquired the skills being taught as training proceeds" (NICHHD, 2000, p. 2-42). Similarly, a report commissioned by the NRC argued that "intensity of instruction should be matched to children's needs" in acquiring phonological skills (Snow, Burns, & Griffin, 1998, p. 321).

- Phonics–variable, guided by assessment.

Based on their interpretation of the research results, the NRP argued that ideally, phonics instruction should be variable based on the needs of individual students as determined through assessment (NICHHD, 2000, pp. 2-96, 2-97). Similarly, the NRC report argued that "intensity of instruction should be matched to children's needs" in applying explicit instruction on the connection between phonemes and spellings (Snow, Burns, & Griffin, 1998, p. 321).

- Fluency–regular assessment, using research-validated methods. A broad range of research, including both research reviewed by the NRP and research from other sources, describes research-validated measures and provides research-based recommendations for how to use those measures.

Regular assessment.
Based on the research, the NRP recommended that "teachers should assess fluency regularly," using both formal and informal methods (NICHHD, 2000, p. 3-4). Such informal methods can include "reading inventories . . . miscue analysis . . . pausing indices . . . running records . . . and reading speed calculations" (NICHHD, 2000, p. 3-9, citing 5 studies).[120] Similarly, the NRC report recommended that "Because the ability to obtain meaning from print depends so strongly on the development of . . . reading fluency," fluency "should be regularly assessed in the classroom, permitting timely and effective instructional response" (Snow, Burns, & Griffin, 1998, p. 323).

Validity of oral reading fluency measures. According to Hasbrouck and Tindal (2006), measuring student oral reading fluency in terms of words correct per minute "has been shown, in both theoretical and empirical research, to serve as an accurate and powerful indicator of overall reading competence, especially in its correlation with comprehension. The validity and reliability of these measures has been well established in a body of research extending over the past 25 years" (citing Fuchs, Fuchs, Hosp, & Jenkins, 2001; Shinn, 1998). For example, Fuchs et al. (2001) summarized research showing that measures of oral reading fluency involving text passages that were several paragraphs in length corresponded well with "traditional, commercial, widely used tests of reading comprehension" (p. 243), and were superior in this regard to reading words from a list,[121] measures of silent fluency,[122] and more direct measures of reading comprehension.[123] More specifically, several studies have shown that third-grade tests of oral reading fluency from the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) correlated well to high-stakes reading assessments from Arizona,[124] Colorado,[125] Florida,126 North Carolina,127 and Oregon.

Oral reading fluency norms. Based on analysis of assessment data from a pool ranging from approximately 3,500 to more than 20,000 students collected between 2000 and 2005, Hasbrouck and Tindal (2006) have developed a new set of oral reading fluency norms to replace the widely used norms that were published in 1992 (Hasbrouck & Tindal, 1992). The new norms "align closely with both those published in 1992, and also closely match the widely used DIBELS norms . . . and those developed by Edformation with their AIMSweb system . . . with few exceptions." These new norms cover grades 1-8, and provide information for 90th, 75th, 50th, 25th, and 10th percentile rankings. The researchers also provided specific norm-related recommendations for using oral reading results for screening, diagnosis, and monitoring student progress:

– Screening. According to the authors, "fluency based assessments have been proven to be efficient, reliable, and valid indicators of reading proficiency when used as screening measures" (citing Fuchs et al., 2001; Good, Simmons, & Kame'enui, 2001).

For screening in grades 2-8, the authors recommended that "a score falling within 10 words above or below the 50th percentile should be interpreted as within the normal, expected, and appropriate range for a student at that grade level at that time of year."

For screening in grade 1, the authors recommended following guidelines established by Good et al. (2002) that identified students reading at or above 40 words correct per minute (wcpm) by the end of the school year as being "at low risk of reading difficulty," students reading at 20–40 wcpm as being "at some risk," and students reading below 20 wcpm as being "at high risk of failure."

– Diagnosis According to the authors, oral reading fluency norms "can play a useful role in diagnosing possible problems that are primarily fluency based."

– Monitoring progress. According to the authors, oral reading fluency measures "have been found by many educators to be better tools for making decisions about students' progress than traditional standardized measures which can be time-consuming, expensive, are only administered infrequently, and have limited instructional utility" (citing Good et al., 2001; Tindal & Marston, 1990). Fuchs et al. (2001) provided a

similar, research-based description of how oral reading fluency can be used to monitor student progress, both across and within individual student performance.

For monitoring student progress, Hasbrouck and Tindal (2006) recommended that students scoring within 10 wcpm of the 50th percentile at or above grade level should be "considered as making adequate progress in reading, unless there are other indicators that would raise concern." Such students "may only need to have their reading progress monitored a few times per year to determine if they are meeting the benchmark standards that serve as predictors of reading success."

For students reading below grade level, the authors suggested more frequent oral reading fluency assessments: once or twice monthly to once a week, depending on the severity of the problem, with scores graphed against goals and with adjustments to the instructional program if a student falls short of needed progress for three or more consecutive assessments (citing Hasbrouck et al., 1999).

- Vocabulary–regular assessment in multiple ways. Both the NRP and the NRC report included specific research-based recommendations related to assessment.

The NRC report identified word recognition accuracy as a skill that "should be regularly assessed in the classroom," with assessment results used to guide instruction (Snow, Burns, & Griffin, 1998, p. 323).

Based on the variety of measures used to assess student vocabulary and the different results those measures can achieve, the NRP recommended that vocabulary be assessed in multiple ways in the classroom. In particular, they argued that "the more closely the assessment matches the instructional context, the more appropriate the conclusions about the instruction will be" (NICHHD, 2000, p. 4-26).

- Text comprehension–regular assessment. According to the NRC report, "Conceptual knowledge and comprehension strategies should be regularly assessed in the classroom," with teachers tailoring instruction accordingly "where difficulty or delay is apparent" (Snow, Burns, & Griffin, 1998, p. 323). The NRP did not directly address assessment of text comprehension.

[118] A confirmatory structural analysis using linear structured relations (LISREL) was conducted on assessments administered in May/June of kindergarten (Time 1) and March of grade 1 (Time 2), producing a factor loading score for each of eight PA assessments carried out during the Time 1 administration (four of which were also repeated at Time 2). The analysis also included an Early Reading Test at Time 1 and a spelling test and two portions of the Three-Minute Test (a standardized word reading test) at Time 2. The highest loading factor among Time 1 PA tests was for phoneme segmentation (.91), followed by phoneme recognition (.78), one of two phoneme counting measures (.72), phoneme blending (.70), the second of two phoneme counting measures (.57), phoneme deletion (.50), rhyme judgment (.49), and pseudoword repetition (.40) (p. 206). Analysis also showed a single common factor underlying PA scores, which "is closely related to literacy performance" (p. 209).

[119] "Averaged over reading and spelling, maximum specificity of maximum sensitivity was 46% for Phoneme Segmentation and 47% for Phoneme Recognition. Conversely, choosing 80% as the desired level of specificity, the average sensitivity was found to be 45% for Phoneme Recognition whereas Phoneme Segmentation did not even attain an 80% level of specificity. Maximum Phoneme Segmentation specificity averaged over the three literacy measures was 65%, associated with 77% sensitivity (cf. 75% sensitivity at the same specificity level for Phoneme Recognition). This shows that both the Phoneme Segmentation and Phoneme Recognition Tests tend to identify too many children at kindergarten as running the risk of meeting with literacy problems in Grade 1 and that Phoneme Recognition is not inferior to Phoneme Segmentation in that respect" (p. 213).

[120] Johnson, Kress, & Pikulski, 1987; Goodman & Burke, 1972; Pinnell et al., 1995; Clay, 1972; Hasbrouck & Tindal, 1992.

[121] Jenkins, Fuchs, van den Broek, Espin, & Deno (2003) compared measures of oral reading fluency of (a) connected text (a folktale), and (b) a context-free word list (list of words from the folktale) to performance on the Iowa Test of Basic Skills (ITBS) subtest for reading comprehension for 113 fourth graders. Fuchs et al. found that speed of oral reading from the folktale correlated more strongly to the ITBS score than did speed of oral reading from the word list (criterion validity coefficients of .83 and .54, respectively; the difference was statistically significant, $t(110) = 7.86$, $p < .001$) (p. 723).

[122] Fuchs, Fuchs, Eaton, & Hamlett (2000) compared measures of oral and silent reading speed with "the number of questions answered correctly on the passages that had been read" and with the raw score on the Iowa Test of Basic Skills (ITBS) subtest for reading comprehension (Fuchs et al., 2001, p. 247, summarizing Fuchs et al., 2000). They found that "For silent reading, the correlation with the questions answered on the passage was .38, and with the Iowa test, it was .47. For oral reading, the correlation with the passage questions was .84, and with the Iowa test, it was .80. So, correlations for the oral reading fluency score were substantially and statistically significantly higher than for the silent reading fluency scores" (Fuchs et al., 2001, p. 247; p values not reported).

[123] Fuchs, Fuchs, & Maxwell (1988) compared measures of oral reading fluency, short-answer question answering, passage recall, and cloze (all based on the same 400-word passages) with the Reading Comprehension subtest of the Stanford Achievement Test for 70 middle school and junior high school students with reading disabilities. They found that "Criterion validity coefficients (average correlations across the different scoring methods) for the question answering, the recall, and the cloze measures were .82, .70, and .72, respectively. The coefficient for oral reading fluency was .91. Tests for differences between these correlations demonstrated that the correlation for oral reading fluency was significantly higher than the correlation for each of the three direct measures of reading comprehension" (Fuchs et al., 2001, p. 244, summarizing Fuchs et al., 1988; p-values not reported). Additionally, according to Fuchs et al. (2001), "high correlations have also been documented for nondisabled elementary school age children within a variety of studies that (a) incorporated different criterion measures of reading accomplishment, (b) examined within-grade as well as across-grade coefficients, and (c) used instructional level as well as a fixed level of text across students" (p. 245, citing as research reviews Hosp & Fuchs, 2000; Marston, 1989).

[124] "The correlation between [Arizona Instrument to Measure Standards] and [DIBELS oral reading fluency assessment] for the overall group was . . . $r = .741$," based on scores of 241 third graders (Wilson, 2005; p-value not reported).

[125] The DIBELS oral reading fluency assessment was administered three times: in fall, winter, and spring. The fall and winter administrations each had a correlation coefficient of .73 with the spring assessment of the Colorado State Assessment Program (CSAP). The spring administration of DIBELS oral reading fluency assessment had a correlation of .80 with CSAP (Shaw & Shaw, 2002; p-values not reported). Each correlation was based on the scores of more than 50 third graders.

[126] "There was a significant correlation between [DIBELS oral reading fluency] scores and reading [Florida Comprehensive Assessment Test–Sunshine State Standards] scores ($r = .70$, $p < .001$) . . . and reading scores on the [Florida Comprehensive Assessment Tests norm-referenced test] ($r = .74$, $p < .001$)," based on scores of 1,102 third grade students (Buck & Torgesen, 2003).

[127] "The correlation between [DIBELS oral reading fluency] Spring scores and [North Carolina] End of Grade reading scores was . . . $r = .73$," based on scores of 38 third-grade students (Barger, 2003; no p-value reported)

Adler, M. J., & Van Doren, C. (1940). *How to read a book.* New York: Touchstone.

American College Testing. (2006). Reading: Between the lines. Iowa City, IO: American College Testing. http://https:///www.act.org/research/policymakers/reports/reading.html">

Amlund, J. T., Kardash, C. A. M., & Kulhavy, R. W. (1986). Repetitive reading and recall of expository text. *Reading Research Quarterly, 21,* 49-58.

Andre, T. (1979). Does answering higher-level questions while reading facilitate productive learning? *Review of Educational Review, 49,* 28-318.

Barnett, J. E., & Seefeldt, R. W. (1989). Read something once, why read it again? Repetitive reading and recall. *Journal of Reading Behavior, 21,* 351–360.

Beck, I. L., & McKeown, M. G., (2007). Increasing young low income children's oral vocabulary repertoires through rich and focused instruction. *Elementary School Journal, 107*, 251-271.

Betts, E. A. (1946). *Foundations of reading instruction*. New York: American Book Company.

Bromage, B. K., & Mayer, R. E. (1986). Quantitative and qualitative effects of repetition on learning from technical text. *Journal of Educational Psychology, 78,* 271–278.

Brooks, C., & Warren, R. P. (1938). *Understanding poetry.* New York: Henry Holt and Company.

Casteel, M. (1993). Effects of inferences necessity and reading goal on children's inferential integration. *Journal of Educational Psychology,88,* 484–507.

Dickinson, D. K., Griffith, J. A., Golinkoff, R. M., & Hirsh-Pasek, K. (2012). How reading books fosters language development around the world. Child Development Research, doi:10.1155/2012/602807

Duke, N. K. (2000). 3.6 minutes per day: The scarcity of informational texts in first grade. *Reading Research Quarterly, 35,* 202-224.

Einstein, G.O., McDaniel, M.A., Owen, P.D., & Coté, N.C. (1990). Encoding and recall of texts: The importance of material appropriate processing. *Journal of Memory and Language, 29,* 566-581.

Glover, J. A., & Corkill, A. J. (1987). Influence of paraphrased repetitions on the spacing effect. *Journal of Educational Psychology, 79,* 198–199.

Goldman, S. R., & Varnhagen, C. K. (1986). Memory for embedded and sequential story structures. *Journal of Memory and Language, 25,* 401–418.

Graham, S., & Hebert, M. (2010). *Writing to read: Evidence for how writing can improve reading.* New York: Carnegie Corporation. http://www.all4ed.org/files/WritingToRead.pdf

Hiebert, E., H., & Cervetti, G. N., (2011, March). *What differences in narrative and informational texts mean for the learning and instruction of vocabulary.* Reading Research Report #11.01. San Francisco: Creative

Commons. http://textproject.org/assets/publications/TextProject_RRR-11.01_Vocabularies-of-Narrative-and-Informational-Texts.pdf

Hoffman, J.V., Sailors, M., Duffy, G. R., & Beretvas, S. N. (2004). The effective elementary classroom literacy environment: Examining the validity of the TEX-IN3 Observation system. *Journal of Literacy Research, 36,* 303-334.

Kintsch, E. (1987). Macroprocesses and microprocesses in the development of summarization skill. *Cognition and Instruction, 7,* 161-195.

Krug, D., Davis, B., & Glover, J. A. (1990). Massed versus distributed repeated reading: A case of forgetting helping recall? *Journal of Educational Psychology, 82,* 366–371.

Mannes, S., & Kintsch, W. (1987). Knowledge organization and text organization. *Cognition and Instruction, 4,* 91-115.

Marley, S. C., Levin, J. R., & Glenberg, A. M. (2007). Improving Native American children's listening comprehension through concrete representations. *Contemporary Educational Psychology, 32*, 537-550.

Mayer, R. E. (1983). Can you repeat that? Qualitative effects of repetition and advance organizers on learning from science prose. *Journal of Educational Psychology, 75,* 40–49.

McDaniel, M.A., Einstein, G.O., Dunay, P.K., & Cobb, P.E. (1986). Encoding difficulty and memory: Toward a unifying theory. *Journal of Memory and Language, 25,* 645-656.

McKeown, M. G., Beck, I. L., & Blake, R. G. K. (2009). Rethinking comprehension instruction: Comparing strategies and content instructional approaches. *Reading Research Quarterly, 44*(3), 218-253.

McNamara, D.S., Kintsch, E., Songer, N. B., & Kintsch, W. (1996). Are good texts always better? Interactions of text coherence, background knowledge, and levels of understanding in learning from text. *Cognition and Instruction, 14,* 1-43.

Meyer, B. J., & McConkie, G. W. (1973). What is recalled after hearing a passage? *Journal of Educational Psychology, 65,* 109–117.

Morgan, A., Wilcox, B.R., & Eldredge, J.L. (2000). Effect of difficulty levels on second-grade delayed readers using dyad reading. *Journal of Educational Research, 94*, 113-119.

Nagy, W. E., & Hiebert, E. H. (2011). Toward a theory of word selection. In M. L. Kamil, P. D. Pearson, E. B. Moje, & P. P. Afflerbach (Eds.), *Handbook of reading research,* vol. 4 (pp. 229-258), New York: Routledge.

National Governors Association Center for Best Practices, Council of Chief State School Officers (2010). *Common Core State Standards.* Washington, DC: National Governors Association Center for Best Practices, Council of Chief State School Officers,

National Institute of Child Health and Human Development (2000). *National Reading Panel–Teaching children to read: Reports of the subgroups* (NIH Pub. No. 00-4754). Washington, DC: U.S. Department of Health and Human Services. Retrieved from http://www.nationalreadingpanel.org/publications/subgroups.htm

O'Brien, E. J., & Myers, J. L. (1985). When comprehension difficulty improves memory for a text. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 11*, 12-21.

Park, Y. (2008). *Patterns in and predictors of elementary students' reading performance: Evidence from the data of the Progress in International Reading Study (PIRLS).* Unpublished doctoral dissertation, Michigan State University, East Lansing, MI.

Powell, W. R. (1968). *Reappraising the criteria for interpreting informal inventories.* Washington, DC: ERIC 5914164.

Pressley, M., El-Dinary, P.B., Gaskins, I., Schuder, T., Bergman, J., Almasi, L., & Brown, R. (1992). Beyond direct explanation: Transactional instruction of reading comprehension strategies. *Elementary School Journal, 92,* 511-554.

Rawson, K. A., Dunlosky, J., & Thiede, K. W. (2000). The rereading effect: Metacomprehension accuracy improves across reading trials. *Memory & Cognition, 28,* 1004–1010.

Rothkopf, E. Z. (1968). Textual constraint as a function of repeated inspection. *Journal of Educational Psychology, 59,* 20–25.

Richards, I. A., (1925). *Principles of literary criticism.* New York: Harcourt, Brace.

Richards, I. A. (1942). *How to read a page.* New York: W. W. Norton.

Rowan, B., & Correnti, R. (2009). Studying reading instruction with teacher logs: Lessons from the study of instructional improvement. *Educational Researcher, 38*(2), 120-131.

Shanahan, T. (1983). The informal reading inventory and the instructional level: The study that never took place. In L. Gentile, M. L. Kamil, & J. Blanchard (Eds.), *Reading research revisited,* (pp. 577-580). Columbus, OH: Merrill.

Shanahan, T., Callison, K., Carriere, C., Duke, N. K., Pearson, P. D., & Schatschneider, C., & Torgesen, J. (2010). *Improving reading comprehension in kindergarten through 3rd grade.* Washington, DC: National Center for Educational Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.   http://ies.ed.gov/ncee/wwc/PracticeGuide.aspx?sid=14

Shannon, P., Kameenui, E. J., & Baumann, J. F. (1988). An investigation of children's ability to comprehend character motives. *American Educational Research Journal, 25*(3), 441-462.

Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children.* Washington, DC: National Academies Press.

Taboada, A., & Guthrie, J. T. (2006). Contributions of student questioning and prior knowledge to construction of knowledge from reading information text. *Journal of Literacy Research, 38,* 1-35.

Taylor, B. M., Pearson, P. D., Clark, K., & Walpole, S. (2000). Effective schools and accomplished teachers: Lessons about primary-grade reading instruction in low-income schools. *Elementary School Journal, 101,* 3-28, 92.

Trabasso, T., & Nickels, M. (1992). The development of goal plans of action in the narration of a picture story. *Discourse Processes, 15,*249–275.

van den Broek, P. W. (1989). Causal reasoning and inference making in judging the importance of story statements. *Child Development, 60,* 286–297.

Venezky, R. (1982). The origins of the present-day chasm between adult literacy needs and school literacy instruction. *Visible Language, 16,* 113-126.

Williams, J. P., Hall, K. M., Lauer, K. D., Stafford, K. B., DeSisto, L. A., & DeCani, J. S. (2005). Expository text comprehension in the primary grade classroom. *Journal of Educational Psychology, 97,* 538-550.

Williams, J. P., Nubla-Kung, A. M., Pollini, S., Stafford, K. B., Garcia, A., & Snyder, A. E. (2007). Teaching cause-effect text structure through social studies content to at-risk second graders. *Journal of Learning Disabilities, 40,* 111-120.

NAEP Reading Framework, 2011, p. 9).

Blachowicz and Fisher 2007;
Carlisle and Rice 2002;
(Pressley 2000).

APPENDIX E – LEAP VALIDITY STUDY

Formative Assessment Analysis

Prepared for Connections Education, LLC

July 2017
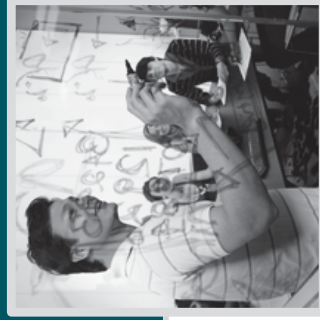
Table of Contents

HANOVER
RESEARCH

Introduction

- In this presentation, Hanover Research analyzes the relationship between student achievement on a formative assessment created by Connections Education (LEAP assessment) and their proficiency on a State assessment.
  - The analysis is done by grade (3-8), subject (reading and math), and test type (pre, mid, and post).

- The aim of this analysis is to validate whether LEAP scores are predictive of the result a student ultimately achieves on the State test.

- Accompanying this presentation is an interactive Excel dashboard that allows the user to view accuracy rates and model details by selecting the grade, subject, and test of interest.

Introduction (continued)

- This presentation is structured as follows:

  − First, we discuss the key findings and implications from this research.

  − Second, we describe the data and methodology used to conduct this analysis, along with general information on model creation.

  − Finally we provide a detailed outline of the results.

Executive Summary

This analysis validates that there is a positive, statistically significant relationship between students' results of the LEAP assessment and the proficiency level they achieve on the State assessment.

In general, negative accuracy rates (the proportion of those who were "Unlikely to Succeed" in the LEAP assessment and ultimately "Below Proficient" in the state assessment) are higher than positive accuracy rates (the proportion of those who were "Likely to Succeed" in the LEAP assessment and ultimately "Proficient" in the state assessment), indicating that the LEAP assessment is more effective at predicting those who will not be proficient than those who will be proficient.

Overall (for students in all grades), negative accuracy rates range from 72 percent to 82 percent, while positive accuracy rates range from 55 percent to 76 percent for specific subjects and tests.

Executive Summary

Overall accuracy rates (i.e. a combination of positive and negative accuracy rates) are typically lower due to the existence of the "May be Successful" category, which does not clearly predict the outcome of the state proficiency test and as such was not considered accurate for either proficient or not proficient. Overall accuracy rates range from 55 percent to 64 percent.

Additionally, this analysis found that accuracy rates differ across grade levels. When comparing tests across different grades, positive accuracy rates range from 44 percent to 87 percent and are typically higher for grades 6,7, and 8 while negative accuracy rates range from 64 percent to 91 percent and are typically higher for grades 3,4, and 5.

HANOVER
RESEARCH

Key Findings

Please note: Negative accuracy rate = Proportion of "Unlikely to be Successful" who are ultimately "Below Proficient"

Positive accuracy rate = Proportion of "Likely to be Successful" who are ultimately "Proficient"

- **Overall, negative accuracy rates are higher than positive accuracy rates, indicating that the LEAP assessments are better at predicting who will not be proficient than predicting who will be proficient.**

  – Positive accuracy rates of the LEAP assessments range from 55 percent (Mid Math Assessment) to 76 percent (Post Read Assessment) while the negative accuracy rates of the LEAP assessments range from 72 percent (Pre Math Assessment) to 82 percent (Post Math Assessment).

- **Both positive and negative accuracy rates vary across grades.**

  – By grade, negative accuracy rates range from 64 percent (Pre Math Grade 6) to 91 percent (Mid Math Grade 5). In general, negative accuracy rates are higher for grades 3,4, and 5 and lower for grades 6,7,and 8).

HANOVER
R E S E A R C H

Key Findings

Please note: Negative accuracy rate = Proportion of "Unlikely to be Successful" who are ultimately "Below Proficient"

Positive accuracy rate = Proportion of "Likely to be Successful" who are ultimately "Proficient"

- **Both positive and negative accuracy rates vary across grades.**

  – By grade, positive accuracy rates range from 44 percent (Mid Math Grade 3) to 87 percent (Post Read Grade 8). In general, positive accuracy rates are higher for grades 6,7, and 8 and lower for grades 3,4, and 5.

  – In general, positive accuracy rates are higher for Read assessments than Math assessments.

- **Overall accuracy rates are lower than positive and negative accuracy rates due to the existence of the "May be successful category", which was not considered to accurately predict either "Proficient" or "Below Proficient" on the State assessment.** These range from 55 percent (Post Math) to 64 percent (Pre Read).

Key Findings

- There is a significant, positive relationship between the results of the LEAP assessment and the results of the State assessments proficiency level, across all grades, tests and subjects.

- **When considering the LEAP assessment score as a predictor of State proficiency, a 10 point increase in the LEAP score corresponds to an increase in the likelihood that a student will be proficient of between 7.0 to 10.7 percentage points, when controlling for demographic variables.**

  - In general, the effects are slightly higher for Read assessments than Math assessments.

- **When considering the LEAP assessment band results, students who score in the "Likely to be Successful" or "May be Successful" range are significantly more likely to be "Proficient" than those who score in the "Unlikely to be Successful" range.**

  – This is true across all grades, tests, and subjects. In general, the effect sizes are larger for those who are "Likely to be Successful" than those who "May be Successful", but there are exceptions (such as in the Grade 5 Math Pre Assessment).

  – When controlling for demographic variables, students who score in the "Likely to be Successful" range are between 13 and 52 percent more likely to be "Proficient" than those who are "Unlikely to be Successful".

  – When controlling for demographic variables, students who score in the "May be Successful" range are between 11 and 32 percent more likely to be "Proficient" than those who are "Unlikely to be Successful".

HANOVER
R E S E A R C H

Data and Methodology

Data

Initial data cleanup → Data Transformations → Model Types → Creating the final models

- For this analysis, Connections Education provided data on 2014-15 and 2015-16, including students scaled score and proficiency level for the state assessment, as well as the LEAP score for the Pre, Mid, and Post tests. Additionally some demographic variables were available for controlling purposes.

- The original datasets contained 86,294 rows for 2014-15 and 93,302 rows for 2015-16, however, a large portion of these observations were missing either State scores or LEAP scores.

- This analysis concentrates only on those from Grade 3- 8 and as such all other grades were removed, resulting in a dataset of 72,935 at the student –year level.

HANOVER
RESEARCH

Step 1: Initial Data Cleanup

Initial data cleanup → Data Transformations → Model Types → Creating the final models
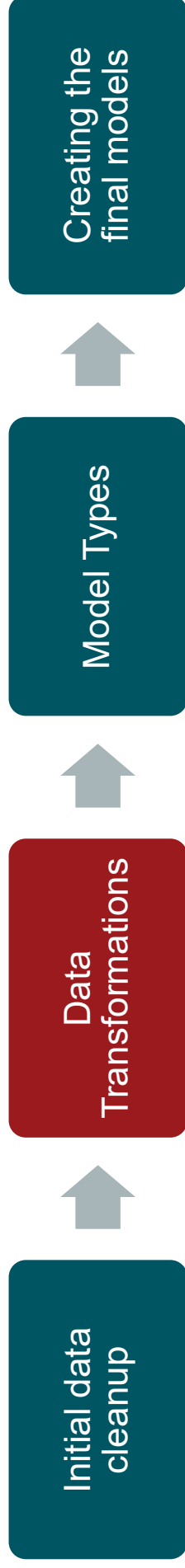
Dependent Variable Transformation:

- Since the scale of the raw State scores are not consistent, this analysis focuses on a student's proficiency result from the State. Student proficiency has been defined as follows:

Advanced	Proficient
Proficient	Proficient
Proficient – Borderline	Proficient
Basic Proficiency	Below Proficiency
Below Basic Proficiency	Below Proficiency

Step 2: Data Transformations

Initial data cleanup → Data Transformations → Model Types → Creating the final models
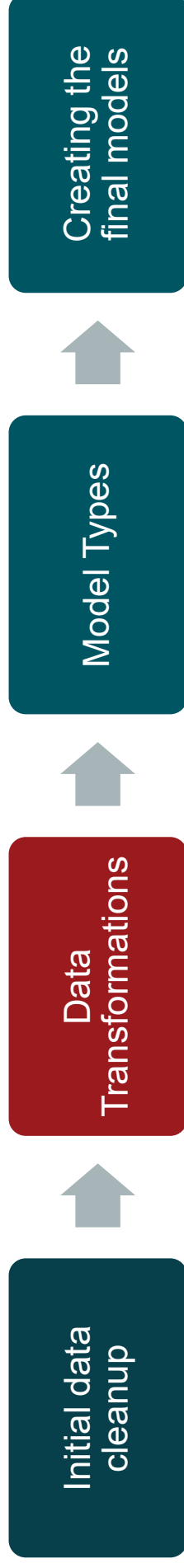
Control Variable Transformations:

- Locations for which at least one grade level had fewer than 50 responses were grouped together into an "Other" category. These schools are: CalCAN, CalCAR, CCA, CenCA, FLVSFT-H, IACA, INSPIRE, KCA, MCA, TECCA, WCA, and WYCA.

- Respondents for whom the IEP value was missing were assumed to be non-IEP.

- Respondents who were coded as either "Eligible" or "FARMS" were considered to have FARMS status.

- Due to their small sample size, students who were "Previously Enrolled" were combined with "New" students, since they had not been attending in the prior year.

- For LEAP performance categories, respondents were assigned to groups based on their LEAP score and the bands provided by Connections Academy.

HANOVER
RESEARCH

Step 3: Model Types

| Initial data cleanup | → | Data Transformations | → | **Model Types** | → | Creating the final models |

- In order to obtain a complete picture of the relationship between LEAP assessment score and State proficiency, the following models have been created. In each case, State proficiency is the dependent variable.

1. LEAP Scores (for each grade, subject, and test combination)
2. LEAP Scores with controls (for each grade, subject, and test combination)
3. LEAP Band Categories (for each grade, subject, and test combination)
4. LEAP Band Categories with controls (for each grade, subject, and test combination)

The controls included in the models are: *Location, Enrollment, SPED, IEP, Gender, Ethnicity, FARM ,ELL, and year**

*Please note: Consecutive years was considered as a control variable, but was ultimately removed as it was not statistically significant.

HANOVER
RESEARCH

Step 4: Creating the Final Models

Initial data cleanup → Data Transformations → Model Types → **Creating the final models**

- Since the dependent variable State Proficiency is a binary variable, logistic regression models were used.

- These models produce predicted probabilities that are bounded between 0 percent and 100 percent, which makes them appropriate for estimating dichotomous dependent variables.

  – Logistic regression coefficients have the interpretation of being the change in log of the odds ratio, which is not very straightforward. However, we can estimate the change in probability of a student being proficient given a change in the independent variable.

HANOVER
RESEARCH

Step 4: Creating the Final Models

Initial data cleanup → Data Transformations → Model Types → Creating the final models

- In addition to the logistic regression models, Hanover has also provided tabulations comparing LEAP success likelihood results to State proficiency results.

HANOVER RESEARCH

Results: Descriptive Analysis

HANOVER RESEARCH

Overall Positive and Negative Accuracy

Please note: Negative accuracy rate = Proportion of "Unlikely to be Successful" who are ultimately "Below Proficient"

Positive accuracy rate = Proportion of "Likely to be Successful" who are ultimately "Proficient"

- Overall, the positive accuracy rates of the LEAP assessments range from 55 percent (Mid Math Assessment) to 76 percent (Post Read Assessment) while the negative accuracy rates of the LEAP assessments range from 72 percent (Pre Math Assessment) to 82 percent (Post Math Assessment)

- The overall positive and negative accuracy rates are shown in the table below. Interpretation of the table is as follows: Overall, 82% of students who were "Unlikely to be Successful" in the Math Post LEAP assessment were ultimately "Below Proficient" in the state assessment.

Type of Accuracy	Grade	Test	Subject	Accuracy
Negative Accuracy Rate	Overall	Post	Math	82%
Negative Accuracy Rate	Overall	Pre	Read	78%
Negative Accuracy Rate	Overall	Mid	Math	78%
Negative Accuracy Rate	Overall	Mid	Read	76%
Negative Accuracy Rate	Overall	Post	Read	75%
Negative Accuracy Rate	Overall	Pre	Math	72%
Positive Accuracy Rate	Overall	Post	Read	76%
Positive Accuracy Rate	Overall	Pre	Read	74%
Positive Accuracy Rate	Overall	Mid	Read	71%
Positive Accuracy Rate	Overall	Post	Math	61%
Positive Accuracy Rate	Overall	Pre	Math	60%
Positive Accuracy Rate	Overall	Mid	Math	55%

HANOVER
RESEARCH

Overall Accuracy

- The table below shows the overall accuracy, calculated using the following formula

Number of Students "Likely to be Successful" and "Proficient" + Number of Students "Unlikely to be Successful" and "Below Proficient"

Number of Students "Likely to be Successful" + Number of Students "May be Successful" + Number of Students "Unlikely to be Successful"

- Please note, these accuracy rates are lower since the number of students classified as "May be Successful" are included in the denominator, but are not considered to be correctly predicted as either "Proficient" or "Not Proficient". Interpretation of the table is as follows: Overall, 64% of students who took the Pre Read LEAP assessment were either "Unlikely to be Successful" and ultimately "Below Proficient" in the state assessment or "Likely to be Successful" and ultimately "Proficient" in the state assessment.

Type of Accuracy	Grade	Test	Subject	Accuracy
Overall Accuracy	Overall	Pre	Read	64%
Overall Accuracy	Overall	Mid	Read	63%
Overall Accuracy	Overall	Post	Read	61%
Overall Accuracy	Overall	Mid	Math	57%
Overall Accuracy	Overall	Pre	Math	55%
Overall Accuracy	Overall	Post	Math	55%

HANOVER
R E S E A R C H

By Grade (Positive Accuracy)

Please note: Negative accuracy rate = Proportion of "Unlikely to be Successful" who are ultimately "Below Proficient"

Positive accuracy rate = Proportion of "Likely to be Successful" who are ultimately "Proficient"

- By grade, positive accuracy rates range from 45 percent (Mid Math Grade 3) to 87 percent (Post Read Grade 8). In general, positive accuracy rates are higher for grades 6,7, and 8 and lower for grades 3,4, and 5.

  - In general, positive accuracy rates are higher for Read assessments than Math assessments.

- The top and bottom three positive accuracies are shown in the table below. Interpretation of the table is as follows: Overall, 87% of students in Grade 8 who were "Likely to be Successful" in the Read Post LEAP assessment were ultimately "Proficient" in the state assessment.

Type of Accuracy	Grade	Test	Subject	Accuracy
Positive Accuracy Rate	8	Post	Read	87%
Positive Accuracy Rate	8	Mid	Read	84%
Positive Accuracy Rate	7	Post	Read	83%
Positive Accuracy Rate	5	Mid	Math	49%
Positive Accuracy Rate	3	Pre	Math	46%
Positive Accuracy Rate	3	Mid	Math	45%

HANOVER
RESEARCH

By Grade (Negative Accuracy)

Please note: Negative accuracy rate = Proportion of "Unlikely to be Successful" who are ultimately "Below Proficient"

Positive accuracy rate = Proportion of "Likely to be Successful" who are ultimately "Proficient"

— By grade, negative accuracy rates range from 64 percent (Pre Math Grade 6) to 91 percent (Mid Math Grade 5). In general, negative accuracy rates are higher for grades 3,4, and 5 and lower for grades 6,7, and 8).

• The top and bottom three negative accuracies are shown in the table below. Interpretation of the table is as follows: Overall, 91% of students in Grade 5 who were "Unlikely to be Successful" in the Math Mid LEAP assessment were ultimately "Below Proficient" in the state assessment.

Type of Accuracy	Grade	Test	Subject	Accuracy
Negative Accuracy Rate	5	Mid	Math	91%
Negative Accuracy Rate	3	Post	Math	90%
Negative Accuracy Rate	5	Post	Math	89%
Negative Accuracy Rate	3	Pre	Math	68%
Negative Accuracy Rate	8	Post	Read	67%
Negative Accuracy Rate	6	Pre	Math	64%

HANOVER
R E S E A R C H

Results: LEAP Score Models

HANOVER RESEARCH

- Overall, when controlling for demographic variables, there is a significant positive relationship between the score that a student receives on the LEAP assessment and the likelihood that the student achieves "Proficient" status on the State test.

  – This is true across all grade levels (grade 3-grade 8), for both Math and Reading assessments, and for Pre, Mid, and Post tests.

- The size of this effect is relatively consistent. When controlling for demographic variables, the increase in the likelihood that a student is classified as proficient ranges from approximately 7.0 percentage points to 10.7 percentage points given a 10 point increase in LEAP score.

- In general, the effect is slightly higher for Read assessments than Math assessments

HANOVER
R E S E A R C H

Grade Results

- The top and bottom effect sizes are shown in the table below. Interpretation is as follows: an increase for a Grade 4 student of 10 points on the Read Mid LEAP assessment corresponds to a 10.7 percentage point increase in the likelihood that a student is proficient on the state exam, when all other variables are held constant.

Subject	Grade	Test	Percentage Point Increase in Likelihood of State Proficiency for 10 point increase in LEAP (with controls)	Percentage Point Increase in Likelihood of State Proficiency for 10 point increase in LEAP (without controls)
Read	4	Mid	10.7	10.6
Read	3	Pre	10.1	8.2
Read	7	Mid	10.1	12.6

Subject	Grade	Test	Percentage Point Increase in Likelihood of State Proficiency for 10 point increase in LEAP (with controls)	Percentage Point Increase in Likelihood of State Proficiency for 10 point increase in LEAP (without controls)
Math	8	Post	7.3	9.5
Math	4	Mid	7.0	8.6
Math	8	Pre	7.0	8.5

HANOVER
RESEARCH

Effect of Control Variables

- Overall, there is also a significant positive relationship between the score that a student receives on the LEAP assessment and the likelihood that the student achieve "Proficient" status on the State test without controlling for demographic variables.

  – This is true across all grade levels (grade 3-grade 8), for both Math and Reading assessments, and for Pre, Mid, and Post tests.

- Controlling for demographic variables changes these effect sizes slightly, but the change is typically not drastic. However, the models that do not control for demographic variables are biased models.

Results: LEAP Band Models

HANOVER
RESEARCH

- Overall, students who score "Likely to be Successful" or "May be Successful" on the LEAP assessment are significantly more likely to be proficient in the State assessment than those who score "Unlikely to be Successful" on the LEAP assessment, when controlling for demographic variables.

  - The effects are positive and statistically significant for all grades, tests, and subjects.

  - Understandably, students who are categorized as "Likely to be Successful" are generally more likely to be proficient on the state exam than those who are categorized as "May be Successful", however there are some exceptions.

    - The size of the effects for those who are likely to be successful range from approximately 13 percent to 52 percent (i.e. they are 52 percent more likely to be proficient than those who are unlikely to succeed, when all other variables are held constant).

    - The size of the effects for those who may succeed range from approximately 11 percent to 32 percent (i.e. they are 32 percent more likely to be proficient than those who are unlikely to succeed, when all other variables are held constant).

Grade Results

- By grade, the top and bottom effect sizes are shown in the table below. Interpretation is as follows: A Grade 6 student who scores "Likely to be Successful" in the Pre Read LEAP assessment is 52.2 percent more likely to be Proficient than a Grade 6 student that scores "Unlikely to be Successful" in the Pre Read Assessment, holding all other variables constant.

Subject	Grade	Test	Likely to be successful (Controls)	May be Successful (Controls)	Likely to be successful (No controls)	May be Successful (No controls)
Read	6	Pre	52.2%	17.6%	57.0%	18.5%
Read	5	Post	51.7%	18.3%	55.4%	19.9%
Read	6	Post	51.5%	19.0%	56.4%	21.0%

Subject	Grade	Test	Likely to be successful (Controls)	May be Successful (Controls)	Likely to be successful (No controls)	May be Successful (No controls)
Math	Grade 4	Pre	22.3%	17.8%	24.8%	20.7%
Math	Grade 5	Pre	19.4%	22.6%	21.5%	25.5%
Math	Grade 3	Pre	13.3%	11.0%	14.3%	14.9%

Effect of Control Variables

- Overall, students who achieve "Likely to be Successful" or "May be Successful" on the LEAP assessment were also significantly more likely to be proficient in the State exam without controlling for demographic variables.

  - This is true across all grade levels (grade 3-grade 8), for both Math and Reading assessments, and for Pre, Mid, and Post tests.

- Controlling for demographic variables changes the size of the effect slightly, but the changes are not drastic. However, the models that do not control for demographic variables are considered biased models.

HANOVER
RESEARCH

Ronan Keenan

Content Director

202.793.8803

rkeenan@hanoverresearch.com

www.hanoverresearch.com

HANOVER
RESEARCH

<u>Authority staff is requesting that NCA clarify the following per the Notice of Breach letter dated March 12, 2018:</u>

1) Nevada Connections (NCA) was asked to articulate the most essential features of the proposed academic change(s) to the education program to be implemented to correct the level of underperformance. NCA was asked to include information on how these approaches are different from those previously implemented.

   Authority staff would like more information on how the following proposed changes are different from those previously implemented:

   a) MATH, We Got This! (pgs. 9 – 11);
   b) Math Time to Talk (pgs. 11 – 12), including the frequency of these sessions; and
   c) Response to Intervention Model Training (pgs. 17 – 19).

2) NCA was asked to articulate how the organization will measure and evaluate academic progress throughout the school year, at the end of the academic year, and the entire school year. This includes the performance of individual students, student cohorts, subgroups and the entire school.

   Authority staff is requesting the following information:

   a) The MAP formative assessment section (pg. 22) describes the mean normative RIT scores as a critical element in determining satisfactory progress for students. A cut-score chart by grade level is referenced, but was not included in the submission.
   b) The LEAP formative assessment section (pgs. 22 – 23) seems to indicate that NCA currently utilizes this assessment. If this assessment has already been implemented by NCA, Authority staff would like to review a copy of an anonymized student report, as described on page 22, that provides academic information to teachers and parents so as to identify skills, strengths and weaknesses of a student.
   c) On page 23, NVA references that Connections Education has specific definitions for each assessment that NCA uses in the formative assessment cycle. It appears that the submission only provides a definition for Satisfactory progress for the LEAP assessment. If there are, in fact, other definitions of satisfactory progress as implied, Authority would like for these to be provided.

3) NCA was asked how teachers and school leadership will be supported in developing capacity around the academic benchmarks and interim and annual assessments. Additionally, NCA was asked what

steps the school will take should the school fall short of benchmarks at a school-wide and/or classroom level.

Authority staff is requesting the following information:

a) More details about how teachers will be supported in the implementation of the Math, We Got This! initiative as described on page 10, Math Time to Talk as described on page 11, and the Response to Intervention model training as described on page 18. Specifically, Authority staff requests to know the scope of the professional learning opportunities, the frequency of each, and how participation is to be monitored.
b) More details about how learning coaches will be supported in the implementation of the Math, We Got This! initiative as described on page 10, and on the learning coach training as described on page 17. Specifically, Authority staff requests to know the scope of the professional learning opportunities, the frequency of each, and how participation is to be monitored so as to increase the participation rate from 34% during the 2017-2018 school year.
c) More details about how frequently Professional Learning Communities (PLCs) will be implemented in the 2018-19 school year, and what student test data will be utilized during these meetings as described on page 19.

Additionally, Authority staff has a few follow-up requests that are specific to the response received on May 4, 2018:

1) On page 1, the submission notes that the school is working in consultation with a turnaround specialist on targeted interventions, and expects to receive the preliminary findings at the end of May, 2018. Authority staff is requesting a copy of these findings.
2) In the rationale for the Math Time to Talk initiative described on page 12, the submission states that two Connections Academy schools participated in a pilot of the Math Time to Talk program. The rationale goes on to state that the outcomes of this pilot were closely studied and verified in order to decide whether the program was successful and should be used in other schools. Because the program was deemed successful, Authority staff is requesting a copy of these results for review.
3) In the description of the Lexia Reading Core5, the submission states on page 16 that NCA data shows a need to increase student proficiency in the six areas (phonological awareness, phonics/phonemic awareness, structural analysis, fluency, vocabulary, and comprehension) of reading instruction, including activities focused on academic vocabulary through structural analysis. Authority staff is requesting a copy of this data for review.
4) In the description of the Response to Intervention Model Training, the submission explains how the School Support Team (SST) and performance data will be used to support struggling students on page 19. Authority staff would like more information on the RtI tiering process, as well as how frequently students will be re-evaluated for movement within the RtI tiers.

5) Authority staff agrees with NCAs assessment that the student mobility rate at the school has been a problem the last few years. Page 21 of the submission notes that the school had the highest mobility rate in Nevada in 2015-16 at 73%. Authority staff requests that the school provide the mobility numbers for the 2016-17 and 2017-18 school years.

NCA Elementary School Improvement Plan Clarifying Questions

Submitted to:

State Public Charter School Authority

By:

Nevada Connections Academy
Board of Directors

June 14, 2018

Table of Contents

CLARIFYING QUESTIONS

The clarifying questions are a supplement to and should be considered in context with the NCA Elementary Improvement Plan that was submitted to the Authority on May 4, 2018.

Authority staff is requesting that NCA clarify the following per the Notice of Breach letter dated March 12, 2018:

Question 1

1) Nevada Connections (NCA) was asked to articulate the most essential features of the proposed academic change(s) to the education program to be implemented to correct the level of underperformance. NCA was asked to include information on how these approaches are different from those previously implemented.

Authority staff would like more information on how the following proposed changes are different from those previously implemented:

a) MATH, We Got This! (pgs. 9 – 11);

For the 2018-19 school year, NCA will be participating in the "Math, We've Got This!" initiative, a schoolwide focus on improving math achievement in students. Math We've Got This! (MWGT!) is a research-based professional learning series that has received positive feedback from teachers and delivery specialists at other Connections Academy schools. MWGT! is designed to improve understanding of math content among elementary school teachers, while focusing on pedagogical skills for teachers who are already content experts in math. As part of the initiative, each grade level and school curricular department is asked to own a piece of math and to propose and assess ways that their group could contribute to improving student outcomes. Aside from participating in the initiative, teachers receive specific MWGT! professional development. Learning Coaches (LC) also receive support on instructional practices to assist students achieve a growth mindset. This is a new professional learning initiative and it was not previously implemented at NCA. Previously offered professional learning opportunities are still available to NCA teachers. The professional development previously offered did not include a dedicated focus on math. MWGT! professional learning is now required for all elementary school teachers, as well.

b) Math Time to Talk (pgs. 11 – 12), including the frequency of these sessions; and

Math Time to Talk (Math TtT) is a synchronous math session that encourages students to engage in math discourse, discussion, and problem solving. Participation in math discourse has been shown to be associated with higher performance in final course score and math state assessment at Connections Academy schools (Choi & Walters, 2018).[1]

---

[1] Choi, J., & Walters, A. (2018, April). *Exploring the impact of small-group synchronous discourse sessions in online math learning*. Paper presented at the meeting of the American Educational Research Association, New York, NY.

Math TtT consists of small group LiveLesson® sessions that appear in student courses approximately every seven lessons. NCA data demonstrates a need to focus on increasing students' ability to engage in math discourse in such a way that promotes an increase in conceptual understanding. Math TtT is available every week (about every seven lessons) to all students in grades 3-5. This program was not previously implemented at NCA. It differs from previous approaches by adding increased emphasis on math discourse to the curriculum. Previous mathematics coursework in grades 3-5 at NCA did not offer a dedicated, synchronous session each week for students to practice math discourse with a certified professional that wasn't directly attached to specific coursework.

c) Response to Intervention Model Training (pgs. 17 – 19).

While NCA is already using multiple strategies to provide struggling students with effective and timely interventions, NCA is retraining all teachers on the multi-tiered instructional approach for the 2018-19 school year. This is to ensure all teachers are up-to-date on our strategies and how to utilize the available resources for students. NCA is retraining all teachers in the Response to Intervention (RtI) program/protocols and on the teachers' role in helping students. NCA is also retraining teachers to interpret data to make instructional decisions, to document their work with students as part of the Personal Learning Plan (PLP), to implement strategies for differentiating instruction, to identify the most appropriate SISPs for students, and to support students who are not progressing or are not engaged in the instructional program. While this RtI program was in place previously, it was not being utilized effectively by all teachers due to annual turnover and changes to the program. The goal for the 2018-19 school year is to train and "retrain" all teachers to effectively use this resource.

Question 2

2) NCA was asked to articulate how the organization will measure and evaluate academic progress throughout the school year, at the end of the academic year, and the entire school year. This includes the performance of individual students, student cohorts, subgroups and the entire school. Authority staff is requesting the following information:

a) MAP Formative Assessment Section

a) The MAP formative assessment section (pg. 22) describes the mean normative RIT scores as a critical element in determining satisfactory progress for students. A cut-score chart by grade level is referenced, but was not included in the submission.

The cut-score chart for 2016-17 by grade level is provided in Figure 1.

Grade	Read Mean + 1 SD	Read Expected Growth	Math Mean + 1 SD	Math Expected Growth
2	205	13.7	204	13.2
3	214	9.3	216	11
4	221	6.8	227	8.7
5	227	5.2	236	8.1
6	231	4.1	242	6.0
7	234	3.4	248	4.9
8	237	3.2	252	4.3
9	239	2.0	255	2.2
10	241	2.0	256	2.4
11	241	2.0	258	2.0
12	241	2.0	258	2.0

Figure 1. 2016-17 Cut-Score Chart.

b) LEAP Formative Assessment

b) The LEAP formative assessment section (pgs. 22 – 23) seems to indicate that NCA currently utilizes this assessment. If this assessment has already been implemented by NCA, Authority staff would like to review a copy of an anonymized student report, as described on page 22, that provides academic information to teachers and parents so as to identify skills, strengths and weaknesses of a student.

Please see the "Sample LEAP Data View Report" attached as Appendix A.

c) Assessment Definitions

c) On page 23, N[C]A references that Connections Education has specific definitions for each assessment that NCA uses in the formative assessment cycle. It appears that the submission only provides a definition for Satisfactory progress for the LEAP assessment. If there are, in fact, other definitions of satisfactory progress as implied, Authority would like for these to be provided.

In order to gauge student growth on the Formative Assessments, Connections has defined a measure of Satisfactory Progress for Math and English Language Arts Reading. The calculation of this measure varies based on the test that the student is assigned, which can differ by school and by grade.

On each of these assessments, Connections defines three types of success (predictor bands): Likely to be Successful, May be Successful, and Unlikely to be Successful. Please see Appendix B for the breakdown per assessment.

Additionally, we have included the following definitions that Connections uses in the Formative Assessment Cycle.

Longitudinal Evaluation of Academic Progress® (LEAP)

Students receive a score of percent correct on the pretest and posttest LEAP assessments. Students have made satisfactory gains if they score a minimum of 75% on the posttest assessment and/or if they increase their score from the pretest to the posttest by 10 percentage points.

DIBELS® Next

Students who score "At or Above Benchmark" on the Spring Composite Benchmark score are considered to be making Satisfactory Progress.

MAP®

To measure Satisfactory Progress on this assessment we use the mean normative RIT scores and the expected growth measures provided by the testing company, NWEA. This is defined as students who make the expected RIT gain score from pretest to posttest or who score one standard deviation above the mean RIT score on the posttest.

Question 3

3) NCA was asked how teachers and school leadership will be supported in developing capacity around the academic benchmarks and interim and annual assessments. Additionally, NCA was asked what steps the school will take should the school fall short of benchmarks at a school-wide and/or classroom level.
Authority staff is requesting the following information:

a) Teacher Support

a) More details about how teachers will be supported in the implementation of the Math, We Got This! initiative as described on page 10, Math Time to Talk as described on page 11, and the Response to Intervention model training as described on page 18. Specifically, Authority staff requests to know the scope of the professional learning opportunities, the frequency of each, and how participation is to be monitored.

i) Math, We've Got This! initiative as described on page 10

Aside from participating in the MWGT! initiative, teachers will receive specific MWGT! professional development. Returning K-5 teachers who participated in the MWGT! Series during the 2017-2018 school year will take part in a specially-tailored professional learning series directed to the MWGT! campaign, titled *Building Conceptual Understanding in Math*. During this seven-session series, participants will dive deeply into topics such as teaching place value, decimals, fractions, and geometry.

The *Building Conceptual Understanding in Math* Professional Learning Series is:

- Intensive – Participants will identify the purpose of educational practices, examine how they can be implemented in the virtual or blended environment, and collaboratively discuss strategies that can be implemented with students.

- Ongoing – New instructional strategies and the latest learning research will be connected to topics presented and discussed in prior sessions to demonstrate how specific educational practices form the "big picture" of effective instruction. Further discussion and exploration at the school level strengthens these connections.

- Connected to practice – Following each session, participants will apply what they've learned to their professional practice. They will integrate precise, targeted strategies into their planning and instruction, and reflect on the outcomes through the MWGT! ePortfolio Data View.

Participants in the *Building Conceptual Understanding in Math* are content-area teachers, instructional support staff, advisory teachers, and substitute teachers that directly support student learning through courses at select Connections Academy schools. All have completed the MWGT! professional learning previously.

PL Series during the 2018–2019 school year:

September: MWGT! Building Conceptual Understanding in Math Series Overview (recorded session)

How can teachers move beyond an instructional practice focused on computation and a focus on the "right" answer? Through deep content exploration, teachers can build mathematical conceptual understanding in their students. In this recording, teachers will preview the MWGT! Series which focuses on developing strategies for teaching foundational skills including place value, decimals, fractions, geometry, and algebra readiness.

October: Know They Place (Value)

What is the role of place value in connecting foundational concepts? As students build from counting to two-digit whole numbers, comparing and ordering numbers to addition and subtraction, place value is the central component that links these skills. In this session participants will investigate strategies for engaging students in activities that develop understanding of place value and serve as a bridge into activities and problem-based tasks that extend their learning.

November: Get to the Point

Why is the concept of the decimal so challenging for elementary math learners?

Transitioning students from whole-number ideas to the role of the decimal as an indication of the parts of the whole is critical for deepening understanding of the complexity of numbers. In this session, participants will discuss strategies for addressing decimal misconceptions and for laying a solid foundation for future problem-solving applications.

January: "How Many Slices of Pizza Do I Get?"

Why do students typically enjoy the exploratory and discovery phase of learning fractions, but exhibit confusion or frustration when completing fraction computations? Shifting students from that exploratory phase to computation phase a critical point for ensuring that students have the ability to reason and make sense of math. In this session, participants will explore a variety of instructional strategies and tools that can be used to support an immersive and diverse experience with fractions.

February: "Why Can't I Add Apples and Oranges?"

Why are diverse exposures to fractions a critical component for preventing the development of mathematical misconceptions? Oftentimes, fractions are deeply connected to a set of computation rules rather than a conceptual understanding of the meaning of a fraction. In this session, participants will delve deeper into common misunderstandings many students have about fractions and will explore instructional strategies for ensuring a thorough understanding of what a fraction represents.

March: "My Dad is Eight Feet Tall."

How does early skill development of measurement lay the foundation for later success in geometry? Students who develop a sense of relative measurements and feel comfortable using units to describe measurements have a solid conceptual understanding of geometry. In this session, we will explore this relationship and strategies to grow student understanding of these critical foundational skills.

April: X Marks the Spot

Does algebra readiness start as early as first grade? Elementary students are successfully using big algebraic ideas including working with patterns, using symbols, and representing numbers in a variety of ways. In this session, participants will examine instructional strategies for building upon early elementary math skills with an algebraic mindset.

Participation is monitored by the K-8 administrators, the managing teachers and the school leader. All staff members are required to participate, per their evaluation competencies.

ii) Math Time to Talk as described on page 11

Math TtT sessions are moderated by Pearson Online and Blended Learning (Pearson OBL) math subject experts who have a degree in mathematics and have received formal training on:

- presenting the problem,

- guiding the students in the discussion to focus on the process and different ways of approaching the particular problem rather than arriving at the solution,

- Encouraging students to talk to one another about their thought processes, and

- Giving feedback that promotes growth mindset.

iii) Response to Intervention model training as described on page 18.

All NCA teachers are enrolled in a Professional Development series that corresponds to their years of expertise in various areas of instruction, including Response to Intervention (RtI). Teachers new to NCA are enrolled in the 100 series (introduction and instructional-based), second year teachers in the 200 series (expanding beyond first-year resources), and veteran teachers in the 300 series (refreshed information and retraining). For each series, there are seven sessions, usually starting in September and ending in April. Attendance in these professional development sessions is monitored by the K-8 administrators, the managing teachers and the school leader and is connected to EOY evaluations and expected teacher competencies. Sessions are held at various times each week to accommodate teacher schedules.

b) Learning Coach Support

b) More details about how learning coaches will be supported in the implementation of the Math, We Got This! initiative as described on page 10, and on the learning coach training as described on page 17. Specifically, Authority staff requests to know the scope of the professional learning opportunities, the frequency of each, and how participation is to be monitored so as to increase the participation rate from 34% during the 2017-2018 school year.

i) Math, We Got This! initiative as described on page 10

In 2018, NCA launched "Learning Coach Central" to provide parents and LCs with various resources from one central location. Included in these resources are various recordings and documents to assist LCs succeed in assisting students. As part of these resources, LCs have access to multiple articles and recordings to develop positive student mindsets and provide academic support, specifically in math.

Below is a sampling of those math resources/activities for LCs:

- Math Mind Reader - Amaze family and friends by being able to reveal numbers they have in mind.

- Fun With Infinity - Explore shapes through topology. One little twist in a piece of paper leads to some surprising discoveries.

- Let the Math Games Begin! - November 1 marked the start of the 100-day countdown to the 2018 Winter Olympics. There's no need to wait! There are plenty of math games to play now!

- Adventures with Numbers and Words - This month's Family Math Activity explores the linguistics of math and the English words behind the numbers. You will discover some puzzling facts and some surprising patterns!

- It's Just a Matter of Time - This month's Family Math Activity explores the math behind the way time is divided into years, months, and days.

- The Domino Effect - This month's Family Math Activity explores one of the greatest strategy games of all time-dominoes!

- Math Unplugged - This month's Family Math Activity explores various methods for computation without using a digital device.

- Famous Number Phrases - In this month's Family Math Activity challenge yourself to identify famous number phrases.

- Find the Math Superhero In You! - Rate your accomplishments and share strategies for continuing to exercise your mathematical muscles.

In addition to these resources, live sessions are held throughout the year (quarterly) to provide LCs and/or parents support in helping their students remain positive about math. Participation is voluntary in these sessions, but LCs of "at-risk" students will be recommended to attend appropriate sessions by grade appropriate teachers.

ii) Learning Coach Training as described on page 17.

Learning Coach Orientation is available to all Learning Coaches (LC) of students who attend NCA. For the 2018-19 school year, this orientation session is mandatory for all LCs. The Learning Coach Orientation provides LCs with information about their roles and responsibilities, a snapshot of what they and the students they support will encounter during a regular school day, as well as an opportunity for hands-on practice with common student processes and routine tasks. LCs will be given the first two weeks of the school year (or two weeks from their student's enrollment date) to complete the orientation and completion of this orientation session will be monitored by homeroom teachers at all grade levels. Please see Figure 2.

Figure 2. Learning Coach Orientation

c) Professional Learning Communities

c) More details about how frequently Professional Learning Communities (PLCs) will be implemented in the 2018-19 school year, and what student test data will be utilized during these meetings as described on page 19.

i) Professional Learning Communities

At NCA, the entire staff meets in their Professional Learning Community (PLC) teams on a bi-weekly basis. PLC participation and progress is monitored by K-8 administrators, the managing teachers and the school leader managers and the school leadership team. Successful participation and use of SMART (Specific, Measurable, Attainable, Results-Oriented, Time-Bound) goals is part of the EOY evaluation process for all NCA employees.

ii) Student Test Data as described on page 19.

Formative and Summative test data is utilized in academic-based PLC meetings, including (but not limited to) MAP, LEAP, course-based assessments, portfolios and student work samples. Nevada Department of Education School Performance Framework (NSPF) data is also utilized in PLC meetings, when available and appropriate.

FOLLOW-UP REQUESTS

Additionally, Authority staff has a few follow-up requests that are specific to the response received on May 4, 2018:

1) On page 1, the submission notes that the school is working in consultation with a turnaround specialist on targeted interventions, and expects to receive the preliminary findings at the end of May 2018. Authority staff is requesting a copy of these findings.

Perceptual Data Set for NCA is provided as Appendix C. Additionally, NCA is expecting to receive an evaluation report from the Community Training and Assistance Center by the end of July that combines the perceptual data with student achievement data.

NCA will update its Plan based on this report to achieve optimum results.

2) In the rationale for the Math Time to Talk initiative described on page 12, the submission states that two Connections Academy schools participated in a pilot of the Math Time to Talk program. The rationale goes on to state that the outcomes of this pilot were closely studied and verified in order to decide whether the program was successful and should be used in other schools. Because the program was deemed successful, Authority staff is requesting a copy of these results for review.

Please see Appendix D for the Math Time to Talk Pilot Results.

3) In the description of the Lexia Reading Core5, the submission states on page 16 that NCA data shows a need to increase student proficiency in the six areas (phonological awareness, phonics/phonemic awareness, structural analysis, fluency, vocabulary, and comprehension) of reading instruction, including activities focused on academic vocabulary through structural analysis. Authority staff is requesting a copy of this data for review.

The most recent NSPF data (2016-2017) for the elementary school at NCA indicates that on the ELA CRT, 46.3% of students achieved above the cut score. Additionally ELA CRT MGP was 38.5 and AGP was 40.7. This data suggests that NCA needs to continue to work on improving student literacy at the elementary school. To best support student literacy growth and achievement, NCA believes it is important to focus on phonological awareness, phonics/phonemic awareness, structural analysis, fluency, vocabulary, and comprehension. We do not currently have data on each of those areas of literacy instruction, but for students who use Lexia Reading Core5 in the 2018-2019 school year, this data will be generated for those students moving forward.

4) In the description of the Response to Intervention Model Training, the submission explains how the School Support Team (SST) and performance data will be used to support struggling students on page 19. Authority staff would like more information on the RtI tiering process, as well as how frequently students will be re-evaluated for movement within the RtI tiers.

The RtI "At-A-Glance Flowchart" (Appendix E) demonstrates the difference between the RtI tiers and provides an overview of how students are identified for each tier. Students are re-evaluated for RtI tiers quarterly, based on performance and/or teacher recommendation.

5) Authority staff agrees with NCAs assessment that the student mobility rate at the school has been a problem the last few years. Page 21 of the submission notes that the school had the highest mobility rate in Nevada in 2015-16 at 73%. Authority staff requests that the school provide the mobility numbers for the 2016-17 and 2017-18 school years.

The data presented on page 21 is the data provided by the Nevada Department of Education on the transiency rate. NDE published this data for the 2016-17 school year and the rate for NCA is 62.5% for 2016-17 (compared to 73.6% for 2015-16). As NDE has not yet published the data for the 2017-18 school year, student mobility data for 2017-18 is not yet available.

As a public school, NCA is open-enrollment and cannot turn away students; thus, we gladly serve each and every student enrolled despite where they are at academically when they come to us. The impact of this mobility on academic performance can be unpredictable from year to year. Similar to students who arrive behind in coursework, studies also indicate that changing schools can have an adverse impact on test scores (Rumberger, 2015).[2]

As stated in our Elementary Improvement Plan, NCA is going to track students as "New to the School" to understand this subgroup better going forward. It is NCA's desire to work collaboratively with the Authority to identify meaningful ways to measure student growth and school performance, particularly with highly mobile students, since NCA and the Authority both recognize understanding mobility rate's impact is a piece of the puzzle for school improvement.

---

[2] Rumberger, Russell W. (2015). Student Mobility: Causes, Consequences, and Solutions. Boulder, CO: National Education Policy Center. Retrieved 4/27/2018 from http://nepc.colorado.edu/publication/student-mobility.

APPENDIX A – SAMPLE LEAP DATA VIEW REPORT

LEAP provides a periodic checkpoint during the school year to measure progress and support teacher decision making in conjunction with the prior year's state test results and the student's current grade book and associated objective performance report.

LEAP Math Midtest Results

The list of the LEAP Math Subtest Categories is here.

LEAP Math Midtest Taken 2017-18: LEAP MATH 2.5.4

LEAP Math Midtest Score 2017-18: 82%

LEAP Math Midtest Final Score 2017-18: 82

Results: **Math Midtest Result:** 82% View Math Test

Math Midtest Result: 82

LEAP Math Midtest Subtest 1 2017-18:	100
LEAP Math Midtest Subtest 2 2017-18:	100
LEAP Math Midtest Subtest 3 2017-18:	67
LEAP Math Midtest Subtest 4 2017-18:	83
LEAP Math Midtest Subtest 5 2017-18:	67

Section Details - Math 5 B: 83% B

Assessment Summary:

Type	Weight	Score
Test	55%	75%
Quiz	20%	86%
Portfolio Item	15%	100%
Discussion	5%	60%
Participation	5%	133%

Assessment Details:

Show me [all ▼] [assessments,] [excluding ▼] dropped items, in [all units ▼] of the following types: ☑ Discussion ☑ Participation ☑ Portfolio Item ☑ Practice ☑ Quick Check ☑ Quiz ☑ Refl

Drop	Unit	Lesson	Name	Type	Requires	Possible	Earned	Score	Value	Weight
☐			Participation	Participation		20	20	100%	20	67%
☐			State Test Participation	Participation		10	20	200%	10	33%
☐	1	✓1	Quick Check	Quick Check		8	6	75%	8	
☐	2	✓1	Classify Triangles	Quick Check		5	2	40%	5	
☐	2	✓2	Classify Quadrilaterals	Quick Check		5	3	60%	5	
☐	2	✓3	Continue to Classify Quadrilaterals Quiz	Quiz		10	7	70%	10	13%
☐	2	✓4	Reflection	Reflection		6	6	100%	6	
☐	2	✓4	Unit Practice	Practice		8	1	13%	8	13%

NV State Testing Scores (Grades 3-8) -

State Test Scores From Student Records:

Final Grade 2016-2017: 4
Enrollment Date 1 2016-2017: 8/29/2016
Final Withdrawal Date 1617:

State Test Scores for 2016-17

Date score reports mailed: 8/18/2017

Tested Grade: [4 ▼]

Smarter Balanced 2016-17

Math

Achievement Level: [Not Met ▼]

Scale Score: 2387

Concepts and Procedures: [Below Standard ▼]

Problem Solving, Modeling, and Data Analysis: [Below Standard ▼]

Communicating Reasoning: [At/Near Standard ▼]

ELA

Achievement Level: [Nearly Met ▼]

calculations with numbers, and interpret numerical expressions without	100%	2
g two given rules. Identify apparent relationships between corresponding terms.	100%	2
g terms from the two patterns, and graph the ordered pairs on a coordinate plane.	100%	2
ings of multiplication and division to multiply and divide fractions	64%	11
ategories based on their properties	67%	3
a given measurement system	0%	2
concepts of volume and relate volume to multiplication and to addition	80%	5
o solve real-world and mathematical problems	100%	3
ole numbers and with decimals to hundredths	100%	7
	100%	2
	100%	7
Cluster: Use equivalent fractions as a strategy to add and subtract fractions	75%	4
Cluster: Write and interpret numerical expressions	100%	4
Domain: Geometry	83%	6
Domain: Measurement and Data	67%	9
Domain: Number and Operations in Base Ten	100%	14
Domain: Numbers and Operations - Fractions	67%	15
Domain: Operations and Algebraic Thinking	100%	6

M: ⊖↑1 / R: ⊖1

Each student has a teacher-facing alert for both math (M) and reading (R), indicating the predicted likelihood of achieving proficiency on the state test. Green is likely proficient, yellow is may be proficient, which red in unlikely. The up arrow in this example indicates that this student's math proficiency has improved but still is low in reading. The 1's indicates that the student is in intervention Tier I.

- **LEAP 2012-13** - LEAP Pretest, Midtest, and Posttest scores for the 2012-2013 School Year- Math and Reading
- **LEAP 2013-14** - LEAP Pretest, Midtest, and Posttest scores for the 2013-2014 School Year- Math and Reading
- **LEAP 2014-15** - LEAP Pretest, Midtest, and Posttest scores for the 2014-2015 School Year- Math an
- **LEAP 2015-16** - LEAP Pretest, Midtest, and Posttest scores for the 2015-2016 School Year- Math an
- **LEAP 2016-17** - LEAP Pretest, Midtest, and Posttest scores for the 2016-2017 School Year- Math an
- **LEAP 2017-18** - LEAP Pretest, Midtest, and Posttest scores for the 2017-2018 School Year- Math an
- **LEAP Midtest (Grades K-8)** - This is the data view to access the LEAP midtest information every w
- **LEAP Midtest Results** - This is the data view to access the LEAP midtest results for families every
- **LEAP Midtest Results-Teacher** - This is the data view to access the LEAP midtest results for schoo
- **LEAP Posttest (Grades K-8)**
- **LEAP Posttest Results**
- **LEAP Posttest Results-Teacher**
- **LEAP Pretest (Grades K-8)** - This is the data view to access the LEAP pretest information every fall
- **LEAP Pretest Results-Teacher** - This is the data view to access the LEAP pretest results for schoo

From a lost of available data "views", teachers can access a variety individual reports for each student, including current and past years' LEAP results.

LEAP Midtest Results - Data for Current School Year

This data view has all of the important information from the LEAP Midtests for the current school year.

Current Homeroom Teacher:	Ann McDonald
Start Year (calculated):	2015-2016
The student's current stage:	Enrolled
Current Grade Level:	5
Students with disabilities with IEPs:	▶
Enrollment Date:	8/14/2017
Withdrawal Date:	
Date DIBELS Next Kindergarten was Taken (Winter):	
Proficiency on math section of state test 2016-2017:	Below Proficiency
Proficiency on reading section of state test for 2016-2017:	Below Proficiency
Student's *Predicted* Pretest Math Performance:	May be Proficient on Math State Test
Student's Predicted Pretest ELAR Performance:	Unlikely to be Proficient on Reading State Test
Student's Predicted Midtest Math Performance:	Likely to be Proficient on Math State Test
Student's Predicted Midtest ELAR Performance:	Unlikely to be Proficient on Reading State Test

LEAP Math Midtest Results

The list of the LEAP Math Subtest Categories is here.

When viewing the most current LEAP test results, teachers will also see state test results as well as the LEAP tests results already completed this year.

LEAP Math Midtest Taken 2017-18:	LEAP MATH 2.5.4
LEAP Math Midtest Score:	82%
LEAP Math Midtest Final Score 2017-18:	82
Results; Math Midtest Result:	82% View Math Test
LEAP Math Midtest Subtest 1 2017-18:	100
LEAP Math Midtest Subtest 2 2017-18:	100
LEAP Math Midtest Subtest 3 2017-18:	67
LEAP Math Midtest Subtest 4 2017-18:	83
LEAP Math Midtest Subtest 5 2017-18:	67

LEAP Math Midtest Results

The list of the LEAP Math Subtest Categories is here.

LEAP Math Midtest Taken 2017-18: LEAP MATH 2.5.4

LEAP Math Midtest Score: 82%

LEAP Math Midtest Final Score 2017-18: 82

Results: **Math Midtest Result:** 82% View Math Test

LEAP Math Midtest Subtest 1 2017-18: 100

LEAP Math Midtest Subtest 2 2017-18: 100

LEAP Math Midtest Subtest 3 2017-18: 67

LEAP Math Midtest Subtest 4 2017-18: 83

...th Midtest Subtest 5 2017-18: 67

The LEAP results include links to the category descriptions and question alignment.

Teachers can also directly view the student's completed LEAP test.

CONNECTIONS EDUCATION®

LEAP Subtest Categories - Math

	LEAP Math Subtest 1	LEAP Math Subtest 2	LEAP Math Subtest 3	LEAP Math Subtest 4	LEAP Math Subtest 5	LEAP Math Subtest 6
0	Operations & Algebraic Thinking (OA)	Number & Operations in Base Ten (NBT)	Measurement & Data (MD)	Geometry (G)		Counting and Cardinality (CC)
1	Operations & Algebraic Thinking (OA)	Number & Operations in Base Ten (NBT)	Measurement & Data (MD)	Geometry (G)		
2	Operations & Algebraic Thinking (OA)	Number & Operations in Base Ten (NBT)	Measurement & Data (MD)	Geometry (G)		
3	Operations & Algebraic Thinking (OA)	Number & Operations in Base Ten (NBT)	Measurement & Data (MD)	Geometry (G)	Numbers and Operations – Fractions (NF)	
4.3	Operations & Algebraic Thinking (OA)	Number & Operations in Base Ten (NBT)	Measurement & Data (MD)	Geometry (G)	Numbers and Operations – Fractions (NF)	
5.4	Operations & Algebraic Thinking (OA)	Number & Operations in Base Ten (NBT)	Measurement & Data (MD)	Geometry (G)	Numbers and Operations –	

CONNECTIONS EDUCATION®

LEAP Question Alignment - Math

	Operations & Algebraic Thinking (OA)	Number & Operations in Base Ten (NBT)	Measurement & Data (MD)	Geometry (G)	Numbers and Operations – Fractions (NF)	Counting and Cardinality (CC)
0	Questions 9 – 17	Questions 18 – 22	Questions 23 – 28	Questions 29 – 30		Questions 1 – 8
1	Questions 1 – 10	Questions 11 – 20	Questions 21 – 30	Questions 31 – 35		
2	Questions 1 – 10	Questions 11 – 20	Questions 21 – 32	Questions 33 – 40		
3	Questions 1 – 18	Questions 19 – 24	Questions 33 – 45	Questions 46 – 50	Questions 29 – 32	
4.3	Questions 1 – 9	Questions 10 – 21	Questions 36 – 45	Questions 46 – 50	Questions 22 – 35	
5.4	Questions 1 – 6	Questions 7 – 20	Questions 36 – 44	Questions 45 – 50	Questions 21 – 35	

LEAP Math Midtest - 5 (4 GT)

Completed By:

Submitted: Thursday, January 11, 2018 at 7:37 PM

Elapsed Time: 41 minutes

Maximum Time: n/a

Points scored may differ from the grading guidelines because o...

✓ Correct ↗ Partial Credit ✗ Incorrect

1. Margo read for 20 minutes each day for 5 days, and she re... expression represents the number of minutes Margo read...

   ○ (0 pts) (20 + 60) × 7

   ○ (0 pts) (5 × 2) +80

   ✓ (1 pt) (20 × 5) + (60 × 2)

   ○ (0 pts) (60 + 2) + (20 + 5)

   1/1 point

LEAP Math Midtest - 5 (4 GT)

View Objective Performance Report

Completed By:

Submitted: Thursday, January 11, 2018 at 7:37 PM
Elapsed Time: 41 minutes
Maximum Time: n/a

Points scored may differ from the grading guidelines because of teacher review. Contact your program teacher if...

✔ Correct ➡ Partial Credit ✖ Incorrect

1. Margo read for 20 minutes each day for 5 days, and she read for 60 minutes each day for 2 days. Which expression represents the number of minutes Margo read on all 7 days? *(1 point)*

○ *(0 pts)* $(20 + 60) \times 7$
○ *(0 pts)* $(5 \times 2) + 80$
✔ *(1 pt)* $(20 \times 5) + (60 \times 2)$
○ *(0 pts)* $(60 + 2) + (20 + 5)$

1 / 1 point

2. What is the value of the expression shown? *(1 poi...*

$8 + 12 \div 2 \times (6 + 3)$

○ *(0 pts)* 90
○ *(0 pts)* 78
○ *(0 pts)* 63
✔ *(1 pt)* 62

1 / 1 point

Objective / Cluster / Domain	%	Count
5.OA.A.2: Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.	100%	2
5.OA.B3: Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.	100%	2
Cluster: Analyze patterns and relationships	100%	2
Cluster: Apply and extend previous understandings of multiplication and division to multiply and divide fractions	64%	11
Cluster: Classify two-dimensional figures into categories based on their properties	67%	3
Cluster: Convert like measurement units within a given measurement system	0%	2
Cluster: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	80%	5
Cluster: Graph points on the coordinate plane to solve real-world and mathematical problems	100%	3
Cluster: Perform operations with multi-digit whole numbers and with decimals to hundredths	100%	7
Cluster: Represent and interpret data	100%	2
Cluster: Understand the place value system	100%	7
Cluster: Use equivalent fractions as a strategy to add and subtract fractions	75%	4
Cluster: Write and interpret numerical expressions	100%	4
Domain: Geometry	83%	6
Domain: Measurement and Data	67%	9
Domain: Number and Operations in Base Ten	100%	14
Domain: Numbers and Operations - Fractions	67%	15
Domain: Operations and Algebraic Thinking	100%	6

APPENDIX B – FORMATIVE ASSESSMENT PREDICTOR BANDS

Formative Assessment Pretest Proficiency Bands for English Language Arts: 2016 – 17

Grades K – 1

	Proficiency Predictor Category	DIBELS Next	PALS	Iowa FAST
K	Likely to be Successful	At or Above Benchmark	Benchmark = Yes	Composite >= 46
K	May be Successful	Below Benchmark	---	Composite 30 – 45
K	Unlikely to be Successful	Well Below Benchmark	Benchmark = No	Composite <= 29
1	Likely to be Successful	At or Above Benchmark	Benchmark = Yes	Composite >= 46
1	May be Successful	Below Benchmark	---	Composite 30 – 45
1	Unlikely to be Successful	Well Below Benchmark	Benchmark = No	Composite <= 29

Grades 2 – 12

	Proficiency Predictor Category	LEAP	Scantron	MAP	Iowa FAST
2	Likely to be Successful	>= 70%	Above or High Average	>= 191	>= 55
2	May be Successful	51% – 69%	Low Average	159 – 190	40 – 54
2	Unlikely to be Successful	<= 50%	Below Average	<= 158	<= 39
3	Likely to be Proficient	>= 67%	Above or High Average	>= 205	>= 87
3	May be Proficient	52% – 66%	Low Average	172 – 204	65 – 86
3	Unlikely to be Proficient	<= 51%	Below Average	<= 171	<= 64
4	Likely to be Proficient	>= 62%	Above or High Average	>= 215	>= 127
4	May be Proficient	56% – 61%	Low Average	183 – 214	100 – 126
4	Unlikely to be Proficient	<= 55%	Below Average	<= 182	<= 99
5	Likely to be Proficient	>= 73%	Above or High Average	>= 222	>= 127
5	May be Proficient	60% – 72%	Low Average	191 – 221	100 – 126
5	Unlikely to be Proficient	<= 59%	Below Average	<= 190	<= 99
6	Likely to be Proficient	>= 64%	Above or High Average	>= 227	
6	May be Proficient	58% – 63%	Low Average	196 – 226	
6	Unlikely to be Proficient	<= 57%	Below Average	<= 195	
7	Likely to be Proficient	>= 62%	Above or High Average	>= 231	
7	May be Proficient	44% – 61%	Low Average	199 – 230	
7	Unlikely to be Proficient	<= 43%	Below Average	<= 198	
8	Likely to be Proficient	>= 62%	Above or High Average	>= 234	
8	May be Proficient	49% – 61%	Low Average	201 – 233	
8	Unlikely to be Proficient	<= 48%	Below Average	<= 200	
9	Likely to be Proficient		Above or High Average	>= 237	
9	May be Proficient		Low Average	205 – 236	
9	Unlikely to be Proficient		Below Average	<= 204	
10	Likely to be Proficient		Above or High Average	>= 238	
10	May be Proficient		Low Average	204 – 237	
10	Unlikely to be Proficient		Below Average	<= 203	
11	Likely to be Proficient		Above or High Average	>= 240	
11	May be Proficient		Low Average	206 – 239	
11	Unlikely to be Proficient		Below Average	<= 205	
12	Likely to be Proficient		Above or High Average	>= 240	
12	May be Proficient		Low Average	206 – 239	
12	Unlikely to be Proficient		Below Average	<= 205	

Formative Assessment Pretest Proficiency Bands for Math: 2016 – 17

Grades K – 12

	Proficiency Predictor Category	LEAP	Scantron	MAP
K	Likely to be Successful	>= 70%		
	May be Successful	51% – 69%		
	Unlikely to be Successful	<= 50%		
1	Likely to be Successful	>= 70%		
	May be Successful	51% – 69%		
	Unlikely to be Successful	<= 50%		
2	Likely to be Successful	>= 70%	Above or High Average	>= 191
	May be Successful	51% – 69%	Low Average	164 – 190
	Unlikely to be Successful	<= 50%	Below Average	<= 163
3	Likely to be Proficient	>= 84%	Above or High Average	>= 205
	May be Proficient	46% – 83%	Low Average	177 – 204
	Unlikely to be Proficient	<= 45%	Below Average	<= 176
4	Likely to be Proficient	>= 81%	Above or High Average	>= 217
	May be Proficient	44% –80%	Low Average	188 – 216
	Unlikely to be Proficient	<= 43%	Below Average	<= 187
5	Likely to be Proficient	>= 72%	Above or High Average	>= 227
	May be Proficient	50% – 71%	Low Average	197 – 226
	Unlikely to be Proficient	<= 49%	Below Average	<= 196
6	Likely to be Proficient	>= 66%	Above or High Average	>= 234
	May be Proficient	45% – 65%	Low Average	202 – 233
	Unlikely to be Proficient	<= 44%	Below Average	<= 201
7	Likely to be Proficient	>= 66%	Above or High Average	>= 240
	May be Proficient	45% – 65%	Low Average	206 – 239
	Unlikely to be Proficient	<= 44%	Below Average	<= 205
8	Likely to be Proficient	>= 65%	Above or High Average	>= 245
	May be Proficient	46% – 64%	Low Average	208 – 244
	Unlikely to be Proficient	<= 45%	Below Average	<= 207
9	Likely to be Proficient		Above or High Average	>= 249
	May be Proficient		Low Average	212 – 248
	Unlikely to be Proficient		Below Average	<= 211
10	Likely to be Proficient		Above or High Average	>= 251
	May be Proficient		Low Average	211 – 250
	Unlikely to be Proficient		Below Average	<= 210
11	Likely to be Proficient		Above or High Average	>= 254
	May be Proficient		Low Average	213 – 253
	Unlikely to be Proficient		Below Average	<= 212
12	Likely to be Proficient		Above or High Average	>= 254
	May be Proficient		Low Average	213 – 253
	Unlikely to be Proficient		Below Average	<= 212

Formative Assessment Midtest Proficiency Bands for English Language Arts: 2016 – 17

Grades K – 1

	Proficiency Predictor Category	DIBELS Next	PALS	Iowa FAST
K	Likely to be Successful	At or Above Benchmark	Benchmark = Yes	
K	May be Successful	Below Benchmark	---	
K	Unlikely to be Successful	Well Below Benchmark	Benchmark = No	Coming Soon
1	Likely to be Successful	At or Above Benchmark	Benchmark = Yes	
1	May be Successful	Below Benchmark	---	
1	Unlikely to be Successful	Well Below Benchmark	Benchmark = No	

Grades 2 – 12

	Proficiency Predictor Category	LEAP	Scantron	MAP	Iowa FAST
2	Likely to be Successful	>= 76%	Above or High Average	>= 199	
2	May be Successful	60% – 75%	Low Average	170 – 198	
2	Unlikely to be Successful	<= 59%	Below Average	<= 169	
3	Likely to be Proficient	>= 85%	Above or High Average	>= 211	
3	May be Proficient	70% – 84%	Low Average	181 – 210	
3	Unlikely to be Proficient	<= 69%	Below Average	<= 180	Coming Soon
4	Likely to be Proficient	>= 80%	Above or High Average	>= 219	
4	May be Proficient	---	Low Average	190 – 218	
4	Unlikely to be Proficient	<= 79%	Below Average	<= 189	
5	Likely to be Proficient	>= 80%	Above or High Average	>= 224	
5	May be Proficient	75% – 79%	Low Average	196 – 223	
5	Unlikely to be Proficient	<= 74%	Below Average	<= 195	
6	Likely to be Proficient	>= 75%	Above or High Average	>= 229	
6	May be Proficient	65% – 74%	Low Average	201 – 228	
6	Unlikely to be Proficient	<= 64%	Below Average	<= 200	
7	Likely to be Proficient	>= 65%	Above or High Average	>= 232	
7	May be Proficient	55% – 64%	Low Average	203 – 231	
7	Unlikely to be Proficient	<= 54%	Below Average	<= 202	
8	Likely to be Proficient	>= 65%	Above or High Average	>= 234	
8	May be Proficient	60% – 64%	Low Average	203 – 233	
8	Unlikely to be Proficient	<= 59%	Below Average	<= 204	
9	Likely to be Proficient		Above or High Average	>= 237	
9	May be Proficient		Low Average	207 – 236	
9	Unlikely to be Proficient		Below Average	<= 206	
10	Likely to be Proficient		Above or High Average	>= 238	
10	May be Proficient		Low Average	205 – 237	
10	Unlikely to be Proficient		Below Average	<= 204	
11	Likely to be Proficient		Above or High Average	>= 240	
11	May be Proficient		Low Average	207 – 239	
11	Unlikely to be Proficient		Below Average	<= 206	
12	Likely to be Proficient		Above or High Average	>= 240	
12	May be Proficient		Low Average	207 – 239	
12	Unlikely to be Proficient		Below Average	<= 206	

Formative Assessment Midtest Proficiency Bands for Math: 2016 – 17

Grades K – 12

	Proficiency Predictor Category	LEAP	Scantron	MAP
K	Likely to be Successful	>= 93%		
	May be Successful	60% – 92%		
	Unlikely to be Successful	<= 59%		
1	Likely to be Successful	>= 88%		
	May be Successful	60% – 87%		
	Unlikely to be Successful	<= 59%		
2	Likely to be Successful	>= 80%	Above or High Average	>= 200
	May be Successful	60% – 79%	Low Average	174 – 199
	Unlikely to be Successful	<= 59%	Below Average	<= 173
3	Likely to be Proficient	>= 95%	Above or High Average	>= 211
	May be Proficient	60% – 94%	Low Average	186 – 210
	Unlikely to be Proficient	<= 59%	Below Average	<= 185
4	Likely to be Proficient	>= 85%	Above or High Average	>= 223
	May be Proficient	65% – 84%	Low Average	195 – 222
	Unlikely to be Proficient	<= 64%	Below Average	<= 194
5	Likely to be Proficient	>= 95%	Above or High Average	>= 233
	May be Proficient	70% – 74%	Low Average	203 – 232
	Unlikely to be Proficient	<= 69%	Below Average	<= 202
6	Likely to be Proficient	>= 60%	Above or High Average	>= 238
	May be Proficient	55% – 59%	Low Average	207 – 237
	Unlikely to be Proficient	<= 54%	Below Average	<= 206
7	Likely to be Proficient	>= 60%	Above or High Average	>= 243
	May be Proficient	55% – 59%	Low Average	210 – 242
	Unlikely to be Proficient	<= 54%	Below Average	<= 209
8	Likely to be Proficient	>= 55%	Above or High Average	>= 247
	May be Proficient	---	Low Average	212 – 246
	Unlikely to be Proficient	<= 54%	Below Average	<= 211
9	Likely to be Proficient		Above or High Average	>= 251
	May be Proficient		Low Average	215 – 250
	Unlikely to be Proficient		Below Average	<= 214
10	Likely to be Proficient		Above or High Average	>= 252
	May be Proficient		Low Average	212 – 251
	Unlikely to be Proficient		Below Average	<= 211
11	Likely to be Proficient		Above or High Average	>= 255
	May be Proficient		Low Average	215 – 254
	Unlikely to be Proficient		Below Average	<= 214
12	Likely to be Proficient		Above or High Average	>= 255
	May be Proficient		Low Average	215 – 254
	Unlikely to be Proficient		Below Average	<= 214

Formative Assessment Posttest Proficiency Bands for English Language Arts: 2016 – 17

Grades K – 1

	Proficiency Predictor Category	DIBELS Next	PALS	Iowa FAST
K	Likely to be Successful	At or Above Benchmark	Benchmark = Yes	Composite >= 46
	May be Successful	Below Benchmark	---	Composite 30 – 45
	Unlikely to be Successful	Well Below Benchmark	Benchmark = No	Composite <= 29
1	Likely to be Successful	At or Above Benchmark	Benchmark = Yes	Composite >= 46
	May be Successful	Below Benchmark	---	Composite 30 – 45
	Unlikely to be Successful	Well Below Benchmark	Benchmark = No	Composite <= 29

Grades 2 – 12

	Proficiency Predictor Category	LEAP	Scantron	MAP	Iowa FAST
2	Likely to be Successful	>= 70%	Above or High Average	>= 205	>= 96
	May be Successful	55% – 69%	Low Average	173 – 204	81 – 95
	Unlikely to be Successful	<= 54%	Below Average	<= 172	<= 80
3	Likely to be Proficient	>= 70%	Above or High Average	>= 215	>= 129
	May be Proficient	55% – 69%	Low Average	184 – 214	114 – 128
	Unlikely to be Proficient	<= 54%	Below Average	<= 183	<= 113
4	Likely to be Proficient	>= 70%	Above or High Average	>= 222	>= 157
	May be Proficient	55% – 69%	Low Average	191 – 221	142 – 156
	Unlikely to be Proficient	<= 54%	Below Average	<= 190	<= 123
5	Likely to be Proficient	>= 70%	Above or High Average	>= 228	>= 154
	May be Proficient	55% – 69%	Low Average	197 – 227	139 – 153
	Unlikely to be Proficient	<= 54%	Below Average	<= 196	<= 138
6	Likely to be Proficient	>= 70%	Above or High Average	>= 231	
	May be Proficient	55% – 69%	Low Average	201 – 230	
	Unlikely to be Proficient	<= 54%	Below Average	<= 200	
7	Likely to be Proficient	>= 70%	Above or High Average	>= 234	
	May be Proficient	55% – 69%	Low Average	203 – 233	
	Unlikely to be Proficient	<= 54%	Below Average	<= 202	
8	Likely to be Proficient	>= 70%	Above or High Average	>= 237	
	May be Proficient	55% – 69%	Low Average	204 – 236	
	Unlikely to be Proficient	<= 54%	Below Average	<= 203	
9	Likely to be Proficient		Above or High Average	>= 239	
	May be Proficient		Low Average	206 – 238	
	Unlikely to be Proficient		Below Average	<= 205	
10	Likely to be Proficient		Above or High Average	>= 240	
	May be Proficient		Low Average	204 – 239	
	Unlikely to be Proficient		Below Average	<= 203	
11	Likely to be Proficient		Above or High Average	>= 241	
	May be Proficient		Low Average	205 – 240	
	Unlikely to be Proficient		Below Average	<= 204	
12	Likely to be Proficient		Above or High Average	>= 241	
	May be Proficient		Low Average	205 – 240	
	Unlikely to be Proficient		Below Average	<= 204	

Formative Assessment Posttest Proficiency Bands for Math: 2016 – 17

Grades K – 12

	Proficiency Predictor Category	LEAP	Scantron	MAP
K	Likely to be Successful	>= 70%		
	May be Successful	61% – 70%		
	Unlikely to be Successful	<= 60%		
1	Likely to be Successful	>= 70%		
	May be Successful	61% – 70%		
	Unlikely to be Successful	<= 60%		
2	Likely to be Successful	>= 70%	Above or High Average	>= 207
	May be Successful	61% – 70%	Low Average	179 – 206
	Unlikely to be Successful	<= 60%	Below Average	<= 178
3	Likely to be Proficient	>= 65%	Above or High Average	>= 218
	May be Proficient	51% – 65%	Low Average	190 – 217
	Unlikely to be Proficient	<= 50%	Below Average	<= 189
4	Likely to be Proficient	>= 65%	Above or High Average	>= 229
	May be Proficient	51% – 65%	Low Average	199 – 228
	Unlikely to be Proficient	<= 50%	Below Average	<= 198
5	Likely to be Proficient	>= 65%	Above or High Average	>= 239
	May be Proficient	51% – 65%	Low Average	205 – 238
	Unlikely to be Proficient	<= 50%	Below Average	<= 204
6	Likely to be Proficient	>= 65%	Above or High Average	>= 243
	May be Proficient	51% – 65%	Low Average	209 – 242
	Unlikely to be Proficient	<= 50%	Below Average	<= 208
7	Likely to be Proficient	>= 65%	Above or High Average	>= 247
	May be Proficient	51% – 65%	Low Average	211 – 246
	Unlikely to be Proficient	<= 50%	Below Average	<= 210
8	Likely to be Proficient	>= 65%	Above or High Average	>= 251
	May be Proficient	51% – 65%	Low Average	212 – 250
	Unlikely to be Proficient	<= 50%	Below Average	<= 211
9	Likely to be Proficient		Above or High Average	>= 254
	May be Proficient		Low Average	214 – 253
	Unlikely to be Proficient		Below Average	<= 213
10	Likely to be Proficient		Above or High Average	>= 254
	May be Proficient		Low Average	211 – 254
	Unlikely to be Proficient		Below Average	<= 210
11	Likely to be Proficient		Above or High Average	>= 257
	May be Proficient		Low Average	214 – 256
	Unlikely to be Proficient		Below Average	<= 213
12	Likely to be Proficient		Above or High Average	>= 257
	May be Proficient		Low Average	214 – 256
	Unlikely to be Proficient		Below Average	<= 213

APPENDIX C – PERCEPTUAL DATA SET

Perceptual Data Set for

NEVADA CONNECTIONS ACADEMY

Spring 2018

Prepared by:

ctac | COMMUNITY TRAINING AND ASSISTANCE CENTER

30 Winter Street, 7th Floor • Boston, MA 02108
617.423.1444 • www.ctacusa.com

The following data come from these sources:

❖ School Engagement Survey (2017-2018)

❖ Student Satisfaction Survey (2017-2018)

❖ Parent Satisfaction Survey (2017-2018)

❖ Focus Groups with Educators, Students, and Parents (Spring 2018)

The data displays are organized by seven dimensions of effective schools:

A. School Context and Culture
B. Leadership and School Improvement
C. Curriculum and Instruction
D. Teacher Effectiveness and Support
E. Student Responsibility and Support
F. Family and School Relationships
G. Network Systems of Support

B-398

Dimension A. School Context and Culture

Aligned School Engagement Survey Items for Educators	Percent of Favorable Responses
1. My school is moving in the right direction	77
2. I feel connected to my colleagues	74
3. My manager keeps me informed about updates that impact my job	94
4. I see myself still working at my school next school year	91
5. My school motivates me to go beyond what I would in a similar role elsewhere	77

Aligned Student Satisfaction Survey Items

1. How much do you like Connections Academy?	K-2 Response	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	39	99	---	---
I like Connections Academy a lot.	90%	69%	---	---
I like Connections Academy a little.	5%	19%	---	---
I dislike Connections Academy a little.	3%	5%	---	---
I dislike Connections Academy a lot.	3%	7%	---	---

2. What letter grade would you give to your Connections Academy school for the 2017-2018 school year?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	99	174	139
A	---	52%	49%	53%
B	---	32%	30%	27%
C	---	8%	17%	14%
D	---	6%	3%	5%
F	---	2%	1%	0%

3. Overall, how satisfied are you with the Connections Academy program?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	139
Very Satisfied	---	---	61%	70%
Somewhat Satisfied	---	---	29%	23%
Somewhat Dissatisfied	---	---	8%	6%
Very Dissatisfied	---	---	2%	1%

B-399

Dimension A: School Context and Culture

4. Compared to your previous school, how satisfied are you with Connections Academy?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	171	139
Much more satisfied	---	---	51%	60%
Somewhat more satisfied	---	---	29%	24%
Somewhat less satisfied	---	---	15%	12%
Much less satisfied	---	---	5%	4%

5. Please tell us how much you agree or disagree with the following statement...	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
I am enjoying the program				
Sample Size	---	---	174	139
Strongly Agree	---	---	49%	53%
Agree	---	---	37%	36%
Disagree	---	---	10%	9%
Strongly Disagree	---	---	5%	1%

6. Will you continue all the way through 12th grade with Connections Academy?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	113
Yes, Definitely	---	---	14%	43%
Probably	---	---	19%	23%
Maybe	---	---	13%	15%
Probably Not	---	---	21%	8%
Definitely Not	---	---	16%	7%
I don't know			17%	4%

B-400

Dimension A: School Context and Culture

Aligned Parent Satisfaction Survey Items

What overall grade would you give to the Connections Academy program?
■ Grade = A   ■ Grade = B *
66.1% (-0.7%) **   25.3%

Do you recommend Connections Academy to parents whose children are not enrolled in the program? **
■ Yes   ■ No
94.2% (+2.5%)   5.8%
Net Promoter Score = 68.9% (+3.0%)

Will your child continue in Connections Academy next school year (2018-2019)?
■ Yes, Definitely   ■ Probably
57.1% (-1.1%)   15.7%

Compared to your child's previous school, how satisfied are you with the Connections Academy program?
■ Much more satisfied   ■ Somewhat more satisfied
71.6% (-0.3%)   13.1%

Overall, how satisfied is your child with the Connections Academy program?
■ Very satisfied   ■ Somewhat satisfied
74.0% (-1.0%)   22.0%

Focus Group Themes

Most teachers feel they are well supported and that there is good collaboration among the teachers. Some teachers feel overly directed and would like to have more trust and support from the leadership. Teachers, parents, and students all report there is a good relationship between teachers and students. It can sometimes be challenging, however, to get some students involved. Parents like Nevada Connections Academy (NCA) for such reasons as the freedom to manage one's own time, the flexibility afforded, personalized instruction, and higher levels of parental engagement. Parents also appreciate the school's support of their students.

> All teachers I've met are nice and I learn a lot. Back at my old school, they didn't care about me. They just wanted me out of class. These teachers saw it and included me.
> -Student

> [Students are] succeeding with NCA where they would be failing at the district schools. I like the more direct involvement and knowing what's going on day-to-day. You get more of the one-on-one help if you need it...It's not a guessing game.
> -Parent

> NCA is a big family and we all benefit from the collaborative nature of this school. Teachers work together to collaborate on curriculum, planning, and to discuss students when necessary. I also feel that there is no hesitation to ask questions and everyone is very open to help out.
> -Teacher

B-401

Dimension B. Leadership and School Improvement

Aligned School Engagement Survey Items for Educators	Percent of Favorable Responses
1. The leadership team at my school has communicated a vision that motivates me	85
2. I have confidence in the leadership team at my school	84
3. My school's leadership team uses data to make informed decisions	88
4. My School Leader sets a clear direction for my school	55
5. The leadership team at my school demonstrates that people are important to the school's success	93
6. My School Leader is accessible to and known by our employees	65
7. My school's leadership team clearly communicates information that affects our school	86
8. I have the ability to impact change at my school	78
9. Our school's leadership team is transparent about school changes	82
10. My manager, or someone else, has communicated some clear actions based on recent survey results	41
11. My manager does a good job involving staff in decisions that affect them	88
12. I feel comfortable speaking with my manager about my needs	91
13. My manager does a good job explaining the rationale for decisions	89
14. My manager provides regular performance feedback	91
15. My manager is a great role model for my school	90
16. My manager is invested in my development and continued growth	86

Aligned Student Satisfaction Survey Items

No aligned Student Satisfaction Survey items found at this time

Aligned Parent Satisfaction Survey Items

No aligned Parent Satisfaction Survey items found at this time

B-402

Dimension B. Leadership and School Improvement

Focus Group Themes

Teachers and parents feel the leadership team is approachable and supportive. Parents and teachers also note the rapid response time and availability of school leaders. Teacher leadership is very evident at NCA. Teachers serve a variety of roles (e.g., manager, team lead, coach) to support their colleagues. The overall communication is good, with some teachers hoping to get more consistent messaging from school leaders. Teachers tend to report instructional leadership as coming from the broader Connections Academy network or a colleague.

> *This year has been challenging...we have leadership from corporate, then leadership from the state, and leadership here. Those visions don't always line up...[School leaders] have done a good job of maintaining the course.*
>
> -Teacher

> *We have the problem of getting conflicting messages from different leaders, particularly miscommunications related to deadlines and what is required to do.*
>
> -Teacher

> *We've never had a problem getting a hold of the administrators. They are responsive and provide timely responses. They send emails and check in on a regular basis.*
>
> -Parent

B-403

Dimension C. Curriculum and Instruction

No aligned School Engagement Survey items found at this time

Aligned Student Satisfaction Survey Items

1. Did you enroll in a Connections Academy national club or attend any national special events (such as the Music Contest) this year?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	39	99	174	139
Yes	51%	20%	9%	6%
No	49%	80%	91%	94%

2. Have you gone on a field trip or been to another school-sponsored event this school year?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	39	99	174	139
Yes	51%	54%	34%	23%
No	49%	46%	66%	77%

3. Overall, how satisfied are you with the course options available to you?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	---	139
Very Satisfied	---	---	---	58%
Somewhat Satisfied	---	---	---	32%
Somewhat Dissatisfied	---	---	---	9%
Very Dissatisfied	---	---	---	1%

B-404

Dimension C. Curriculum and Instruction

Aligned Student Satisfaction Survey Items

4. K-5 Prompt: Please let us know how much you like your Connections Academy courses.			4. 6-12 Prompt: Please let us know how satisfied you are with your Connections Academy courses.		
	K-2 Responses	3-5 Responses		6-8 Responses	9-12 Responses
a. Health and Physical Education					
Sample Size	39	99	*Sample Size*	174	139
I really like it	77%	52%	Very Satisfied	63%	63%
It is OK	21%	44%	Somewhat Satisfied	29%	32%
I don't like it	3%	4%	Not Very Satisfied	5%	4%
			Not at all Satisfied	3%	1%
b. Art/Humanities					
Sample Size	39	99	*Sample Size*	174	139
I really like it	82%	62%	Very Satisfied	56%	58%
It is OK	15%	32%	Somewhat Satisfied	30%	34%
I don't like it	3%	6%	Not Very Satisfied	9%	4%
			Not at all Satisfied	5%	4%
c. Language Arts					
Sample Size	39	99	*Sample Size*	174	139
I really like it	59%	47%	Very Satisfied	49%	64%
It is OK	38%	43%	Somewhat Satisfied	44%	29%
I don't like it	3%	9%	Not Very Satisfied	3%	6%
			Not at all Satisfied	4%	1%
d. Math					
Sample Size	39	99	*Sample Size*	174	139
I really like it	59%	35%	Very Satisfied	49%	58%
It is OK	36%	42%	Somewhat Satisfied	39%	33%
I don't like it	5%	22%	Not Very Satisfied	10%	6%
			Not at all Satisfied	2%	3%
e. Science					
Sample Size	39	99	*Sample Size*	174	139
I really like it	85%	70%	Very Satisfied	62%	64%
It is OK	15%	28%	Somewhat Satisfied	30%	28%
I don't like it	0%	2%	Not Very Satisfied	4%	6%
			Not at all Satisfied	3%	2%
f. Social Studies					
Sample Size	39	99	*Sample Size*	174	139
I really like it	77%	46%	Very Satisfied	59%	68%
It is OK	21%	44%	Somewhat Satisfied	30%	27%
I don't like it	3%	9%	Not Very Satisfied	6%	3%
			Not at all Satisfied	4%	2%
g. Technology					
Sample Size	39	99	*Sample Size*	174	139
I really like it	64%	58%	Very Satisfied	49%	54%
It is OK	31%	32%	Somewhat Satisfied	37%	34%
I don't like it	5%	10%	Not Very Satisfied	6%	7%
			Not at all Satisfied	7%	5%
h. Electives (K-5)/Career Tech (6-12)					
Sample Size	39	99	*Sample Size*	174	139
I really like it	54%	45%	Very Satisfied	43%	55%
It is OK	41%	49%	Somewhat Satisfied	42%	35%
I don't like it	5%	5%	Not Very Satisfied	9%	6%
			Not at all Satisfied	6%	4%

B-405

Dimension C. Curriculum and Instruction

Aligned Student Satisfaction Survey Items

5. Have you participated in a real-time discussion or instruction through Connections Academy's LiveLesson®?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	139
Yes	---	---	82%	87%
No	---	---	18%	13%

6. Why do you attend LiveLession® sessions?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	143	121
To engage with my teacher	---	---	66%	60%
To engage with other students	---	---	36%	30%
To receive instructional help	---	---	80%	84%

7. Have you ever had a hard time learning something in school (or struggled in class)?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	39	99	174	139
Yes	56%	90%	90%	84%
No	44%	10%	10%	16%

8. Please tell us how much you agree or disagree with the following statement...	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
My courses/subjects are more challenging than my former schooling (public, home, or other)				
Sample Size	---	---	171	139
Strongly Agree	---	---	38%	33%
Agree	---	---	45%	32%
Disagree	---	---	12%	29%
Strongly Disagree	---	---	5%	6%

B-406

Dimension C. Curriculum and Instruction

Aligned Parent Satisfaction Survey Items

I am satisfied with the variety of learning activities provided by the program.
■ Agree Strongly   ■ Agree

43.3%   (-4.9%)   50.1%

The curriculum is high quality.
■ Agree Strongly   ■ Agree

45.2%   (-4.9%)   49.0%

I am able to personalize the curriculum to fit the learning demands and interests of my child.
■ Agree Strongly   ■ Agree

31.1%   (-6.8%)   46.6%

The use of the computers and Connexus® is improving the learning experience.
■ Agree Strongly   ■ Agree

45.3%   (-6.7%)   49.2%

The curriculum is more challenging than my child's former schooling.
■ Agree Strongly   ■ Agree

27.1%   (-2.1%)   39.3%

I am satisfied with the opportunities my child has for participation in extracurricular activities.
■ Agree Strongly   ■ Agree

30.3%   (-4.1%)   52.2%

B-407

Dimension C. Curriculum and Instruction

Focus Group Themes

Teachers think the curriculum is very rigorous, and it can be challenging for some students to keep up. However, teachers report that when students do take ownership of their learning, they have higher achievements. Teachers use data to identify students' learning needs and progress in their Teacher Learning Communities (TLCs). However, finding time and getting motivated to dig deep into the data can be a challenge. Teachers appreciate the freedom to modify the curriculum to better meet students' individual needs. Parents tend to like the curriculum, and comment on its rigor, sometimes stating it is beyond their expectations. Students agree that the curriculum at the NCA is more conducive to learning, and report getting more content than at other schools. Some feel it is the way that lessons and tests are presented that makes it difficult. Students and parents report that portfolios are worthwhile though complex, and can be a challenge when multiple portfolios are due at the same time. Portfolio directions are sometimes not explicit enough for students and families. Students and families feel there is room for more innovation in the lessons. They cite an example instructional practice of reading a long text and answering questions, which they feel happens too frequently. Students hope to have more face-to-face collaborations with their peers.

The curriculum is incredibly challenging. I would put our curriculum against any college prep school in the nation....I am glad we have the latitude to modify the curriculum.

-Teacher

If they have more pop-ups within the lessons within the subject, it might make it more meaningful for them. That could help keep the spark for the kids. I was very excited about the video chatting...The attention span is longer when there's interaction.

-Parent

You're teaching yourself as you read through a lesson. In my old school...no big projects. At this school, there are a lot of science experiments—awesome!

-Student

B-408

Dimension D. Teacher Effectiveness and Support

Aligned School Engagement Survey Items for Educators	Percent of Favorable Responses
1. I can see the opportunities for continued growth and development	77
2. I am happy with my current role related to what was described to me	83
3. I have enough autonomy to perform my job effectively	95
4. I receive appropriate recognition for good school work at my school	85
5. My team inspires me to do my best work	81
6. My work gives me a feeling of personal accomplishment	89
7. Staff at my school are held mutually accountable for student achievement	74
8. Feedback is openly shared at my school	79
9. Generally, I believe my workload is reasonable for my role	66
10. I know what I need to do to be successful in my role	95
11. Our school's leadership team is transparent about school changes	82
12. I am satisfied working with my immediate manager	90

Aligned Student Satisfaction Survey Items

1. How many stars, out of five, would you give your teacher?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	39	99	174	139
5 Stars	87%	74%	56%	60%
4 Stars	5%	16%	28%	28%
3 Stars	3%	6%	12%	11%
2 Stars	3%	3%	2%	1%
1 Star	3%	1%	2%	1%
0 Stars	0%	0%	1%	0%

2. How satisfied are you with the amount of contact you have with your teachers?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	139
Very Satisfied	---	---	55%	71%
Somewhat Satisfied	---	---	39%	24%
Somewhat Dissatisfied	---	---	4%	4%
Very Dissatisfied	---	---	2%	1%

B-409

Dimension D. Teacher Effectiveness and Support

Aligned Student Satisfaction Survey Items				
3. How frequently are you in touch with your Connections Academy teachers?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	139
Daily	---	---	14%	9%
Once a week or more frequently	---	---	39%	42%
Three times a month	---	---	16%	19%
Twice a month	---	---	9%	17%
Once a month	---	---	14%	6%
Less than once a month	---	---	9%	7%

4. What is the most common method of communication between you and your Connections Academy teachers?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	139
WebMail	---	---	57%	53%
Telephone	---	---	18%	31%
Mail	---	---	1%	0%
LiveLesson® session	---	---	23%	17%

5. Please rate the response time of your teachers	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	139
Excellent	---	---	40%	53%
Good	---	---	41%	37%
Fair	---	---	17%	9%
Poor	---	---	2%	1%

6. We would like to know whether the teachers' responses to your questions are informative and helpful. In general, how satisfied are you with the helpfulness of your Connections Academy teachers?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	139
Very Satisfied	---	---	56%	67%
Somewhat Satisfied	---	---	38%	29%
Somewhat Dissatisfied	---	---	5%	3%
Very Dissatisfied	---	---	1%	1%

7. Do you read the Student Experience E-News that is sent to your WebMail box every other week?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	139
Yes	---	---	21%	19%
No	---	---	13%	22%
Sometimes	---	---	53%	50%
Not sure what the Student Experience E-News is	---	---	13%	9%

Dimension D. Teacher Effectiveness and Support

Aligned Parent Satisfaction Survey Items

How satisfied are you with the helpfulness of your child's Connections Academy teachers?
■ Very Satisfied ■ Somewhat Satisfied *

74.4% (-3.0%) **   21.3%

How would you rate the response time of your child's Connections Academy teachers?
■ Excellent ■ Good

61.9% (+3.7%)   29.2%

The teachers improve the learning experience.
■ Agree Strongly ■ Agree

46.6% (-3.9%)   47.0%

Focus Group Themes

Teachers feel supported overall and acknowledge there is a learning curve for educators who transfer from other school settings. Teachers collaborate and review data together to discuss students' progress. Teachers report class sizes are large, which brings challenges such as meeting students' individual needs. Parents and students are pleased on the whole with their teachers and state that interactive times during lessons are among the most effective. Teachers appreciate the professional development on strategies for delivering LiveLessons® and having nationwide collaboration. Teachers feel some of the professional development offerings are less relevant that others. Some teachers would like to have more professional development that is subject specific and other training opportunities outside the network.

> We do the portfolios, and teachers give us feedback. That is positive. If they do bad, the teacher is calling us, right away. [The teacher] will pinpoint it and call us, versus the district schools where teachers don't care.
>
> -Parent

> The only thing I'd like to see is that because we have so many teachers that come from the brick and mortar setting, just like a fireman going to be a policeman, a special training for them would be helpful.
>
> -Teacher

> The sheer amount of data we have on student performance is just mind-boggling. However, the time to drill down to that data is not always available. The one negative...is the number of students [teachers] have.
>
> -Teacher

B-411

Dimension E. Student Responsibility and Support

Aligned School Engagement Survey Item for Educators	Percent of Favorable Responses
1. My school provides a safe environment for students to learn	99

Aligned Student Satisfaction Survey Items				
1. Please rate how your teacher(s) helped when you were having a hard time learning...	**K-2 Responses**	**3-5 Responses**	**6-8 Responses**	**9-12 Responses**
a. My teacher(s) was easy to get in touch with when I needed help				
Sample Size	22	89	157	117
Strongly Agree	**68%**	**60%**	**46%**	**57%**
Agree	27%	30%	45%	38%
Disagree	0%	8%	6%	3%
Strongly Disagree	5%	2%	2%	1%
b. My teacher(s) responded quickly				
Sample Size	22	89	157	117
Strongly Agree	**68%**	42%	33%	**50%**
Agree	27%	43%	45%	36%
Disagree	0%	12%	19%	12%
Strongly Disagree	5%	3%	3%	2%
c. My teacher(s) provided the help that I needed				
Sample Size	22	89	157	117
Strongly Agree	**77%**	**70%**	**51%**	**54%**
Agree	18%	24%	37%	40%
Disagree	0%	6%	9%	5%
Strongly Disagree	5%	1%	3%	1%
d. My teacher(s) made me feel more confident				
Sample Size	22	89	157	117
Strongly Agree	**73%**	**72%**	**45%**	**44%**
Agree	23%	18%	34%	43%
Disagree	0%	6%	13%	11%
Strongly Disagree	5%	4%	8%	2%

2. When you started with Connections Academy, did you feel you had all of the resources and support that you needed to be successful?	**K-2 Responses**	**3-5 Responses**	**6-8 Responses**	**9-12 Responses**
Sample Size	---	---	108	63
Definitely	---	---	**61%**	**63%**
For the most part	---	---	27%	29%
Not really	---	---	8%	5%
Not at all	---	---	4%	3%

B-412

Dimension E. Student Responsibility and Support

Aligned Student Satisfaction Survey Items				

3. Have you made friends through Connections Academy?	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	39	99	---	---
I have made many good friends through Connections Academy	21%	17%	---	---
I have made at least one good friend through Connections Academy	15%	34%	---	---
I have not made any friends through Connections Academy	64%	48%	---	---

4. Please tell us how much you agree or disagree with the following statements...	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
a. I am able to interact with other students				
Sample Size	---	---	174	139
Strongly Agree	---	---	18%	29%
Agree	---	---	37%	29%
Disagree	---	---	28%	28%
Strongly Disagree	---	---	17%	13%
b. The use of computer and Connexus® is improving my learning experience				
Sample Size	---	---	174	139
Strongly Agree	---	---	39%	48%
Agree	---	---	41%	38%
Disagree	---	---	14%	11%
Strongly Disagree	---	---	6%	3%
c. I am able to learn at my own pace				
Sample Size	---	---	174	139
Strongly Agree	---	---	57%	66%
Agree	---	---	30%	26%
Disagree	---	---	8%	6%
Strongly Disagree	---	---	5%	2%
d. My attitude towards learning has improved since starting with Connections Academy				
Sample Size	---	---	174	139
Strongly Agree	---	---	37%	45%
Agree	---	---	33%	28%
Disagree	---	---	21%	22%
Strongly Disagree	---	---	9%	5%

B-413

Dimension E. Student Responsibility and Support

Aligned Parent Satisfaction Survey Items

My child's attitude toward learning has improved with Connections Academy.
- ■ Agree Strongly ■ Agree *

39.9% (-2.5%) ** 44.5%

My child is able to learn at his/her own pace.
- ■ Agree Strongly ■ Agree

51.3% (-1.0%) 39.3%

My child is enjoying the program.
- ■ Agree Strongly ■ Agree

42.9% (-4.7%) 48.9%

My child is making good progress.
- ■ Agree Strongly ■ Agree

45.8% (-7.2%) 46.9%

Have you and your child attended an event sponsored by your school this school year (e.g., field trip or end-of-year party)?
- ■ Yes ■ No *

45.9% (-2.0%) ** 54.1%

Please rate the overall quality of your school's events you have attended this school year.
- ■ Excellent ■ Good

44.3% (-1.3%) 40.0%

How do you feel about the amount of contact your child has with their Connections Academy teachers?
- ■ It's About Right ■ It's Not Enough

88.3% (+2.1%) 10.4%

B-414

Dimension E. Student Responsibility and Support

Focus Group Themes

Teachers report that while some of the more self-disciplined students own their learning and are committed to school obligations, some others need help and parental involvement is the key. Teachers appreciate the significance of the partnership among teachers, parents, and students, though they note it is not happening across all NCA families, and state those students with parental involvement are on much more solid footing for success. Teachers find NCA a school where they get to know their students very well—more so than any other school they have worked at. Parents agree that it is a joint endeavor between parents and teachers to motivate students, and some parents tend to find teachers supportive and responsive. Students express a desire to spend more time with their peers and several report having limited audio participation with their teachers during lessons. Meanwhile, students feel very well supported at NCA and there are many resources available when they need them. Students hope NCA can provide more LiveLessons®, better explanations of the lessons, and more help in understanding concepts and skills when they get stuck.

For me the hardest part is working up the courage to actually socialize, like the webcam, mic, etc.
-Student

Teachers are very supportive. One activity was very confusing. I sent a webmail...they decided to do away with that activity. In the beginning, we didn't give [my student] that responsibility. Now that's changed. [My student is] now much more on task. They have to be intrinsically motivated. I can click through the grade book and see...it's a huge investment of their responsibility. If they're not actually trying, they're not going to get anything out of it. The student has to be invested.
-Parent

Kids hiding out is another issue that we face. I think it's important the triangle approach of teacher, parent, and student—that's when it's really working. When they're all invested, the student will show up, and as a result their grades go up.
-Teacher

B-415

Dimension F. Family and School Relationships

Aligned School Engagement Survey Item for Educators	Percent of Favorable Responses
1. My school provides high quality services to students and families	87

Aligned Student Satisfaction Survey Items

No aligned Student Satisfaction Survey items found at this time

Aligned Parent Satisfaction Survey Items

The program provides opportunities for interaction with other families.
■ Agree Strongly ■ Agree

22.1% (-1.7%) 55.3%

How do you feel about the amount of contact you have with your child's Connections Academy teachers?
■ It's About Right ■ It's Not Enough

87.7% (+2.0%) 10.7%

Focus Group Themes

Teachers report strong connections—often in the superlative—with parents and homeroom classes. Teachers and parents note the "You Can Book Me" function as helpful. Teachers have concerns on accepting students late in the semester and the large enrollment of students. Teachers emphasize the importance of engaging families using multiple approaches (e.g., video, newsletters, meetings, WebMails). They call students in rotation and parents can also request a call from teachers. Some teachers think that parents may receive too many school communications. Parents and students share favorable perceptions that communication efforts are strong at NCA.

I am amazed at how smart my kids are. They have learned so much. I think the curriculum is great and they have everything on there. They have support and it's not making it easy for them. I'm learning too all the time.

-Parent

It's not home school, but school at home—that's a huge mind shift. Persistence and talking one-on-one with the kids, we just want to let them know they can reach the goal, instead of feeling overwhelmed. We can do this.

-Teacher

Teachers are communicating well with the families. My teacher is really supportive. She contacts about every other week...really nice.

-Student

B-416

Dimension G. Network Systems of Support

Aligned School Engagement Survey Item for Educators	Percent of Favorable Responses
1. I believe action will take place as a result of this survey	56
2. I have the tools and resources to do my job well	89
3. Most of the systems and processes here support me getting my work done effectively	86
4. Workloads are divided fairly among the staff at my school	60
5. I am proud to work at my school	88
6. I rarely think about looking for a job at another school	75

Aligned Student Satisfaction Survey Items

1. How satisfied are you with the functionality of Connexus® (e.g., navigating...)	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	139
Very Satisfied	---	---	58%	68%
Somewhat Satisfied	---	---	36%	28%
Somewhat Dissatisfied	---	---	3%	1%
Very Dissatisfied	---	---	3%	2%

2. How satisfied are you with the functionality of Connexus® (e.g., look and feel...)	K-2 Responses	3-5 Responses	6-8 Responses	9-12 Responses
Sample Size	---	---	174	139
Very Satisfied	---	---	56%	64%
Somewhat Satisfied	---	---	37%	31%
Somewhat Dissatisfied	---	---	3%	3%
Very Dissatisfied	---	---	3%	2%

B-417

Dimension G. Network Systems of Support

Aligned Parent Satisfaction Survey Items

How would you rate fulfillment support?
■ Excellent ■ Good *

67.8% (-2.6%) **   22.6%

How would you rate placement support?
■ Excellent ■ Good

60.2% (+1.1%)   28.2%

How would you rate enrollment support?
■ Excellent ■ Good

65.3% (-1.9%)   26.6%

How would you rate technical support?
■ Excellent ■ Good

67.6% (-2.0%)   23.3%

I am satisfied with special education services.
■ Agree Strongly ■ Agree *

31.6% (-16.9%) ** 47.5%

B-418

Dimension G. Network Systems of Support

Focus Group Themes

Teachers appreciate the autonomy and work environment that the Connections Academy approach provides. Teachers cite strong reasons for staying with the school, such as support, knowing students and families better, and having the freedom to teach. Teachers and parents tend to speak highly of the Connections Academy network, citing they are supplying resources and assistance in a timely manner. A few ongoing technology challenges are noted as not yet being fully resolved. Teachers and parents alike point to the recent advocacy and support the network is providing during increased state scrutiny. Teachers hope to be able to collaborate with other Connection Academies, and noted compensation may not always match the workload. Parents state NCA better meets their students' needs. Students report they like the opportunities at NCA, such as meeting with Aces players, the Beehives, the Renaissance Fair, and the Magical Forest. Students and parents alike comment they enjoy the safety of going to school at home, the flexibility of scheduling, and the ability to learn at an individual pace.

> I appreciate that they give us a lot of autonomy to make change--Not a lot of bureaucracy and red tape...It would be great if we could have more collaborations with other state connections academy to have more of a regional network in place between schools. We could share ideas.
> -Teacher

> I don't feel like there's any staff member that feels left alone. The tech system and support network is helpful. There are many resources within Connexus®. Thank God for the search in the virtual library [on Connexus®]. I find the trainings are pretty efficient actually. They are considerate of your time and get to the specifics of what you need to know.
> -Teacher

> Maybe the whole network doesn't understand they have students enrolling with large credit deficiencies. I don't want a lot of other kids to miss out on this opportunity. The state wants to close NCA down and the state ignores students that won't graduate.
> -Parent

B-419

APPENDIX D – MATH TIME TO TALK PILOT RESULTS

Pearson

Exploring the Impact of Small-group Synchronous Discourse Sessions in Online Math Learning

Jinnie Choi

Alyssa Walters

AERA 2018 Annual Meeting

April 2018, New York, NY

Problem: K-12 virtual school students have shown lower math performance

- Virtual schools serve a **highly mobile** student population (Gatti, 2018), and mobility has a **consistent and severe negative impact** on math performance (Rumberger, 2015). Indeed, studies have shown **low average state assessment scores in math** (Woodworth et al., 2015; Ahn, 2016)

However, research on how to support learning is lacking

- How can we **remediate the negative effect of high mobility** by having special interventions to help support math learning?

- Research shows **a lack of rigorous studies on the practices of successful school-level strategies** to improve learning outcomes of virtual school students (Choi et al., 2016).

Does math discourse matter for online math learning?

In our intervention, we increased opportunities to talk about math in online learning

- Fully-online learning environments provide **different experiences** of learning math than in traditional classrooms: **decrease in opportunities to talk about math**

- While research shows that **discourse promotes robust reasoning and deep understanding of complex concepts, studies have not used virtual school data** to examine how discourse works for improving math performance

- We analyzed empirical data to examine **if participation in synchronous discourse sessions matters for math performance** in an online learning environment

Pearson

Research Questions

RQ1

Is there a relationship between **participation in math discourse** and **students' confidence, self-efficacy toward math and math mindset?**

RQ2

Is there a relationship between **participation in math discourse** and math **performance** in the course and on the state assessments?

Study Design and Participants

Participants

- 898 students in grades 3, 4 and 5
- 5 fully-online virtual elementary schools
- 2016-2017 school year (two semesters: A and B)

Study Design

- A retrospective study using online platform data
- Participation in the discourse sessions was **voluntary but strongly recommended** at the classroom and school levels
- Participation was tracked in terms of three variables
  - **Number of participated sessions** per each semester
  - **High vs. low participation**: yes if attended 6 or more sessions
  - **Semester participation pattern**: A only, B only, or A and B

Implementation of Discourse Sessions

Session Format and Implementation

- Synchronous, small-group, verbal and visual communication environment with 1:1 to 10:1 student-facilitator ratio

- Embedded in the math courses that are normally asynchronous with flexible schedules

- Sessions occurred once about every 7 lessons

  o The queue was open during the normal school hours in the weekdays: students accessed the sessions through a link to the queue in their course for each designated lessons

  o New math problems each week (easy to moderate difficulty)

- Students were given opportunities to participate from 9 to 11 discourse sessions per semester (depending on grade level and courses)

Implementation of Discourse Sessions

Session Facilitator Roles

- Each session was facilitated by one of eight math subject experts who received a degree in mathematics
- They received formal training on
  - presenting the problem,
  - guiding the students in the discussion to focus on the process and different ways of approaching the particular problem rather than arriving at the solution,
  - encouraging students to talk to one another about their thought processes, and
  - giving feedback that promotes growth mindset.

Pearson

Implementation of Discourse Sessions

Desired Participant Actions

- The facilitators encouraged participants' actions such as
  - interactively communicating with each other about mathematical reasoning and problem-solving using screen sharing,
  - explaining and justifying,
  - listening carefully,
  - seeking understanding,
  - asking questions that clarify, and
  - comparing different approaches to the same problem

Methods

Dependent Variables

- Mindset (alpha=.40), confidence, and self-efficacy towards math (alpha=.45)
  - Interchangeably collected after every 2-3 sessions to see trends
- Math performance measures
  - Final course scores: scale of 0 to 100. Collected at the end of each semester for the current and previous school years.
  - State assessment results: 1 if advanced or proficient. 0 if basic proficiency or below basic proficiency. Collected at the end of the current school year.

Methods

Independent Variables

- High vs. low participation: yes if at least 6 sessions in a semester
- Number of participated sessions in a semester
- Semester participation pattern: A only, B only, or A and B both
- Prior year final math course score: 0 to 100

Statistical Methods

- RQ1. Confidence, Self-esteem, and Mindset: Changes Over Time
  - Paired t-tests between the session means
  - Only with the sample who answered every time the measures were administered
- RQ2. Effects on Math Performance
  - Generalized linear models
  - Unit of analysis: a student's record for a semester

Exploring the impact of small-group synchronous discourse sessions in online math learning | 10

Finding 1. Confidence, Self-esteem, and Mindset Did Not Change Significantly
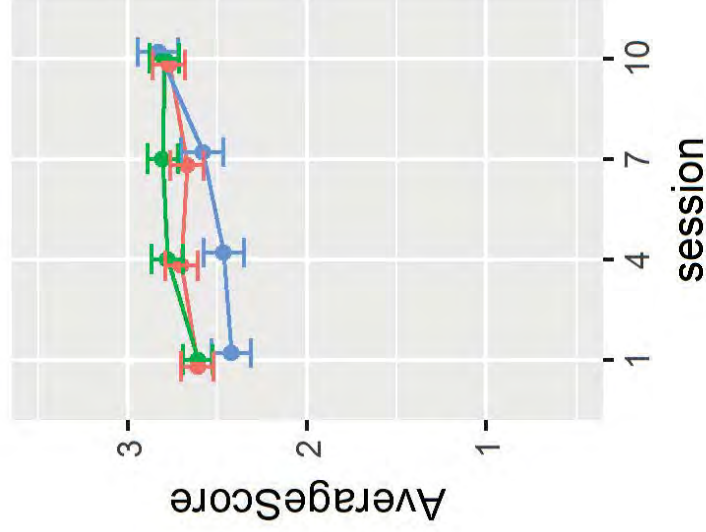
<- Semester A (N=561)
confidence and self-esteem showed a slightly increasing trend

Semester B (N=476)->
confidence and self-esteem slightly decreased then increased
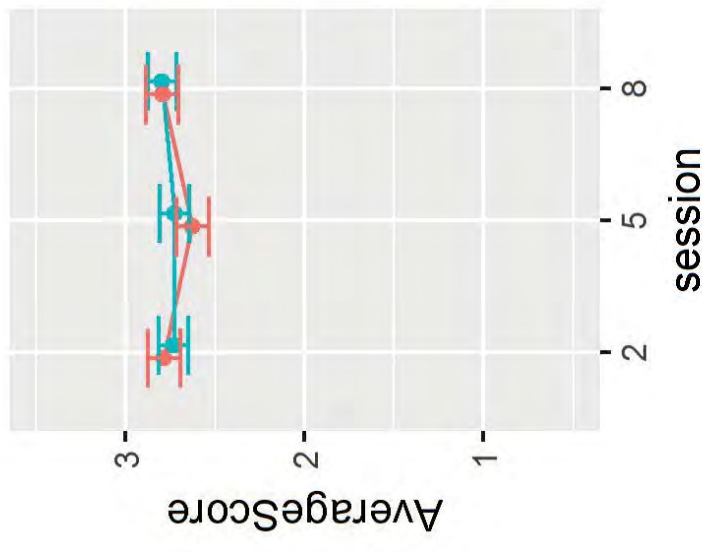
However, differences were either **not significant or practically very small.** **Mindset results showed similar** pattern, while at all sessions the average score showed '**growth' mindset** rather than 'fixed' mindset.

Finding 2. Participation in Discourse Showed Positive Effect on Math Performance

Model 1 (N=868)
Y: Final Course Score

High vs. low participation

Number of participated sessions

(1.423 increase in score for an added session)

Semester participation pattern

Prior year final course score

Semester B course (vs. A)

Locations

Grade

Model 2 (N=562)
Y: State Assessment Result

High vs. low participation

Number of participated sessions

(19% increase in the odds of Proficient and above)

Semester participation pattern

Prior year final course score

Semester B course (vs. A)

Locations

Grade

Bolded: the estimates were statistically significant at alpha = .05 level

Pearson

In a Simpler Model, High Participants Had Twice the Odds of Scoring At or Above Proficient

Probability of Scoring At or Above Proficient in State Assessment 2016-2017

Study Participants
— Participated in less than 6 discourse sessions in 2016-2017
— Participated in 6 or more discourse sessions in 2016-2017
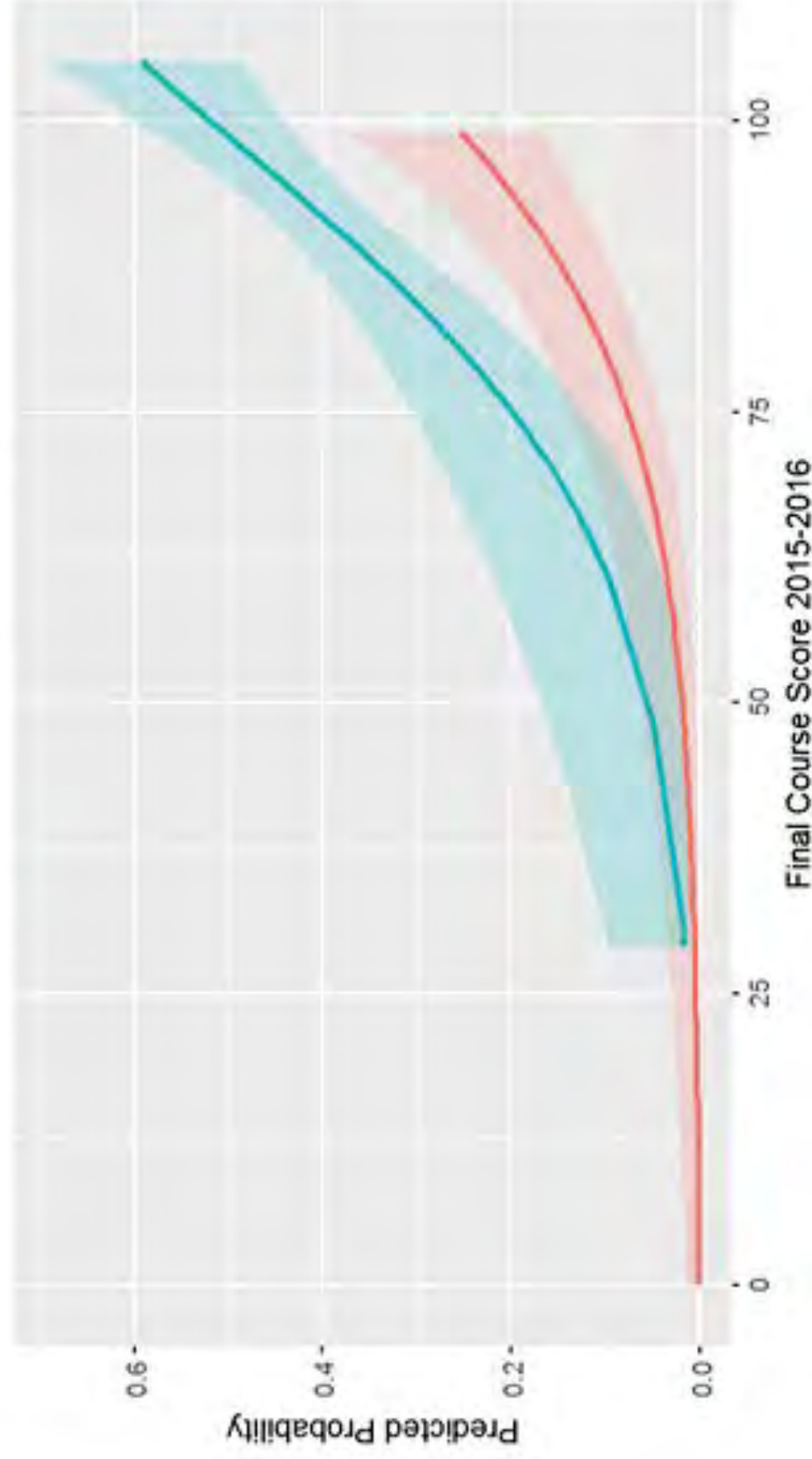
Summary: Math Performance is Higher for Students who Participate in More Synchronous Discourse Sessions

- Fully-online K-12 virtual school students have shown **lower performance in math** possibly due to high mobility

- We analyzed empirical data to examine if participation in **synchronous discourse sessions** matters for online math learning.

- In 2016-2017 school year, we embedded synchronous discourse sessions in math courses at **5 fully-online virtual elementary schools.**.

- Students who **participated in more discourse sessions had higher odds of scoring at or above Proficient level** in the state assessments.

P Pearson

Next Steps: What actually happened in the sessions?

- How was the implementation fidelity?
- The main finding was highly consistent with previous literature on math discourse, but our analysis did not tell us why students had higher outcomes. What elements of the activities within the sessions were really related to the outcomes?

Pearson

Thank you!

Any questions or suggestions?
jinnie.choi@pearson.com

APPENDIX E – RTI AT-A-GLANCE FLOWCHART

RTI AT-A-GLANCE FLOWCHART

Tier I

Academic or behavioral concerns noted by Homeroom, Content, Advisory Teacher, and/or or Learning Coach

↓

Teacher and Caretaker discuss concerns

↓

Tier I core curriculum with differentiated activities attempted and documented in student's Log using differentiation log tag. Teacher identifies and documents multiple data sets in the student's **Greatest Area of Need (GAN)** over a four-week time frame

↓

Successful
Document baseline data in the student's Log and continue as needed

Unsuccessful
Refer to SST for potential Tier II intervention

Recommended Student Support Team (SST) Members

- Parent/Caretaker
- Student
- HR/Advisory Teacher
- Classroom/Content Area Teacher
- Administrator
- SST/RTI Lead
- School Counselor
- Intervention Specialists
- Special Educator
- Success Coaches, if applicable

Tier II is concurrent with parental request for special education evaluation.

Tier II

SST meets to assess problem and initiate first Tier II intervention

↓

Data collected every 2 weeks and documented in Log using Intervention Tier II/III tag

↓

At 6–8 weeks: SST meets to review performance

↓

Successful
Document in Log and continue as needed **or** move back to Tier I

Unsuccessful
Document in Log and continue in Tier II
Ask: Should intervention be changed? If yes, change intervention.

↓

Data collected every 2 weeks and documented in Log using Intervention Tier II/III tag

↓

6–8 weeks later: SST meets to review performance

↓

Successful
Document in Log and continue as needed or **move back to Tier I**

Unsuccessful
Document in Log and go to Tier III (non-special education)

If intervention is part of a special education evaluation, follow state timeline and determine intensity in an SST meeting.

Tier III

Student receiving Tier III interventions

↓

Data collected weekly and documented in Log using Intervention Tier II/III tag

↓

At 6–8 weeks: SST meets to review performance

↓

Successful
Document in Log and continue as needed **or** move back to Tier II

Unsuccessful
Document in Log and continue in Tier III

↓

6–8 weeks later: SST meets to review performance

↓

Unsuccessful Student is not making progress even with Tier III interventions document in Log.

↓

Referral to special education

Special Education (3*)

Special education team meets to review RTI data and recommend evaluation

↓

Evaluation completed in state-required time frame

↓

Multidisciplinary Evaluation Team meets to review results and determine eligibility for special education

↓

Student is eligible for special education

Student is not eligible for special

Special Education programming

Tier III programming: consider dropping electives

STATE PUBLIC CHARTER SCHOOL AUTHORITY

1749 North Stewart Street Suite 40
Carson City, Nevada 89706-2543
(775) 687 - 9174 · Fax: (775) 687 - 9113

BRIEFING MEMORANDUM

TO: SPCSA Board

FROM: Patrick Gavin, Executive Director

Mark Modrcin, Director of Authorizing

SUBJECT: Agenda Item #6: Recommendation Report regarding Nevada Connections Academy's Elementary School Improvement Plan

DATE: August 6, 2018

Nevada Connections Academy (NCA) is an online school serving students in grades Kindergarten through 12. The school originally opened under a written charter from 2007 to 2013. In 2013 the charter school applied for renewal which was subsequently approved. Nevada Connections Academy and the Authority entered into a mutually agreed – upon settlement which expires at the end of the 2019 – 2020 school year. This was a result of Notices of Intent to Revoke the written charter issued on September 30, 2016 and February 10, 2017 pursuant to NRS 388A.330 based on the high school's graduation rate. The school currently serves over 3,000 students statewide.

NCA's elementary program (grades K-5) was recently rated as a 1-star school under the Department of Education's Nevada School Performance Framework (NSPF). Historically, the elementary school program has demonstrated average performance at best, earning a 3-star rating in both 2012 and 2013. However, during the current charter term, performance according to the NSPF has been below average. In fact, performance has declined as the elementary school program has earned 1 or 2-star rating in both 2014 and 2017.

Consequently, NCA received a Notice of Breach on March 12, 2018 due to its elementary school receiving a 1-star rating under the Department of Education's Nevada School Performance Framework. The elementary program earned an index score of 24.44. Absent an approved corrective action plan, including commitments to specific achievement targets, a third consecutive rating at the 1 or 2-star level would result in the school receiving a Notice of Intent to terminate based on persistent underperformance.

Summary of the Process:

As mentioned previously, NCA received a Notice of Breach due to the underperformance of the elementary school program due to being rated as a 1-star school under the NSPF for both the 2016 –

2017 school year and the 2013-14 school year. To provide the school with an opportunity to address these academic deficiencies, SPCSA staff required the school submit the following information by May 4, 2018:

- A thorough description of the most essential features of the proposed academic change(s) to the education program NCA plans to implement to correct the level of underperformance. This may include programs (e.g. curriculum, PD, afterschool programming, parent program), principles (e.g. no excuses, individualized learning, learn at your own pace) and structures (blended learning, small learning communities, small class sizes). The school was asked to also provide:
  - o A thorough description why these approaches were chosen, and how NCA data supports these selections;
  - o How these approaches are different from those previously implemented;
  - o A thorough description of how these approaches will effectively serve all students across achievement levels, including those that are not proficient; and
  - o Strong evidence from independent research that meets the strong evidence standard set forth in section 8101(21)(A) of the ESEA.

- Outline the clearly measurable interim and annual performance and growth goals that the school proposes in order to meet or exceed SPCSA performance expectations under the Nevada School Performance Framework. Be sure to include the following information for context:
  - o Describe how the baseline performance was set;
  - o Articulate how the organization will measure and evaluate academic progress throughout the school year, at the end of the academic year, and the entire school year. This includes the performance of individual students, student cohorts, subgroups and the entire school; and
  - o In addition to mandatory state and Authority testing, identify the primary interim academic assessments the school will use for internal purposes to analyze student learning needs and ensure progress towards SPCSA and state proficiency targets. Please describe how these will be used and provide independent statistical evidence that the instrument is strongly correlated with and predictive of results on either the Smarter Balanced Assessment or the ACT.

- To support the academic goals and benchmarks outlined above, NCA should describe the following:
  - o How teachers and school leadership will be supported in developing capacity around these benchmarks and assessments; and
  - o Should the school fall short of the benchmarks highlighted above, explain what steps the school will take school-wide and/or at the classroom level. To address this level of underperformance, NCA should detail what would trigger such corrective actions and who would be responsible for implementation.

- Individual student attendance information for the 2015 – 2016 and 2016 – 2017 school years, pursuant to NAC 387.193.

- Minutes of each public NCA Board meeting since July 1, 2015 through March 12, 2018.

The school submitted an elementary school improvement plan to Authority staff in response to the requests above on May 4, 2018. The school also provided additional information in response to staff's clarifying questions on June 14, 2018. A copy of the Notice of Breach, and both the initial and clarifying responses are attached to this recommendation.

As discussed below, SPCSA staff recommends that the Authority Board accept this plan, with conditions, but leave the school under a continuing Notice of Breach until the 2018-2019 NSPF ratings are released in the Fall of 2019. At this time, sufficient information and data will be available to make an informed decision about continuing along the intervention ladder, or returning the school to Good Standing. As NCA's current charter contract expires on June 30, 2020, the question of whether the school has met the achievement targets set forth in the plan will also be a primary consideration for the Authority at the time of the renewal decision in the winter of 2019-2020.

Nevada Connections Academy Response to Notice of Breach and Staff Analysis:

School Improvement – Programs and Structures

According to the response submitted by Nevada Connections Academy, the submitted Elementary School Improvement plan is not only a response to the Notice of Breach issued by the Authority, but is also an outline of efforts that have been ongoing for over a year as the school has been making efforts to improve the overall performance of students. The plan is divided into three main sections: proposed academic changes, interim and annual performance growth goals, and supporting goals and benchmarks.

Under the proposed academic changes for the 2018 – 2019 school year, the NCA plan contemplates seven programmatic changes and interventions that are, according to the proposal, supported by research and can lead to school improvement.

The first change in programming is the implementation of a new curriculum, enVisionMath. The school underwent some changes during the 2017 – 2018 school year, but more drastic changes will be implemented this upcoming year as the curriculum incorporates a blended approach of traditional and investigative learning techniques that emphasize problem-based interactive learning opportunities, visual learning strategies, embedded assessment, and data-driven remediation. This curriculum was chosen based upon considerable research containing base alignment specific to the Smarter Balance (SBAC) standardized testing protocol. Additionally, NCA notes in its submission that students receiving instruction through enVisionMath curriculum at other schools have shown significant improvement in their mastery of math concepts and problem-solving, math computation, and math vocabulary. There was also evidence of accelerated growth rates for students during the second year of this curriculum.

A second math program NCA will be implementing in 2018 – 2019 is Math, We Got This! (MWGT!). This initiative focuses on expanding student engagement, shifting how students, teachers and Learning Coaches think about math, and tying math to real-world examples. More specifically, the program will enhance the curriculum by developing students' oral and written communication skills around math, and providing additional math time to those students identified as Tier 2 or 3 students identified on formative assessment.

Within this initiative, each grade level and school curricular department will own a piece of math and propose to assess ways that their group could contribute to improving student outcomes. Elementary teachers will also receive specific MWGT! professional development, and this will be required of all returning teachers as the previous regimen was not successful and did not exclusively focus on math. Professional development under this initiative is to occur monthly during the 2018 -

2019 school year, and the school already has specific subjects to be covered in each month of the year, beginning in September. Teacher participation will be monitored by K-8 administrators, the managing teachers and the school leader. All staff members, both new and returning, are required to participate per their evaluation competencies. Learning Coaches also have the option of accessing the Learning Coach Central resource hub to assist their students. Participation is voluntary in these sessions, but Learning Coaches of "at-risk" students will be encouraged to attend appropriate sessions.

The third and final programmatic change for math to be implemented in 2018 – 2019 is Math Time to Talk (Math TtT), which are small group LiveLesson sessions moderated by Pearson Online and Blended Learning math subject experts that appear in student courses approximately every seven lessons. These 30-minutes sessions are focused on increasing the ability of students to engage in math discourse in such a way that promotes an increase in conceptual understanding. Sessions are designed to reinforce key math skills, improve problem solving, and strengthen math vocabulary and communication skills. NCA teachers will receive training from Pearson in effective strategies for promoting math discourse.

According to the proposal, research indicates that talking about math is a key activity to support students' active engagement in math thinking, reasoning, and problem solving. During the 2016 – 2017 school year, students in grades 3-5 at two Connections Academy schools participated in a pilot of the Math TtT program. The outcomes of this pilot were closely studied and verified in order to decide whether the program was successful, and it was determined that students participating in at least six session of the Math TtT had significantly higher final math course scores than the group that did not.

NCA also plans to implement two programmatic changes for the delivery of English Language Arts (ELA) content. The first is a shift to a new curriculum, Wonders, for students in Kindergarten through 5th grade. This curriculum was chosen based on considerable research containing base alignment specific to the SBAC standardized testing protocol and is aligned to four research-based design principles, including an engaging learning environment, the opportunity for students to practice, review, and revisit concepts, assessments that are varied, relevant and frequent, and consistent course and lesson structures. To find an optimal curriculum for NCA students, the school opted to utilize curriculum from a Pearson competitor, McGraw Hill, which is noteworthy. The change to the Wonders curriculum began in the 2017 – 2018 school year, but NCA is confident that the results and improvement under this curricular shift will be magnified after two years of implementation.

A new ELA programmatic change that NCA plans to implement under this plan for 2018 – 2019 is to leverage the Lexia Reading Core5 system. This platform is data-driven by student outcomes, providing targeted instruction by a teacher or paraprofessional, empowering students to build their fundamental literacy skills through technology and direct instruction. The Lexia Reading Core5 platform aims to increase student proficiency in six areas: phonological awareness, phonics/phonemic awareness, structural analysis, fluency, vocabulary, and comprehension. According to the proposal, multiple studies published in peer-reviewed journals indicate that Lexia Reading Core5 has been found to accelerate the development of reading skills, improve standardized test scores for elementary school students as well as help close the reading gap for targeted populations such as students that have been identified as low performers as well as English learners.

NCA also contemplates two additional changes in student support structures to be implemented in the 2018 – 2019 school year. The first is provide a number of nationally-facilitated LiveLesson sessions to Learning Coaches throughout the school year to assist in supporting their students with language arts. According to the submission, data shows that only 34% of K-5 Learning Coaches

took advantage of this training for the 2017 – 2018 school year. These trainings have been available to all coaches in the past, but have not been promoted specifically to parents of K-5 students. According to the proposal, NCA plans to enhance not only the quality of provided trainings, but also disseminate more information on these opportunities through WebMail messages, home page announcements, the Learning Coach Link, and the monthly newsletter for Learning Coaches.

Finally, as part of its school improvement plan, the school is retraining all teachers on the multi-tiered instructional approach for the 2018 -2019 school year to ensure that teachers are aware of all strategies and available resources to help students, especially those that are at-risk. This includes retraining teachers in the Response to Intervention (RtI) program/protocol as well as how to interpret data to make instructional decisions, document their work with students, implement differentiation strategies, and support students who are not progressing or engaging in the instructional program. In its response to the clarifying questions from staff, NCA noted that this program was in place previously, but it was not being utilized effectively by all teachers due to annual turnover and changes to the program, thus necessitating a school-wide mandate to retrain. Teachers new to NCA are enrolled in the introduction and instructional-based series; second year teachers in the expanding beyond first-year resources series; third-year/veteran teachers in the refreshed information and retraining series.

Of the programmatic changes described above, staff is pleased that the school details a variety of research-based programs and strategies. NCA appears to have invested significant time and resources to investigate these programs and to determine the best fit for Nevada students. For example, SPCSA staff would agree that ensuring that both the enVisionMath and Wonders curriculums are aligned to the SBAC testing battery is a critical step, and a likely improvement from previous practices. SPCSA staff was also encouraged that the school plans to undertake significant steps to train staff on these changes. The detail provided for the MWGT! teacher training was thorough, and clearly defined the scope and frequency of the professional development to be provided. The submission also provides particulars on how all staff will be retrained on the RtI protocols, and the scope of resources and trainings available to Learning Coaches.

SPCSA staff did observe a few gaps within this section that are noteworthy. First, the school only provided training information for returning teachers under the MWGT! initiative, and did not detail how new teachers will be trained. This is a missing element that could be problematic if the school has high teacher turnover at the elementary school for the upcoming school year. Another issue identified in staff's review is that the Math TtT program also does not appear to be taught by teachers that are licensed or necessarily employees of NCA. The submission does note that the individuals leading this synchronous program will be trained math specialists who have a degree in mathematics. Additional details about their background and what type of training they receive is not provided, which is somewhat problematic given that the implementation and any success is in unknown hands. Lastly, SPCSA staff has concerns about the requirements outlined for Learning Coaches during their orientation. Learning Coaches are frequently the parent or guardian of a virtual school student, and can be construed as a volunteer under Nevada statute and regulation. Per R131-16, it is not permissible for any public charter school to maintain a requirement to volunteer. Additionally, a charter school may not require a parent or guardian to attend informational meetings or discriminate against students whose parents are unable or unwilling to do so. These specific provisions were placed in regulations based on concerns raised by the U.S. Department of Education related to prohibited practices it identified in Nevada charter schools. Consequently, SPCSA staff cannot endorse NCA's plan to require Learning Coaches to complete orientation training, as outlined on page 7 of the school's clarifying responses, as a condition of initial or ongoing enrollment. The school must ensure that it notifies parents that while serving as a Learning

Coach and attending or participating in Learning Coach-specific or more general parent trainings is strongly encouraged and is demonstrated to improve student outcomes, the school cannot and will not consider such factors in any initial or ongoing enrollment decision or in any disciplinary or academic decision related to a student.

The elementary school improvement plan also includes some structural changes to how teachers will become stronger in data driven instruction. In the 2018 – 2019 school year, Professional Learning Communities (PLCs) will be focused on two main areas: elementary math and elementary English language arts. In their PLCs, teachers will develop common grading practices, assignment expectations, and re-teaching and relearning policies. For the 2018 – 2019 school year, the entire NCA staff will meet on a bi-weekly basis. Another noteworthy change is a focus on SMART goals during PLCs so as to track the effectiveness of the multiple components of the school's improvement plan. Previously, PLCs were spent as a way to identify and monitor the progress of at-risk students and place them into interventions. In the 2018 – 2019 school year, PLC participation and progress will be monitored by K-8 administrators, the managing teachers, the school leader managers and the school leadership team. This will be a significant investment of teacher time to plan and implement effectively, and will be a non-negotiable expectation for all staff members, per their annual evaluation competencies.

Performance Goals—Annual and Interim

The improvement plan detailed above aims to address the severe underperformance of the elementary school as evidenced by the recent 1-star rating under the NSPF and an index score of 24.44 out of a possible 100 points.

To move from a 1 to 3-star school, NCA has set forth an annual goal of increasing its overall NSPF index score by an average of 20% across the areas of Academic Achievement, Student Growth, Closing the Opportunity Gaps and Student Engagement in each of the next four years. Stated another way, the school aims to increase its NSPF index score by 20% so as to be a 3-star school at the end of the 2020 – 2021 school year. This is an ambitious goal and will require immediate evidence of improvement in the ratings for the 2017 – 2018 school year, which are scheduled to be released in September. The school does believe that it has made sufficient improvements to meet its 2017 – 2018 index score benchmark of 29.32, an approximate 5-point increase in the index score from 2016 – 2017.

Year	Star Calculation	Point Increase from Prior Year	% Increase from Prior Year	Star Rating
2016-17	24.44	Baseline	Baseline	One Star
2017-18	29.32	4.88	20.0%	Two Star
2018-19	35.18	5.86	20.0%	Two Star
2019-20	42.21	7.04	20.0%	Two Star
2020-21	50.7	8.77	20.0%	Three Star

The school will be leveraging two formative assessments to help monitor student progress. The first is the Measures of Progress (MAP) assessment, which was initially offered this past school year in grades 3-5. According to the submission, in 2018 – 2019, the school will be offering this exam at all elementary grades so as to inform all elementary grade level teachers of student

progress, with a particular focus on three student subgroups: lowest performing students, 3rd grade reading, and new NCA students. Subject-specific PLCs will structure SMART goals to assist in the monitoring of performance for these subgroups, which have a great impact on the overall NSPF score.

According to the proposal, the school also plans to continue to implement the Longitudinal Evaluation of Academic Progress (LEAP) formative assessment as the school's pre-, mid-, and post-assessment. All students in grades K-5 will take the LEAP Math and English/Language Arts assessments. According to the proposal, these assessments will help NCA teachers understand the current academic state of each student. Once pre-tests are completed in the fall, teachers and parents have access to an individualized report that provides academic information to assist in identifying skills, strengths, and weaknesses of each student. This same information will be used to inform goal setting for students, PLC discussions and analysis.

Overall, SPCSA staff finds that the interim assessment plan is strong, and is set up to inform teacher practices as well as to differentiate students among key subgroups. The MAP assessment is a well-respected exam, and was adopted by NDE as part of the Read by Grade 3 initiative. It has not been adopted by Nevada as an upper elementary and middle school assessment, however. At present, there is only limited, publisher-produced analysis to support the predictability of the MAP assessment in relation to performance on the Smarter Balanced examinations. The school may have to supplement the MAP with other data sources, such as the SBAC interims, to make a determination as to what levels of MAP growth and what MAP scoring levels correspond with SBAC growth and proficiency targets in the NSPF. In contrast, it is noteworthy that NCA provided an independent assessment analysis of the effectiveness of the LEAP assessment in and its predictive nature of student achievement on a state assessment. While not Nevada-specific, this study confirms that the LEAP assessment has the ability to distinguish which students are likely to be successful on the end-of-year SBAC examination, but also those that are not likely to be successful. Overall, the assessment plan is logical and can setup teachers and administrators to analyze timely student data.

SPCSA staff does have reservations about the school's ability to achieve an average of 20% growth in its index score according to the NSPF over the next four ratings. The current score of 24.44 indicates that the school is one of the lowest performers in the entire SPCSA portfolio, both in terms of student growth and proficiency. To increase proficiency, SPCSA staff would expect that the school would have very high growth goals under this plan so as to sustain a moderate increase in proficiency over the next four years. Stated another way, sustained proficiency improvement is impossible without an increase in student growth that is dramatic. SPCSA staff is not as confident that the school can make gains that average 20% annual growth over the next four years.

Teacher and School Leadership Support

In addition to the professional development described within the Programs and Structures section and the content to be prioritized during PLCs, NCA recognizes that teaching in a virtual school environment is a specific skill and requires both initial and ongoing professional development. According to the NCA submission, topics for professional learning sessions support core standards for facilitating student learning, align to the school year cycle, and are driven by the belief that all students can and must learn. Through trainings, teachers will be equipped with a working knowledge of the Pearson curriculum, strategies and effective practices for virtual instruction, the ability to effectively use tools to monitor student progress, and a strong understanding of the multiple forms of assessment to interpret performance data. According to the proposal, NCA leadership expects teachers to annually participate in ten professional development days and to complete assigned professional learning activities.

The professional development days requirement, in addition to other mechanisms such as PLCs, are positive improvements in the development structures for NCA staff. If executed successfully, SPCSA staff agrees that they could improve the effectiveness of the elementary school staff.

Overall Recommendation: Approve with Conditions

Staff, with some reservations, recommends that the Authority Board accept the Nevada Connections Academy Elementary School Improvement Plan, but with conditions so as to more fully understand the school's ability to execute on its assurances. These conditions are as follows:

- Elementary teachers will receive specific MWGT! professional development which is to occur monthly during the 2018 - 2019 school year. According to the NCA proposal, teacher participation will be monitored by K-8 administrators, the managing teachers and the school leader. *SPCSA staff requests that NCA submit attendance logs, with corresponding teacher signatures verifying attendance, for all monthly MWGT! trainings. These logs and signatures should be submitted quarterly, beginning in October 2018. All such materials must be submitted into Epicenter.*

- NCA data shows that a small group of K-5 Learning Coaches have participated in offered trainings in the past. Beginning in 2018 - 2019, these trainings will be promoted specifically to parents of K-5 students. *SPCSA staff requests a final schedule of LiveLesson trainings to be available to elementary Learning Coaches in the 2018 – 2019 school year so that an appropriate SPCSA staff member can also attend. Additionally, staff would like for the school to track Learning Coach participation in these sessions for the 2018 – 2019 school year. These forms should be submitted quarterly, beginning in October 2018. All such materials must be submitted into Epicenter.*

- NCA is retraining all teachers on the multi-tiered instructional approach and the RtI process for the 2018 -2019 school year to ensure that teachers are aware of all strategies and available resources to help students, especially those that are at-risk. *SPCSA staff requests that NCA submit attendance logs, with corresponding teacher signatures verifying attendance and completion of this training, for all elementary school teachers by October 1, 2018, or another mutually agreed-upon date. All such materials must be submitted into Epicenter.*

- For the 2018 – 2019 school year, the entire NCA staff will meet in PLCs on a bi-weekly basis. PLC participation and progress will be monitored by K-8 administrators, the managing teachers, the school leader managers and the school leadership team. *SPCSA staff requests that NCA submit all agendas and monitoring logs for PLCs, with corresponding teacher signatures verifying attendance, for all bi-weekly PLCs on a quarterly basis, beginning in October 2018. All such materials must be submitted into Epicenter.*

- According to the proposal, NCA leadership expects teachers to annually participate in ten professional development days and to complete assigned professional learning activities. *SPCSA staff requests that NCA submit attendance logs, with corresponding teacher signatures verifying attendance, for all ten professional days required by the school for the 2018 -2019 school year. All such materials must be submitted into Epicenter.*

If this recommendation is approved, SPCSA staff will provide NCA with guidance on how this information should be reported so as to be easily understandable for all parties.

Finally, SPCSA staff remains concerned about the high student mobility rates that are present at Nevada Connections Academy. The school has provided a variety of information related to the level of student turnover schoolwide, including at the elementary school level and cites a range of research related to pupil mobility in brick and mortar schools. It is unlikely, however, that student mobility in virtual schools stems from similar issues. In brick and mortar schools, student mobility is highly correlated with poverty and housing issues. As students move from one neighborhood to another, they change school zones and most likely change schools.

As demonstrated by the scatter plot below, student transiency is strongly correlated with eligibility for free and reduced priced lunch, the primary proxy for poverty in school-based settings. The correlation between FRL and transiency rate can be seen below. As you can see, the red line, which represents the line of central tendency, shows a strong relationship between transiency and pupil income, with schools that have higher FRL populations experiencing substantially greater levels of transiency.
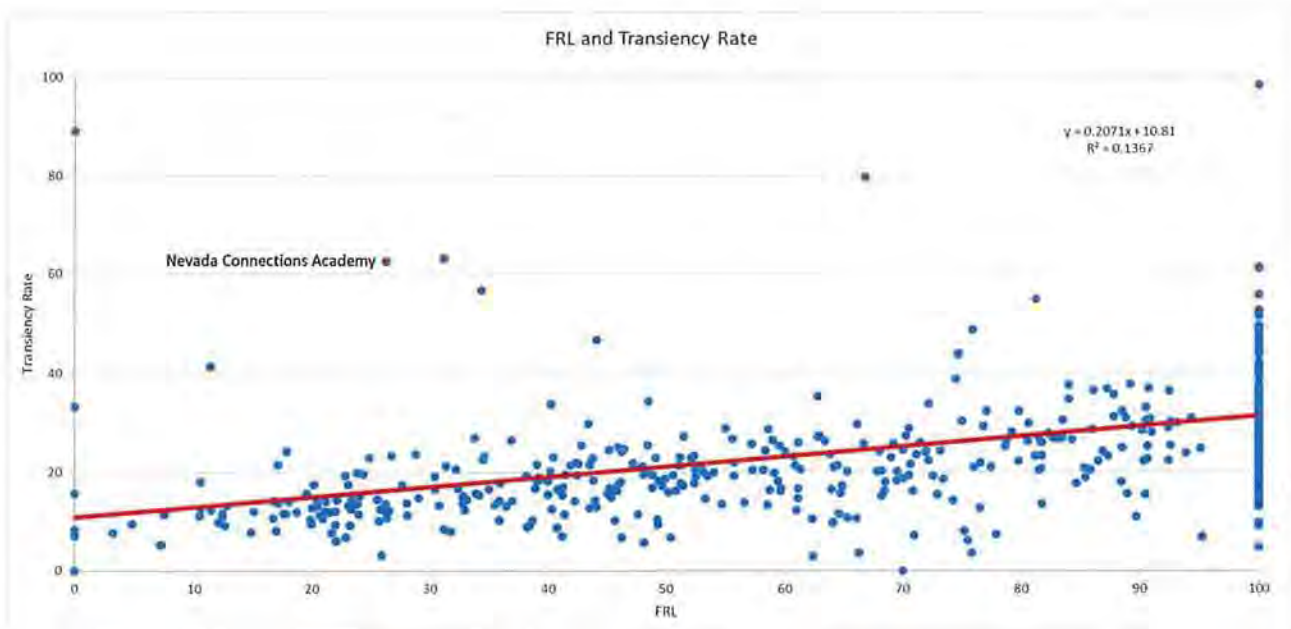

Figure 1: Correlation between FRL rate and transiency rate

It is important to note that NCA's transiency rate is far higher than one would predict based on its FRL rate. It is likely that this distinction is related to the differences in the virtual school context instead of being a result of an intrinsic student characteristic. In contrast to the circumstances of students in brick and mortar schools, a student in a virtual environment who moves from one community to another does not need to change schools due to geographic proximity. A virtual school like NCA serves students statewide and such schools commit to provide items such as computers and services such as internet access to students who would otherwise be unable to access the program. Consequently, it seems more likely that student mobility in virtual schools like NCA is based more on factors that are within the control of the school, such as customer service issues that disengage parents and students or the need for more intensive services and supports for students who are falling behind academically.

Moreover, even if one were to assume that student transiency or student poverty was the efficient cause of the school's low levels of performance, it is important to note that this is not borne out by

the evidence. In comparison to elementary and middle schools statewide, NCA's elementary school performs substantially lower than schools with similar FRL rates.

In order to determine the relationship between 2 predictor values (Transiency Rate & FRL) and the outcome of index score, Staff analyzed the relationship between NCA's elementary index score and its FRL rate, performing a linear regression analysis to assess the correlation between socio-economic status (as measured by FRL rate) and the school's elementary index score. First, a simple linear regression was calculated to predict the likely index score based upon a school's FRL rate. This predicted score for a given FRL rate is indicated with the red line in Figure 2.[1]
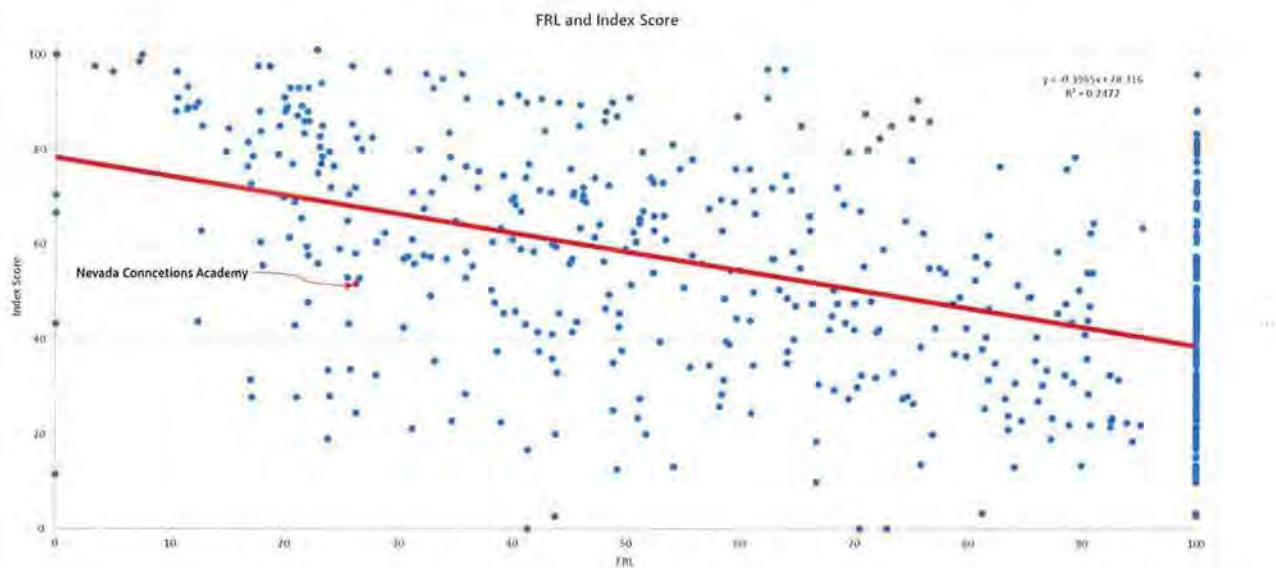

Figure 2: Correlation between FRL rate and NSPF index score

The results of the regression suggested that poverty explained 24% of the variance, $R^2 = 0.2472$ which it is stronger degree of linear relationship than transiency rate when we compare with the out come of index score.

Second, Authority staff reviewed the relationship between schools self-reported and un-validated student transiency rates and elementary and middle school index scores. As in the case of the FRL and index score analysis, staff calculated a linear regression to identify the predicted index score based upon a school's reported rate of student mobility. In contrast to the assertions made by NCA, there appears to be only a weak correlation between transiency and index score. [2]

---

[1] The results indicated a negative slope (slope -0.3965, intercept 78.316) with an R^2 of 0.2472   The correlation coefficient between poverty and index score is -0.49722. This means that as FRL rates increase, index scores are likely to decrease for a typical school.

[2] The correlation coefficient between student mobility and index score is -0.38 which consider as weak negative linear relationship. The results indicated negative slope (slope -0.5409, intercept 65.958) with an R^2 of 0.1496.
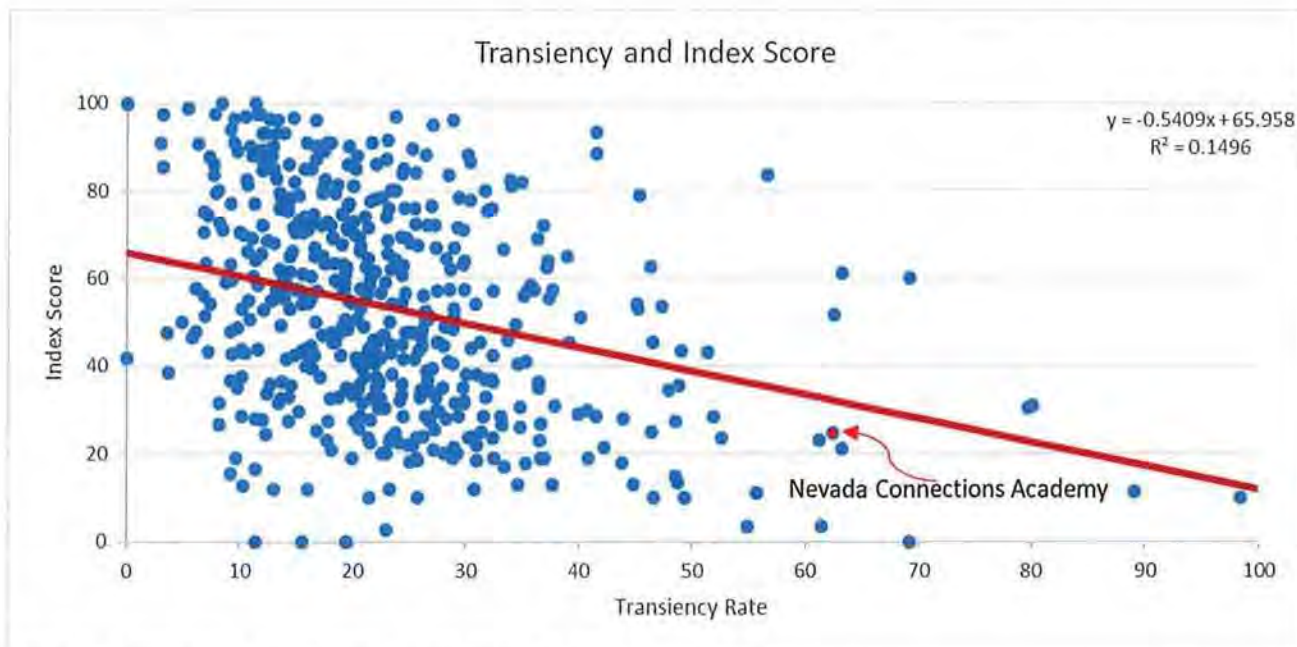
Figure 3: *Correlation between transiency rate and index score*

The results of the regression analysis suggest that student mobility explained 14% of the variance in index scores ($R^2 = 0.1496$). which indicates that student mobility is not highly correlated with index scores by itself. Additionally, the school has previously provided compelling testimony citing the challenge of what staff anecdotally term "boomerang students,' pupils who may fail to attend for two consecutive weeks or voluntarily withdraw and then choose to re-enroll. Under the current, over-the-counter model of enrollment that occurs in virtual schools that are able to accept an unlimited number of students, there is no disincentive for families to withdraw their students for periods of time and then re-enroll them. No matter how many new student's have backfilled the vacancies created by such withdrawals, the family can re-enroll their previously withdrawn pupil at any time. This model stands in stark contrast to the over-the-counter but zone-limited enrollment practices of traditional public schools and the lottery, enrollment cap, waitlist, and backfill practices that Nevada has mandated for charter schools.

To combat the high levels of student turnover at the elementary school, SPCSA staff recommends that the Board exercise its authority to mandate grade-by-grade student enrollment caps in the 2018 – 2019 school year to stabilize the student population. SPCSA staff recommends that enrollment be capped at the numbers in the chart on page 12 of this memo, with no new students being permitted to enroll after October 1, 2018 for the 2018 – 2019 school year. Any students currently enrolled as of August 13th in a grade that has more students than the cap provides would be grandfathered into the school. New students wishing to enroll into grades that have enrollment above the established enrollment cap cannot do so until a time when the school has space available under the enrollment cap. Recognizing the importance of engaged and invested families, faculty, and governing body members, staff further recommends that this condition not apply to siblings of current NCA students, children of NCA staff, or children of the NCA Board.

Proposed Enrollment Caps

Grade	Cap
Kindergarten	250 students
1st grade	250 students
2nd grade	250 students
3rd grade	250 students
4th grade	250 students
5th grade	250 students
TOTAL	**1,500 students**

Historical Performance, Enrollment and Demographic Information:

Nevada School Performance Ratings – NCA Elementary School

School Year	Rating
2013	3 – star
2014	2 – star
2015	2 – star (continued)
2016	No star ratings released
2017	1-star
2018	*To be released in September*

School Demographic Changes since 2015

Year	Total Enrollment[3]	A	B	C	H	I	M	P	IEP	ELL	FRL
15-16	2851	3.4%	10.1%	54.7%	21.2%	0.7%	8.3%	1.3%	8.3%	0.6%	43.1%
16-17	3091	3.2%	9.8%	53.8%	22.5%	0.4%	9.6%	0.0%	8.6%	1.0%	42.8%
17-18	3199	2.9%	11.0%	50.2%	23.5%	0.8%	10.2%	1.1%	8.4%	0.9%	8.4%

A – Asian
B – Black
C – Caucasian
H – Hispanic
I – American Indian/Alaskan Native
M – Mixed/Two or more races
P – Pacific Islander
IEP – Individualized Education Plan –A student with a disability/special education student
ELL – English Language Learner
FRL – A student who qualifies for Free or Reduced-Price Lunch

Legal Framework:

As the SPCSA Board is well-aware, SPCSA-sponsored charter schools are generally governed by local, state, and federal education statutes and regulations; in addition to Nevada-specific charter school laws, regulations, SPCSA requirements and guidelines; as well as the charter school's charter contract. Pursuant to NRS 388A.276 and NRS 388A.279, the Authority may, at a duly

---

[3] Enrollment as of Validation Day each year (October 1).

noticed public meeting, approve, approve with conditions, or deny a request to amend a charter contract.

In this case, Nevada Connections Academy is currently operating under a charter contract entered into between the SPCSA and the governing body of NCA. If the SPCSA Board approves staff's recommendation to accept NCA's elementary school improvement plan proposal and leave the school in breach until the NSPF ratings are released in the fall of 2019, this would be a material amendment to the current charter contract due to the changes in the academic program and the proposed enrollment caps.

B-451

BRIAN SANDOVAL
Governor

PATRICK GAVIN
Executive Director

STATE PUBLIC CHARTER SCHOOL AUTHORITY

1749 North Stewart Street Suite 40
Carson City, Nevada 89706-2543
(775) 687 - 9174 · Fax: (775) 687 – 9113

<u>**VIA ELECTRONIC MAIL AND UNITED STATES POSTAL SERVICE – RETURN**
RECEIPT REQUESTED</u>

August 9, 2018

Chris McBride, Ph.D.
Superintendent- Nevada Connections Academy
555 Double Eagle Court, Suite 2000
Reno, Nevada 89521
cmcbride@nca.connectionsacademy.org

Re: Nevada Connections Academy – Elementary Improvement Plan Conditions

Dear Dr. McBride:

As you are aware, at its August 6, 2018 Board meeting, the Board of the State Public Charter School Authority (SPCSA) voted to conditionally approve the proposed improvement plan for Nevada Connections Academy's elementary school program. SPCSA staff is pleased to support your school and looks forward to continuing to work with your team.

This cover letter serves as a summary of the conditions that need to be met and are in addition to any existing requirements that are mandated as part of the executed contract. As you know, these conditions must be met to the satisfaction of SPCSA staff. Stated another way, the Board does not need to take further action; SPCSA staff has discretion to determine whether conditions have been met.

We want to work with you collaboratively to ensure these conditions are met in a reasonable timeframe. Before September 1, 2018, SPCSA staff would like to meet with NCA staff to discuss the conditions attached to this approved improvement plan as well as the tracking templates to be used to fulfill the conditions. Please work directly with Mark Modrcin, Director of Authorizing, to schedule that meeting. This will ensure that NCA staff understands the attached conditions and can submit complete, requisite conditions by the agreed-upon deadlines.

The conditions to be completed are as follows, all of which should be submitted into Epicenter:

- Attendance logs, with corresponding teacher signatures verifying attendance, for all monthly MWGT! trainings. These logs and signatures should be submitted quarterly, beginning in October 2018.

- A final schedule of LiveLesson trainings to be available to elementary Learning Coaches in the 2018-2019 school year so that an appropriate SPCSA staff member can also attend. Additionally, staff would like for the school to track Learning Coach participation in these sessions for the 2018 – 2019 school year. These forms should be submitted quarterly, beginning in October 2018.

- Attendance logs, with corresponding teacher signatures verifying attendance and completion of the RtI process training, for all elementary school teachers by October 1, 2018, or another mutually agreed-upon date.

- All agendas and monitoring logs for PLCs, with corresponding teacher signatures verifying attendance, for all bi-weekly PLCs on a quarterly basis, beginning in October 2018. All such materials must be submitted into Epicenter.

- Attendance logs, with corresponding teacher signatures verifying attendance, for all ten professional days required by the school for the 2018 – 2019 school year.

- Enrollment shall be capped at the numbers in the chart below. Any students enrolled as of August 13, 2018 in a grade that has more students than the cap would be grandfathered into the school. New students wishing to enroll into grades that have enrollment above the established enrollment cap cannot do so until a time when the school has space available under the enrollment cap. Recognizing the importance of engaged and invested families, faculty, and governing body members, staff further recommends that this condition not apply to siblings of current NCA students, children of NCA staff, or children of members of the NCA Board.

Grade	Cap
Kindergarten	200 students
1st grade	200 students
2nd grade	200 students
3rd grade	200 students
4th grade	350 students
5th grade	350 students
TOTAL	1,500 students

Additionally, as discussed by the Board, the conditional approval of this elementary school improvement plan is in no way binding for renewal, nor does the successful completion or adherence to the above conditions by the school mean that the school will be renewed. This is especially the case in regard to the annual performance goals set forth in the improvement plan. In other words, if Nevada Connections Academy meets or exceeds the annual performance goals set forth in the improvement plan does not mean in any way that SPCSA staff will recommend, or that the SPCSA Board, will approval renewal of the school's charter contract. Instead, any renewal application submitted by Nevada Connections Academy in the Fall of 2019 will be reviewed under the procedures and standards set forth in NRS 388A.285 and its corresponding regulation, R089-16A., and renewal of the school will be considered based on performance against existing metrics, such as the Nevada School Performance Framework (NSPF).

As previously mentioned, Mr. Modrcin will serve as your primary contact moving forward. Please contact Mr. Modrcin via email at mmodrcin@spcsa.nv.gov to confirm receipt of this

correspondence and schedule a time to discuss these conditions further before September 1. We look forward to hearing from you.

Sincerely,

Patrick J. Gavin
cn=Patrick J. Gavin, o=State of Nevada,
ou=State Public Charter School Authority,
email=pgavin@spcsa.nv.gov, c=US
2018.08.09 12:54:19 -07'00'

Patrick J. Gavin
Executive Director

PJG/stk

cc: Jason Guinasso, Chair, State Public Charter School Authority (*via email only*)
        Scott Harrington, Chair, Nevada Connections Academy *(via email only)*

August 3, 2018

Chris McBride, Ph.D.
Superintendent
Nevada Connections Academy
cmcbride@nca.connectionsacademy.org

Matthew Wicks
VP of Efficacy Research and Reporting
Pearson Online & Blended Learning
matt.wicks@pearson.com

RE: SPCSA Recommendation Report regarding Nevada Connections Academy's Elementary School
Improvement Plan

Dear Chris,

I reviewed the Authority's memorandum and I would like to make the a few points regarding the
analysis contained therein.

In regard to the Authority's reference of the challenge of "boomerang students" on page 11—defined by
the Authority as pupils who may fail to attend for two consecutive weeks or voluntarily withdraw and
then choose to re-enroll— in my review of the data at the Elementary School, there is a very small
number of students where this occurs, but because it is small, this is not a core issue that needs to be
addressed or is affecting performance.

On page 9 the Authority concludes that NCA's transiency rate is more likely based on factors within the
school's control and arrives at this conclusion because the transiency rate at NCA is higher than they
would predict it to be based on the school's free and reduced lunch population. This is not a valid
conclusion; rather, the data shows that mobility is a characteristic of a high percentage of students
possess before enrolling at NCA. Only 9% of the students at the Elementary School have attended just
NCA; 33% were on their second school already, and 58% had attended between 2 and 7 prior schools.

Additionally, rather than free and reduced lunch status being a driver of mobility, a more in-depth
analysis of elementary students at NCA has revealed the following student characteristics that relate to
mobility: 6% suffering from mental or physical health problems, 10% experiencing bullying and are new,
13% were struggling academically at their prior brick and mortar schools, 10% were advanced and
seeking an option to address their students' needs, and 61% switched to NCA because they were
dissatisfied with their local brick and mortar school and/or looking for more flexibility.

On pages 9-10 of the memo, the Authority's statement that "even if one were to assume that student
transiency or student poverty was the efficient cause of the school's low levels of performance, it is
important to note that this is not borne out by the evidence" is problematic. This conclusion is based on

a very simple correlation analysis when, in fact, a more rigorous analysis is required. The Authority presents a simple correlation between school-level free and reduced lunch population, self-reported mobility, and the NV index score (a combination of subjects, different cohorts, and performance metrics) in an attempt to rebut that student mobility is not a key driver of lower academic performance.

In contrast, the findings from the rigorous analysis done by Pearson of Connections Academy schools were consistent with numerous, prior peer-reviewed studies in finding that mobility is a significant predictor of academic performance. In the Connections Academy analysis, a more rigorous, two-tier nearest-neighbor model was employed, matching to other schools within the state at the district-level and then school-level on prior year % proficient on state tests, instructional expenditure per pupil, free and reduced lunch, student ethnicity, % on IEP, school size, and student mobility. Next, an ordinary least squares fixed-effects model was employed along with a naïve covariance structure within a robust empirical standard error formulation. This procedure results in estimates that are unbiased despite the complex nested nature of the data.

I have attached an Education Week article published August 11, 2016 that provides an overview of how student mobility affects learning. Also attached is a recent Education Week article that further explains the peer-reviewed analysis done by Pearson on Connections Academy schools and the effect of mobility on student performance.

Please feel free to reach out to me if you have questions or if you would like to further discuss.

Sincerely,

Matthew Wicks

Online & Blended Learning

Connections Academy is supported by
Pearson Online & Blended Learning

Enclosures

Pearson Studies Seek to Shine Light on Cyber Charter Student Mobility

By Benjamin Herold on July 20, 2018 2:06 PM

Students in Connections Academy's full-time online charter schools are highly mobile and often enroll after the school year starts.

But nearly half reported choosing a cyber charter because they were looking for greater flexibility or were generally dissatisfied with their local school—far more than those who said they were trying to solve a specific problem such as academic struggles, physical or mental health issues, or bullying.

Those are just some of the findings in a **series of studies recently released by Pearson**, the global publishing and education giant that serves as a parent company to Connections Academy.

"The research underscores the importance of mobility in understanding online school students" and "reveals insights about what drives student mobility," said Matthew Wicks, the vice president efficacy research and reporting for Pearson Online & Blended Learning, in an emailed response to questions.

"With this knowledge, we can further improve the Connections Academy online school program to best serve student needs," Wicks said.

All told, Connections Academy schools served more than 70,000 students across 27 states during the past school year, making it the second-largest operator of full-time online schools in the country, behind K12 Inc.

As part of its new research, Pearson also challenged a series of recent studies by third-party groups, which have consistently found that students in cyber charters tend to perform significantly worse academically than their counterparts in brick-and-mortar schools.

Like other cyber operators, Connections maintains that such studies have not adequately accounted for what it says are high rates of student mobility in virtual schools.

Using its own methodology, which sought to account for students who bounced from school to school before enrolling in a Connections Academy, Pearson found that Connections schools actually performed on par with comparable brick-and-mortar schools, and significantly better than other virtual schools in reading.

Outside research experts questioned Pearson's approach, however, saying the company's inability to compare the performance of individual students undercut the strength of its argument that Connections Academy virtual schools perform better academically than they are given credit for.

"You can't make these claims of effectiveness with school-level data. Period," said Ruth Curran Neild, the previous director of the federal Institute of Education Sciences and current director of the Philadelphia Education Research Consortium.

Still, the field would benefit from a more robust way of comparing students from different types of schools while better accounting for student mobility, Neild said—an agenda that the current school-choice-friendly U.S. Department of Education may want to consider.

Who chooses Connections Academy cyber charters?

Pearson officials said they undertook the studies as part of the company's "larger and overarching commitment to efficacy research and reporting."

The work was independently reviewed by the research group SRI International and audited by the consulting firm PwC.

One part of the work sought to better understand the students who enroll at Connections Academy virtual schools—a key question, given ongoing debates about whether full-time online schools serve a population that is similar enough to brick-and-mortar schools to allow for apples-to-apples comparisons of student performance.

For the study, Pearson analyzed the achievement scores, attendance and enrollment patterns, demographic characteristics, and stated reasons for choosing to attend a Connections school for 77,541 students during the 2015-16 school year. Using a technique called a cluster analysis, the company created seven distinct profiles of Connections Academy students:

- Academically advanced students (8 percent of the overall Connections Academy population)
- Academically struggling students (11 percent)
- Students experiencing physical or mental health problems (11 percent)
- Newly enrolled students who had previously experienced bullying (13 percent)
- Students who had originally enrolled at Connections Academy with challenges such as those listed above, and were now returning to that online school after for a second (or more) year (11 percent)
- Returning students who didn't report experiencing such problems at traditional schools, but instead enrolled at Connections Academy because they were seeking more flexibility and choice (16 percent)
- New students who were just seeking more flexibility and choice (31 percent)

The last two profiles accounted for 47 percent of Connections students, the study found. More research needs to be done to better understand the experiences and motivations of these groups, the researchers said.

Also noteworthy were the high numbers of new students who enrolled at a Connections Academy after the school year started.

More than half of new students who chose a Connections online school because of physical or mental health problems started late, and nearly two-thirds of new students who experienced bullying or academic struggles at their previous schools started late.

By comparison, Pearson found that more than 90 percent of returning students—including those who originally chose Connections Academy because of previous challenges—started the school year on time.

Connections officials said the information was helpful to both teachers and administrators, and would be used to improve the way Connections schools approach "onboarding" new students.

"Data analysis we have done previously shows that late-enrolling students tend to have lower academic performance than students enrolling on time," Wicks said. "This can indicate other problems in the life of the student/family that could impact student learning."

Disagreements about online student performance

While the full-time online student profiles and data released by Pearson shine new light on populations that have often been hard to track, the company's findings regarding academic achievement are more contentious.

A number of previous studies by independent researchers have slammed cyber charters in general for poor performance. Most notably, a 2015 report from the Center for Research on Education Outcomes at Stanford University found that cyber charters in general have an "**overwhelming negative impact**" on students' academic growth.

In that study, researchers matched individual students attending 158 cyber charter schools in 17 states and the District of Columbia with "virtual twins," who were similar in terms of grade level, demographics, poverty, special-education status, and prior performance on state tests. The virtual twins attended the brick-and-mortar school where their peers most likely would have landed had they not chosen to attend a cyber charter.

In its comparative analysis of that student-level data, CREDO found that in a given year, online charter students, on average, achieved the equivalent of 180 fewer days of learning in math and 72 fewer days of learning in reading than similar students in brick-and-mortar schools.

More than two-thirds of cyber charters had weaker overall academic growth than similar brick-and-mortar schools, CREDO found.

Cyber charter operators, including Connections and K-12 Inc., have consistently said CREDO's methodology was limited because it didn't adequately account for student mobility.

"The negative impact of student mobility on academic performance has been well documented," Wicks said. "We believe taking mobility into account is required to make the most fair comparison."

To that end, Pearson attempted to account for student mobility by using each state's mobility metric, which vary considerably from one place to the next and are only available at the district level. The company then used those mobility rates as a primary indicator for how it matched

Connections Academy schools with counterparts.

Unlike CREDO, however, Pearson was unable to create matches at the student level. Instead, it matched Connections Academy schools with traditional brick-and-mortar schools in the same state by grade level (3-8) and subject area (math and reading.) In effect, that meant 4th grade math students at a given Connections Academy schools were compared to the most similar class of 4th grade math students that researchers could find within a brick-and-mortar school in the same state.

The two most significant factors in making those matches were mobility rate and prior academic performance.

Using this methodology, Pearson found that Connections Academy full-time online schools performed statistically the same in reading and math as brick-and-mortar schools. Connections schools also outperformed other virtual schools in reading.

"This study provides evidence that students from Connections Academy schools can perform at the same level as students from traditional schools that serve similar student populations," Wicks said. "The results support a more complex conversation about mobility and virtual schooling."

More work to be done

Outside researchers had much more measured reactions, however.

In an interview, Neild of the Philadelphia Education Research Consortium, emphasized that Pearson's inability to compare the performance of individual students is a major limitation of the study.

"We don't know if these are the same students from one year to another," Neild said. "The fact is, [Pearson doesn't] have the evidence to parse out whether the differences they're seeing are the result of an effective instructional program, or changes in the student population."

In a statement provided to *Education Week,* director Macke Raymond said CREDO "appreciates the effort [by Pearson] to delve deeper into school effects among cyber schools" and noted that the new study "opens a new frontier of investigation" by including student-mobility measures.

But those measures are "far more exploratory than confirmatory," said Raymond, who also pointed out the superiority of CREDO's student-level analysis.

"We are confident that the prior CREDO study meets standards of rigor and accuracy, and stand by our results," she said.

In its study, Pearson acknowledged that its study "cannot support causal conclusions" and that a "more rigorous research design would have matched groups at the individual student level, rather than the school or district level."

See also:

- **Cyber Charters Have 'Overwhelming Negative Impact,' CREDO Study Finds**
- **Rewarding Failure: An Education Week Investigation of the Cyber Charter Industry**
- **Connections Education: A Defense of Cyber Charters**

Follow @BenjaminBHerold *for the latest news on ed-tech policies, practices, and trends.*

Categories: Online Learning   Research/Reports   Virtual Schools

Tags: connections academy   cyber charter   online school   Pearson   research   virtual school

0 Comments   **Education Week**   ⬤ **Login**

♡ **Recommend**   ⬆ **Share**   Sort by Oldest

Start the discussion…

LOG IN WITH

Published: August 11, 2016

Student Mobility: How It Affects Learning

A growing body of research suggests collecting data on student mobility can help identify vulnerable students and keep them on a path to academic achievement.
—Getty Images

By **Sarah D. Sparks**

It's always tough to be the new kid in the middle of the school year: to find new friends, adapt to new teachers and rules. But for more than 6.5 million students nationwide, being the new kid can be a frequent occurrence—and one that exacts a cost to their social and academic development and that of their classmates.

As more states begin to use longitudinal data to improve schools under the Every Student Succeeds Act, a growing body of research suggests student mobility may be a key indicator to identify vulnerable students and keep them on a path to academic achievement.

"To be sure, multiple moves are a dangerous signal, but even one move increases the [student's] risk of not graduating or getting delayed in graduating," said Russell Rumberger, a research professor at the University of California, Santa Barbara, who studies dropout risks and student mobility.

What follows is an overview of the big trends, opportunities, and concerns associated with student mobility. Links to additional resources are included in each section for those who would like to dig deeper.

Jump to a Section
> **What Is Student Mobility?**
> **Who Is Likely to Be Highly Mobile?**
> **How Does Mobility Affect Student Learning?**
> **What Does the Every Student Succeeds Act Say About Student Mobility?**
> **What Can Be Done to Support Highly Mobile Students?**

What Is Student Mobility?

In K-12 education, "student mobility," also called "churn" or "transience," can include any time a student changes schools for reasons other than grade promotion, but in general it refers to students changing schools during a school year. It may be voluntary—such as a student changing schools to participate in a new program—or involuntary, such as being expelled or escaping from bullying. Student mobility is often related to residential mobility, such as when a family becomes homeless or moves due to changes in a parent's job.

School mobility refers to the frequency of such moves among students in a particular classroom, school, or district. High churn in schools not only can hurt the students who leave, but also those who remain enrolled. A **2014 report by the Governor's Office of Student Achievement in Georgia** found schools with higher concentrations of mobile students had higher percentages of students with disabilities and fewer students in gifted education programs.

In a report on student mobility by the National Academy of Sciences, Chester Hartman, the research director for the Poverty and Race Research Action Council in Washington, noted that high-poverty urban schools can have more than half of their students turn over within a single school year.

"It's chaos," he said in the 2010 report. "It makes all the reforms—smaller classes, better-trained teachers, better facilities—irrelevant."

In fact, in a study of 13,000 Chicago students, University of Chicago researcher David Kerbow found those who had changed schools four or more times by 6th grade **were about a year behind** their classmates—but students in schools with high churn were a year behind those in more stable schools by 5th grade.

"It is unclear how school-based educational programs, no matter how innovative, could successfully develop and show long-term impact" in a high-churn school, Kerbow concluded.

Related Video

In rural Vermont, a significant number of students move around the area with their families, often needing to switch school districts as a result. Superintendent Jay Nichols, of the Franklin Northeast Supervisory Union, explains how student mobility is a problem in his district. **Watch more *Education Week* videos.**

Who Is Likely to Be Highly Mobile?

The most common causes of student mobility are residential moves related to parents' jobs or other financial instability. A 2010 Government Accountability Office study followed students who entered kindergarten in 1998 through 2007. It found 13 percent of students changed schools four or more times by the end of 8th grade, and highly mobile students were disproportionately more likely to be poor or black than students who changed schools twice or fewer times. The same study found families who did not own their own homes made up 39 percent of the most highly mobile students.

Similarly, a **2015 state policy report in Colorado**, which tracks student mobility in its districts, found mobility rates in 2014-15 ranged from more than 17 percent for students in poverty to more than a third of migrant and homeless students, and more than half of all students in the foster care system.

That reflects national trends. Homeless students are likelier than other students to change schools not just several times in their school career, but multiple times in a single year. Also, they remain more mobile than other students even after their families find stable homes. A June report from the U.S. Department of Housing and Urban Development found that 20 months after regaining permanent housing, formerly homeless adolescents were more than four times as likely to change schools at least once than peers who had not been homeless.

"Outside the military, where families don't know people, they don't have those support systems," Rumberger said.

How Does Mobility Affect Student Learning?

Even **normal transitions—at the start of school, 6th and 9th grades, for example**—can cause some students to stumble. Prior research has found students who attended K-8 schools have slightly higher academic achievement than those who attended 6-8 middle schools, and students are at higher risk of dropping out or having behavior issues during transition years like 9th grade.
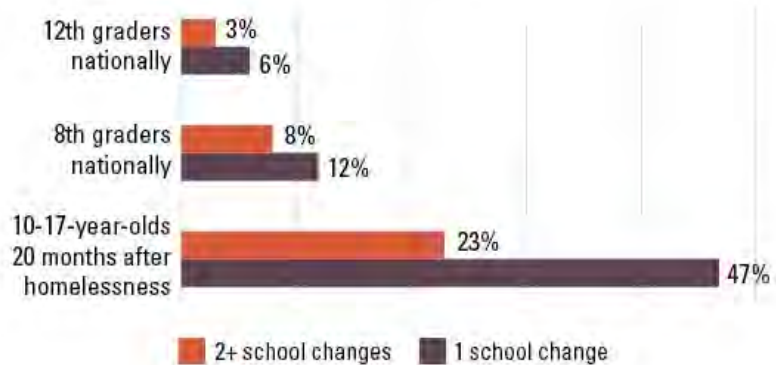
Various studies have found student mobility—and particularly multiple moves—associated with a lower school engagement, poorer grades in reading (particularly in math), and a higher risk of dropping out of high school.

Homelessness and Student Mobility

Students who were previously homeless continue to be at higher risk of changing schools nearly two years after gaining stable housing, according to researchers.

12th graders nationally: 3% (2+ school changes), 6% (1 school change)

8th graders nationally: 8% (2+ school changes), 12% (1 school change)

10-17-year-olds 20 months after homelessness: 23% (2+ school changes), 47% (1 school change)

2+ school changes | 1 school change

EDUCATION WEEK

While research has found students generally lose about three months of reading and math learning each time they switch schools, voluntary transfers, which are more likely to happen during the summer, cause less academic disruption and may be associated with academic improvement if they lead to better services for the student.

Mobility can be particularly hard on children in the early grades, as they learn foundational skills. A 2015 New York University study found that out of 381 low-income, predominantly ethnic-minority students in Chicago, 327 changed schools at least once from kindergarten through 4th grade, and 40 students transferred three or more times. The more often students moved, the lower they scored on both the state standardized math test and on teacher observations of the students' critical thinking.

What Does the Every Student Succeeds Act Say About Student Mobility?

Not much. Charter school authorizers must include rates of student attrition as part of the accountability metric for schools, but school mobility is not required for accountability for other public schools under ESSA.

For homeless students, **the law requires districts** to try to reduce student mobility by keeping a homeless student in the original school unless the student or a parent or guardian requests a transfer. ESSA requires districts to track academic achievement of homeless and foster students.

For students of military families, ESSA also requires schools to use a military-student identifier for students whose parents are in the active or reserve military, or in the National Guard. The identifier is intended to allow educators, parents, and military leaders to track how military-connected students achieve across multiple schools.

What Can Be Done to Support Highly Mobile Students?

States and districts are experimenting with a number of policies and programs intended to stabilize school populations and buffer the effects of student mobility. A 2016 study of **Nevada schools found that regardless of students' risk of attrition**, more-equitable school policies can help reduce churn; higher levels of racial segregation, particularly in academic programs, predicted churn.

Some that have shown promise include:

- **Better student data transfer**: There are some national systems designed to follow students in traditionally transient communities, such as the Migrant Student Data Exchange for the children of agricultural workers. As more states develop longitudinal databases with personal student identifiers, other systems are being developed for military, homeless, and foster care system youths.
- **Quick turnaround for student records**: Every state and the District of Columbia have signed onto the **Interstate Compact on Educational Opportunity for Military Children**, which lays out guidelines for school districts to send unofficial copies of all student records to parents within 10 days to help them enroll their students at the new school, and provide official records to the school receiving the student. The compact also calls for the student's new school to accept prior school placements for honors classes, prerequisites, and programs.
- **Flexible enrollment**: Attendance boundaries often force students to change schools when they change addresses, even if the student is still close enough to travel to his or her current school. A 2013 report by the Federal Reserve Bank of Boston found these enrollment requirements **exacerbate the disruptions that students face** from home foreclosures and other forced family moves. By contrast, family moves that did not require students to change schools had "negligible effects." This and other studies suggest that more-flexible enrollment policies that allow students to finish out the school year after a move—or nonresidential enrollment in general—could reduce mid-year school transfers.

  Similarly, Kansas City, Mo., schools are developing a central database of student records to allow faster enrollment, and a smartphone app to allow parents to see a list of available schools and resources for smoothing a student's transition to a new school.
- **Interagency supports**: Because student mobility often results from family instability, school leaders who want to make their campuses more stable are experimenting with broader, multipronged supports.

  Kansas City, Mo., for example, **held a citywide summit on student mobility** in 2015. As a result, schools identified at-risk students and paired them with both peer and adult mentors to meet several times a week to discuss the students' sense of belonging at their schools, everyday challenges and supports, and to reflect on the students' behavior, attendance, and academic performance each week. The plan also would enable parents of students in poverty to go to "one-stop shops" throughout the district that could provide resources for job placement, adult education, and aid for housing or utilities.

Additional Resources

- **Student Mobility: Exploring the Impacts of Frequent Moves on Achievement: Summary of a Workshop**
- **Many Challenges Arise in Educating Students Who Change Schools Frequently**
- **Adolescent Well-Being After Experiencing Family Homelessness**
- **Data Are Critical for High-Mobility Students (*Education Week* Commentary)**

NCA's High School Initiatives to Positively Impact Student Outcomes

College and Career Readiness Indicator: (25 / 90 NSPF points)
(one-year lag in realization)

Advanced Diploma Path
- For 2019-20, all students who have a 3.25 GPA or higher will be identified and placed on the advanced diploma path. we believe this will influence us to achieve the 25.5% for GY2021 (2 more points, 3 total)
- At the end of the 2019-20 school year, counselors will identify junior cohort students to enable the 2020-21 school year progression.

Dual Enrollment
- Grow existing dual enrollment program with partner Community College, TMCC.

College and *Career* Ready Indicator, continued:
(long-term effort)

CTE Course Progression Plans (for the 2020-21 school year)
- Create course progression plans (ex., Business, Criminal Justice).
- Get approval from NDE for course progression plans.
- Identify and place students into appropriate CTE progression plans.
- All freshman will enter with a clear CTE pathway; those that are undeclared will be enrolled in the business pathway.

Build Graduation Resume
- Identify most beneficial and probable certifications for students.
- Seek out partners to perform training, seek out partners to train staff in certifications.
- Offer certifications students can use to build their graduation resume.
  - CPR, Technical Certifications
- Face-to-face opportunities through CTE field trips for hands on experience.

All efforts towards Career and College Readiness can influence Graduation Rate.

Academic Achievement Indicator (Proficiency) (25 / 90 NSPF points)

ACT test prep - USA test prep
- Training
- Implementation
- Evaluation

Graduation Rate (30 / 90 NSPF points)

<u>Every Student Succeeds Academy (4th yr of the program)</u>
- Identify off cohort-credit deficient students.
- Each student is assigned a Success Coach (teacher with advisory title) who will engage with them a minimum of two times a month.

<u>Rainbow List</u>
- Identify students who are seniors based upon credits earned.
- Green list students – those students on-track to graduate. Green students are monitored by General Education homeroom teachers.
- Yellow list students – those students who are slightly off-track but enrolled in all credits needed to graduate. Yellow students are monitored by success coaches a minimum of twice per month.
- Red list students – those students who are significantly off-track. Red students are monitored by high school administrators using the Principal's Academic Probation Contract.

Student Engagement Indicator (10 / 90 NSPF points)

<u>Freshman Academy</u>
- 9th grade credit sufficiency
- Identify and place students on academic probation.
- Focus on student engagement.

<u>Truancy</u>
- High school academic probation.
- Attendance truancy versus participation truancy.

Foundation for all Indicators:
- Social Emotional Mentors
- Ruby Payne training
- Trauma Informed Schools Training
- Leadership Coaching training

NCA NSPF Framework Analysis - High School

Main Indicator	Sub-Indicator	Points Available	Point Methodology	NCA 17-18	NCA 18-19	Projected NCA 19-20
Academic Achievement		25		7.5	6.5	Will need to earn an additional 20.5 points across Achievement, CCR, and Student Engagement to earn a 2-star rating (an improvement of 9 points).
	Math (ACT)	10	Percent proficient on Math ACT, 0.5 points for less than 4.7%, 42.4% to earn max points	2 (11%)	1.5 (10.5%)	
	ELA (ACT)	10	Percent proficient on ELA ACT, 0.5 points for less than 14.7%, 55.9% to earn max points	2.5 (28.7%)	3.5 (35.7%)	
	Science (State test)	5	Percent proficient on Science state test, 0.5 points for less than 17.9%, 54.3% to earn max points	3 (34.3%)	1.5 (22.8%)	
	Participation Penalty	Varies	17-18: First year warning, 2nd year up to 9 points, 3rd year no points for Achievement 18-19 and on: First year warning, 2nd year 1 per sub-group up to 6	0	0	
Graduation		30		0	0	3
	4-year ACGR	25	67% to earn any points, 89.4% to earn max points	0 (45%)	0 (63.7% vs 49% required)	2 (est 68.8% vs 60% required)
	5-year ACGR	5	67% to earn any points, 91.4% to earn max points	0 (49%)	0 (53.5%)	1 (est 68.2%)
English Language Proficiency		10	Not applicable to NCA due to insufficient students	NA	NA	NA
College and Career Readiness		25		2	2	Will need to earn an additional 20.5 points across Achievement, CCR, and Student Engagement to earn a 2-star rating (an improvement of 9 points).
	Post-Secondary Preparation Participation	10	Percent of students participating in specified courses, 0.5 points for less than 46.6%, 74.5% to earn max points	0.5 (11.5%)	0.5 (8.4%)	
	Post-Secondary Preparation Participation	10	Percent of students completing specified courses, 0.5 points for less than 4.5%, 55.8% to earn max points	0.5 (0.5%)	0.5 (1.1%)	
	Advanced or CCR Diploma	5	Percent of students earning advanced or CCR diplomas, 1 point for less than 11.5%, 53.3% for max points	1 (4.7%)	1 (4.0%)	1 (est 3.7%)
Student Engagement		10		2	4	Will need to earn an additional 20.5 points across Achievement, CCR, and Student Engagement to earn a 2-star rating (an improvement of 9 points).
	Chronic Absenteeism	5	Percent of chronically absent students, must be less than 23% to earn any points, less than 5% to earn max points. May earn 0.5 bonus point for at least 10% improvement, but can't exceed 5 points	0 (32.5%)	3 (2.5 for 13.9% plus 0.5 bonus points)	
	9th Grade Credit Sufficiency	5	Percent of 9th graders earning 1/4 of credits towards graduation, 1 point for less than 77.8%, 99.7% for max points	2 (81.7%)	1 (76.5%)	
	Climate Survey Participation	2 bonus in 17-18 only	In 17-18 earned 2 bonus points if participation rate was at least 75%	0 (64.4%)	NA (39.2%)	
Total Points		100 (90 for NCA)		11.5 (12.7 100 pt scale)	12.5 (13.8 100 pt scale)	TBD
Star Rating				1-star	1-star	TBD

100 point scale	90 point scale					
1-star = under 27	1-star = under 24.5					
2-star = 27- 49.9	2-star = 24.5 - 44.5					
3-star = 50 - 69.9	3-star = 45 - 62.5					
4-star = 70 - 81.9	4-star = 63 - 73.5					
5-star = 82 - 100	5-star = 74 - 90					

B-466

NCA's Middle School Initiatives to Positively Impact Student Outcomes

Academic Achievement Indicator (25 / 90 NSPF points)

- Math
  - Implementation of ST Math, Math Time to Talk, individual and targeted small group LiveLessons, frequent contact with failing students, plus additional help and support.
- English Language Arts
  - Implementation of Lexia Rapid Assessment, Power Up, individual & small group targeted LiveLessons, frequent contact with failing students, plus additional help and support.
- Science
  - As recommended by Aha Process, teachers will participate in course calibration with state standards. Professional Learning Community members collaborate to ensure curriculum alignment to essential standards and concepts.
- Middle School Rainbow List
  - Identifying students who are on-track and not on-track to earning credits for promotion to high school.

Student Growth Indicator (30 / 90 NSPF points)

- English Language Arts
  - Reviewing SBAC test scores from previous year to identify students that need extra support. Monitor growth on Lexia Rapid Assessment, prescribe the intervention Lexia Power Up. Provide individual, targeted LiveLessons. Provide in-person opportunities to complete writing assignments with teachers.
- Math
  - Reviewing SBAC test scores from previous year to identify students that need extra support. Monitor progress on ST Math. Provide individual, targeted LiveLessons. Provide in-person opportunities to complete assignments with teachers.
- Response To Intervention (RTI)
  - Tier I supports -- Teachers use research-based best practice teaching strategies to provide Tier I level supports for all students.
  - Tier II supports -- Teachers use research-based instructional strategies to provide Tier II level interventions for students identified as needing Tier II level supports.

1

- Tier II supports -- Teachers use research-based instructional strategies to provide Tier III level interventions for students identified as needing Tier III supports.
  - Students are referred to the Special Education team if they do not show progress with the RTI process.

Closing Opportunity Gaps Indicator (20 / 90 NSPF points)

- English Language Arts
  - Review SBAC test scores from previous year to identify students that need extra support.
  - Monitor growth on Lexia Rapid Assessment; if needed, prescribe the intervention Lexia Power Up.
  - Provide individual, targeted LiveLessons. Provide in-person opportunities to complete writing assignments with teachers.
- Math
  - Review SBAC test scores from previous year to identify students that need extra support.
  - Monitor progress on ST Math.
  - Provide individual, targeted LiveLessons. Provide in-person opportunities to complete assignments with teachers.

Student Engagement Indicator (15 / 90 NSPF points)

- Truancy - Weekly reports, communications via WebMail.
  - Academic probation for 8th grade students moving into 9th grade who have not shown successful course progression. (Research does not indicate that retaining students shows positive growth outcomes.)
  - Academic probation for 7th and 8th grade students, published progress reports, parent/teacher conferences to discuss progress and goals, and identification of students who are at risk of non-course completion or failing grades.
- Attendance - Weekly reports, communication via webmail and phone calls ("Fix it" Fridays).
  - Teachers schedule open office hours to address attendance and contact alarms.
  - This is also a time set aside to provide students additional help in the course with specific concepts or assignments. Teachers will help students to improve grades and provide additional instruction and support.
- Middle School Academic Plans starting in 6th grade.
  - Review credits and student academic progress. Placement –transcripts are reviewed, and students are placed according to individual student needs.

Discuss student academic goals for Middle and High School, as well as college and career goals. Discuss state testing requirements.

- Course Completion
    - Frequent communication with parents and students failing courses, goal setting Individual LiveLessons. Follow up check-ins are scheduled to monitor progress and provide guidance and support
- Middle School Rainbow List
    - Identifying students who are on-track and not on-track to earning credits for promotion to high school
- Onboarding of new families
    - Welcome calls, "Getting Started" course, orientations, monthly learning coach WebMails, recorded "welcome LiveLesson" orienting new students and learning coaches to each course, in-person learning coach support, LiveLesson opportunities.
- Modified and individualized curriculums to best support student achievement and provide differentiated learning opportunities.
    - Lesson customization promotes varied learning styles, abilities and interests.

For middle school students transitioning, the Special Education teacher meets with the family/ student to review and answer their questions about middle school. This is done in collaboration with the General Education teachers in 6th grade. During these meetings, teachers help the student understand requirements of middle school, discuss concerns/ fears, and requirements of the following year.

NCA NSPF Framework Analysis - Middle School

Main Indicator	Sub-Indicator	Points Available	Point Methodology	NCA 17-18	NCA 18-19	Projected NCA 19-20
Academic Achievement	Pooled Math, ELA, and Science Proficiency	25	Weighted proficiency of all subjects, 1 point for less than 22%, 56% to earn max points	4 (37.1%, 13 points prior to penalty)	10 (32.7%)	
	Math (State Test)	NA		NA (25.5%)	NA (21.3%)	
	ELA (State Test)	NA		NA (47.7%)	NA (45.3%)	
	Science (State test)	NA		NA (39.2%)	NA (29.3%)	
	Participation Penalty	Varies	17-18: First year warning, 2nd year up to 9 points, 3rd year no points for Achievement 18-19 and on: First year warning, 2nd year 1 per sub-group up to 6	-9	0	
Student Growth		30		11.5	10.5	
	Math MGP	10	Median Student Growth Percentile, 1 point for less than 35, 65 to earn max points	3 (41.0)	2 (38.0)	
	ELA MGP	10	Median Student Growth Percentile, 1 point for less than 35, 65 to earn max points	3 (40.0)	4 (47.0)	
	Math Met AGP	5	Percent of students meeting Adequate Growth Percentile, 0.5 points for less than 15%, 42% to earn max points	3 (27.8%)	2 (22.1%)	
	ELA Met AGP	5	Percent of students meeting Adequate Growth Percentile, 0.5 points for less than 32%, 61% to earn max points	2.5 (46.9%)	2.5 (47.7%)	Will need to earn an additional 9 points across all categories to earn a 3-star rating.
English Language Proficiency		10	Not applicable to NCA due to insufficient students	NA	NA	
Closing Opportunity Gap		20		7	4	
	Math Met AGP for low-achieving students	10	Percent of prior year non-proficient students meeting Adequate Growth Percentile, 1 point for less than 8%, 24% to earn max points	6 (15%)	1 (7.9%)	
	ELA Met AGP for low-achieving students	10	Percent of prior year non-proficient students meeting Adequate Growth Percentile, 1 point for less than 16%, 34% to earn max points	1 (15.4%)	3 (19.8%)	
Student Engagement		15		1	11.5	
	Chronic Absenteeism	10	Percent of chronically absent students, must be less than 24% to earn any points, less than 5% to earn max points. May earn 1 bonus point for at least 10% improvement, but can't exceed 10 points	0 (29.7%)	7.5 (6.5 for 11.6% plus 1 bonus point)	
	8th Grade Credit Requirements (NAC 389.445)	3	Percent of 8th grade students meeting requirement, must be at least 60% to earn any points, 90% to earn max points	1 (72.7%)	2 (76.7%)	
	Academic Learning Plans	2	Percent of students with plans, max points with 95%, otherwise no points	0 (91.1%)	2 (99.2%)	
	Climate Survey Participation	2 bonus in 17-18 only	In 17-18 earned 2 bonus points if participation rate was at least 75%	0 (69%)	NA (43.4%)	
Total Points		100 (90 for NCA)		23.5 (26.1 100 pt scale)	36.0 (40.0 100 pt scale)	TBD
Star Rating				1-star	2-star	TBD

100 point scale	90 point scale
1-star = under 29	1-star = under 26.5
2-star = 29- 49.9	2-star = 26.5 - 44.5
3-star = 50 - 69.9	3-star = 45 - 62.5
4-star = 70 -79.9	4-star = 63 - 71.5
5-star = 80 - 100	5-star = 72 - 90

Schools with Mobile Populations:
What does research say & its impact on Nevada Connections Academy?

Matthew Wicks
Director of School Accountability
Pearson Online & Blended Learning

Connections Academy Online Schools

Connections Academy virtual schools provide a
full-time online education to students in grades K-12
across the United States.

The online school program for these schools is provided by Pearson's Online & Blended Learning K–12 group (also known as Connections Education which was founded in 2001).

CRITICAL MISSING INFORMATION: STUDENT MOBILITY & IMPACT ON LEARNING

What we know:

- Families with enrolled students express satisfaction with Connections Academy schools, however, general awareness and understanding about how virtual school works, who attends and why, remains riddled with misinformation and misperception.

- Additionally, questions around student performance persist; existing research studies paint an incomplete picture of achievement.

- Critical ingredient missing from existing research - mobility.

As such, Pearson set out to examine Connections Academy virtual schools; conducting research to explore the types of students who attend virtual school and their performance.

Mobility and the Efficacy Studies

Knowing that virtual school students are extremely mobile, the efficacy studies were designed, in part, to understand the drivers of mobility and its impact on performance.

What is mobility?

"In K-12 education, student mobility... can include any time a student changes schools for reasons other than grade promotion, but in general it refers to students changing schools during a school year."

(Education Week, August 2016)

How is it defined and measured?

- Measures differ across states with some states having no agreed upon measure
- At Pearson Online & Blended Learning, number of prior schools attended
- There are other ways as well that can and are used in different contexts (e.g. late enrollers, number of new students, during school year withdrawals, etc.)

Note. Mobility was measured using the most appropriate metric for each efficacy study (Number of prior schools was used in Phase One, and state definitions were used for Phase Two).

Pearson

Background: Industry Research Findings - Impact of Mobility on Student Performance

- The more often students moved, the **lower they scored on both the state standardized math test** and on teacher observations of the students' critical thinking.
- Even one non-promotional school move both **reduced elementary school achievement in reading and math and increased high school dropout rates.**
- Most pronounced effects for students who made three or more moves.
- Causes and consequences are varied and complex and so recommendations for addressing the issues must be adaptable and applicable to students' unique circumstances.
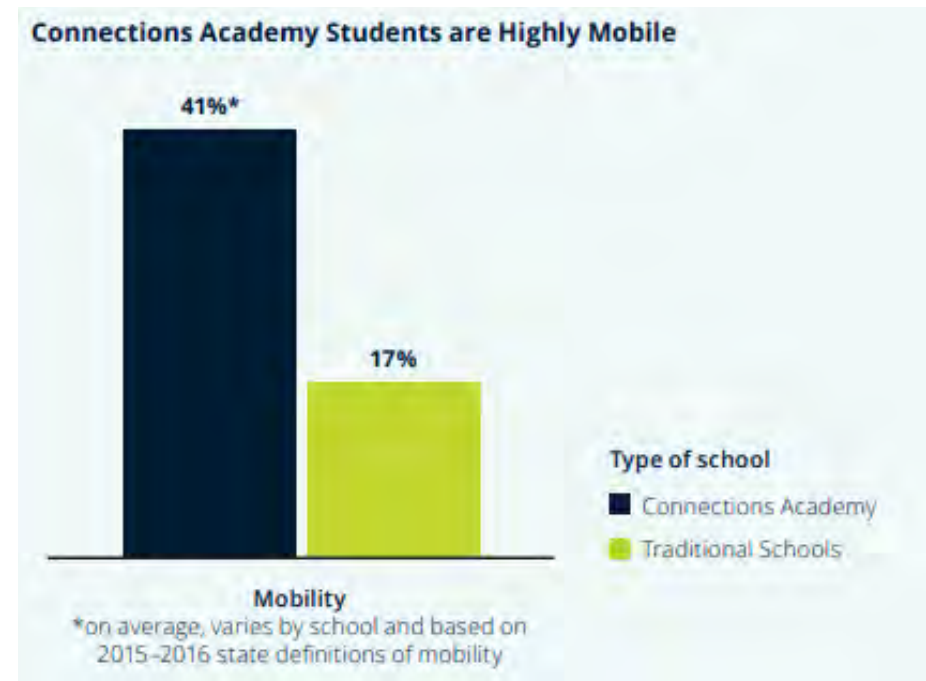
Rumberger, Russell W. (2015). Student Mobility: Causes, Consequences, and Solutions. Boulder, CO: National Education Policy Center. Retrieved 10/16/17 from http://nepc.colorado.edu/publication/student-mobility.

Considering Mobility

Of particular note, virtual school students are extremely mobile (and come to Connections with this characteristic); more than double that of traditional schools.

Student Mobility Twice State Average
53.4 (NCA) v. 23

Unlike existing research on virtual school, this research incorporates student mobility and explores the performance of the unique student body at Connections Academy.

Connections Academy Students are Highly Mobile

41%*

17%

Type of school
- Connections Academy
- Traditional Schools

Mobility
*on average, varies by school and based on 2015–2016 state definitions of mobility

Current Efficacy Research

Study 1: Student Profiles

Study 2: School Comparison

B-477

Efficacy Research

Research Questions

1. What are key characteristics of students who enroll at Connections Academy schools, and in what patterns do we see characteristics or profiles "cluster" together? (Study 1)

1. How do students who attend Connections Academy schools perform in comparison to brick and mortar schools and non-charter virtual schools with similar characteristics within the same state? (Study 2)

Study 1: Cluster Analysis Variables

Students were grouped into "clusters" or profiles based on the following student characteristics and performance outcomes.

- SPED
- Gender
- Ethnicity
- ELL Status
- FARMS Eligibility

- Type of Prior School

- Withdrawal Status 15/16
- Withdrawal Status 16/17
- Enrollment Category 15/16
- Consecutive Years Enrolled
- Returned 16/17 Year

- Mobility (# prior schools attended)
- Reason for attending Connections Academy

- State Reading Proficiency Level
- State Math Reading Proficiency Level

- ELA Course Average
- Math Course Average
- End of Course Survey Average

Study 1 Results: Clusters identified in student profile study

Student Profile	# Students in the profile	Reason(s) for Enrolling in a Connections Academy	% of Students new or returning	% enrolling late or on time	% of mobile students (# prior schools at initial enrollment)
1. Advanced students	3,693 8%	Student is academically advanced	Equally new late and returning	Equally on time and late	48%
2. Health problems	5,224 11%	Student has physical or mental health problems	67% new students	54% late	52%
3. New, bullied students	6,164 13%	Student is experiencing bullying	100% new students	65% late	60%
4. New, enrolled because struggling academically	5,348 11%	Struggling academically	100% new students	64% late	58%
5. New, enrolled for greater flexibility/virtual school choice	14,812 31%	Vague reasons (Flexibility and dissatisfaction with local school)	100% new students	Equally late and on time	48%
6. Returning, enrolled for greater flexibility/virtual school choice	7,491 16%	Vague reasons (Flexibility and dissatisfaction with local school)	100% returning (2 to 3 years)	93% on time	35%
7. Returning, originally enrolled with various challenges	4,981 11%	50% bullied, 66% struggling academically, 16% health problems	100% returning (2 to 3 years)	90% on time	58%

Study 1 Results

Connections Academy schools serve highly mobile students with complex needs known to impact academic performance. These students' needs include, among others, health concerns, bullying and safety, looking to be challenged, trying to catch up, and flexible scheduling.

These characteristics create a unique student population that differs from traditional brick- and-mortar schools.

Study 2: School Comparison Study

How do students who attend Connections Academy schools perform in comparison to brick and mortar schools and non-charter virtual schools with similar characteristics within the same state?

Method: An exploratory study that directly compared achievement at a Connections Academy school to a similar brick and mortar school and a non-charter virtual school within the same state.

- Sites were compared at grades 3-8 for Reading and Mathematics
- All analyses were based on publicly available data.

Study 2: Results
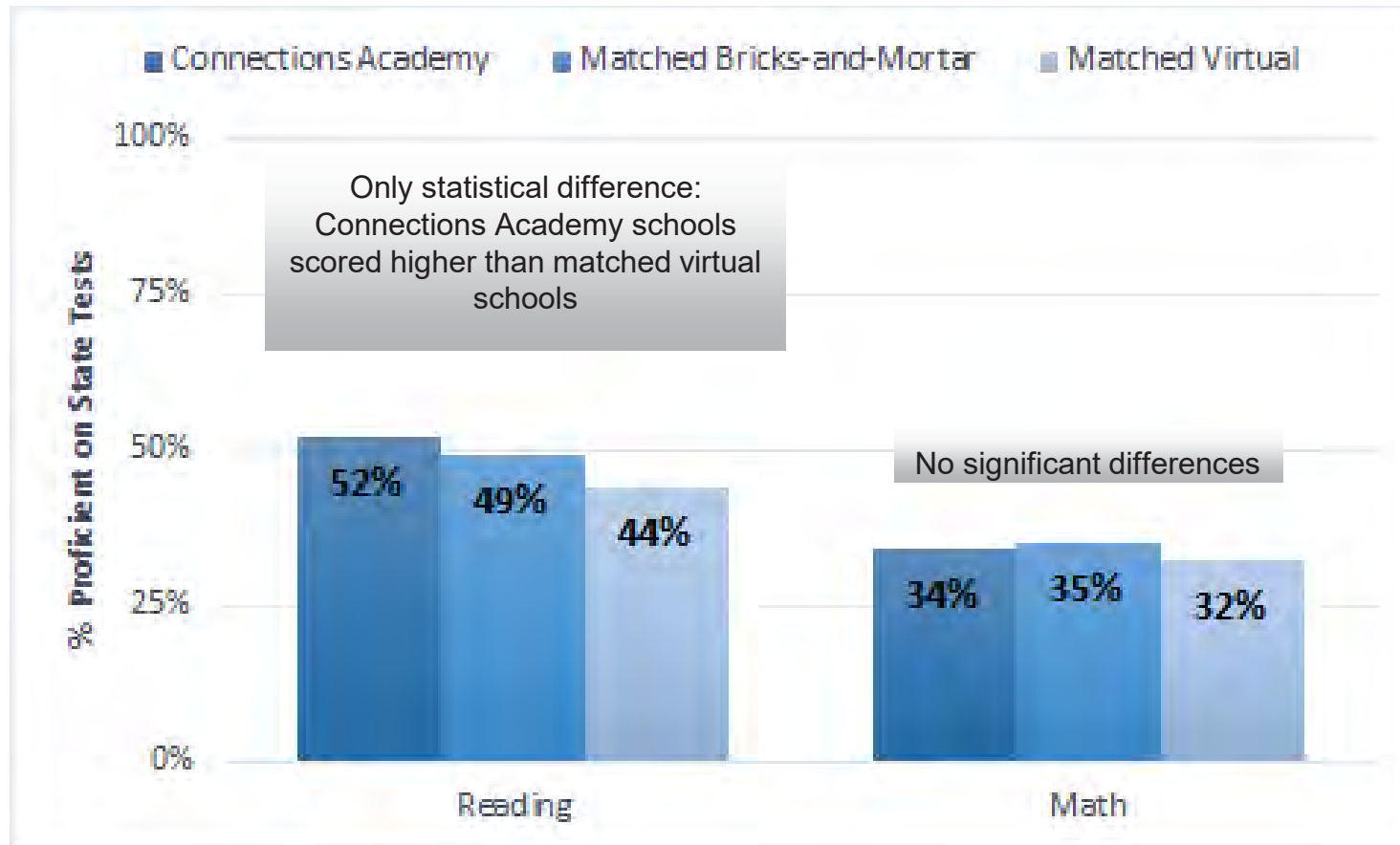
Conclusion:

The results provide evidence that Connections Academy students can receive the same quality of education as that offered at their local public school, while simultaneously taking advantage of the benefits offered to them by virtual schools; and that students may be better positioned in Connections Academy schools than other virtual schools

Phase Two: School Comparison Study Results

Based on the SRI and PWC review, Pearson is able to make the following comparative statements about the efficacy of Connections Academy schools:

- **No statistical difference in percentage scoring proficient in math and reading between student cohorts in Connections Academy schools and cohorts in brick-and-mortar schools** that were matched on prior achievement, and after adjusting for district-mean student mobility and school-mean student Socioeconomic Status (SES) and other demographic factors.

- **Student cohorts in Connections Academy schools statistically outperformed (by 7.9 percentage points) cohorts in other virtual schools** (matched on prior achievement) in terms of the percentage scoring proficient in reading on state assessments.

- **No statistical difference in percentage scoring proficient in math between student cohorts in Connections Academy schools and cohorts in other virtual schools** that were matched on prior achievement.

Pearson

B-484

What does this mean for Nevada Connections students?

What About Other Accountability Metrics

The research established two key facts:

1. Connections Academy schools have **incredibly mobile populations.**

1. When you take mobility into account, **Connections Academy schools perform equivalent to other schools on state assessments.**

However, the Nevada State Performance Framework contains several accountability metrics beyond proficiency on state assessments. **What are the implications of the research on these other metrics?**

B-486

Growth, Graduation Rate, Attendance, & College and Career Readiness

- **Growth makes up the largest part of the Nevada framework** for elementary and middle school, especially when you consider Closing the Gap is another type of growth metric. However, the Student Growth Percentile system only takes previous performance into account, **not mobility**. Since mobility predicts a short-term decrease in academic performance, then highly mobile schools will likely perform poorly on the growth indicator.

- **Graduation rate is a metric that reflects 4-years worth of student performance.** In a highly mobile school, the graduation cohort ends up reflecting a significant number of students that have only spent a portion of their high school years at the school that is being held accountable. **It isn't an accurate reflection of the performance of highly mobile schools.**

- **A highly mobile school will have many more students coming and going during the school year.** It is much easier to be considered chronically absent when the days of enrollment are for a shorter time period. The change this past year to require students to be enrolled for at least 90 days to be included in the metric helped to address this issue.

- Connections Academy schools attract a unique student population, one where a significant portion do not intend to go on to college. This has a significant impact on the College and Career Readiness indicator.

Connections Academy Curriculum Transformation

Transform the curriculum experience

Create a repository of learning objects targeted at concepts & skills to meet national & state standards, leveraging a social cognitive & social emotional approach to deliver learner outcomes and school performance

Curriculum & Capabilities for Learning Outcomes

- Connections Academy has taken the Student Mobility research and incorporated strategies for Curriculum & Capabilities positioned to support the growth & performance of students with mobility
    - Through an objective taxonomy focused on discrete concepts & skills targeted at National and state standards
        - Each concept & skill will be tagged for pre-concepts & post-concepts to traverse based on learner competency
    - Through curriculum as a curated collection of learning objects to achieve targeted learning objectives
        - Teachers have the ability to customize learning objectives for individual learner needs, necessary for learners who need to close the performance gap
    - Through strategies targeted for atypical learners:
        - Peer Models and Social Learning
        - 21st Century Learning Skills
        - Self-Regulation and Goal Setting focused on Growth
- Connections Academy will establish a Learning Experience centered around three pedagogical themes, ensuring that learners are Ready to Learn, Learning to Learn, and are equipped with the Skills to Learn

Curriculum to support Ready to Learn, encourages Learning to Learn, and prepares for the Skills to Learn

1 Ready to Learn

In order to be ready to learn, students need to feel safe and feel as if their basic needs are being met.

Online learners often come to us with health & emotional situations. Will develop **Social & Emotional** strategies to develop the 5 competencies of CASEL

2 Learning to Learn

A consistent, strong finding from the research is that successful online students are good at applying self- management to their learning process.

Online learners need skills to plan/set goals, monitor performance, and reflect on their learning. Will develop **Social Learning Theory** strategies to cultivate these skills

3 Skills to Learn

In order to be ready for college and the world of work, learners need occupational-specific & discipline skills with personal and social capabilities.

Online learners need skills and a **Growth Mindset** that thrives on challenge, sees failure as an opportunity to learn & grow, and to generalize skills to lifelong learning

These three *pedagogical* themes are prevalent across educational research & trends and will develop **Social & emotional**, **Social Learning**, and **Growth Mindset** strategies.
Adaptive learning is a *technology* trend that holds promise for all three pedagogical themes. Families come to Connections Academies to meet the unique needs of their children, today and tomorrow as lifelong learners. Connections Academies are well positioned to meet both these needs with a transformed curriculum.

B-490

ALWAYS LEARNING

CONNECTIONS ACADEMY®

Dr. Chris McBride
Superintendent
Nevada Connections Academy

B-492

AGENDA

▶ **Introduction to Nevada Connections Academy**

▶ **MATT WICKS**
Director of Accountability
Expert State Frameworks Grades Schools

How 53% student mobility impacts Nevada state ranking

▶ **FAMILIES:**
How Nevada Connections Academy Meets Child's Academic Needs

SCHOOL OVERVIEW

AUTHORIZED BY
Nevada State Public Charter School Authority

FOUNDED 2007

GRADES K–12

OPEN TO STUDENTS
Throughout Nevada

OFFICE IN Reno area

TUITION FREE Public School

STUDENT INFORMATION

Increased high school graduation rate:
2017: 45% grad   2018: 64% grad

STUDENT MOBILITY:
53.4% v. 23%

STUDENTS ON WAITLIST:
Enrollment cap: 3,571   Hundreds on wait list

Data on students who stay with NCA
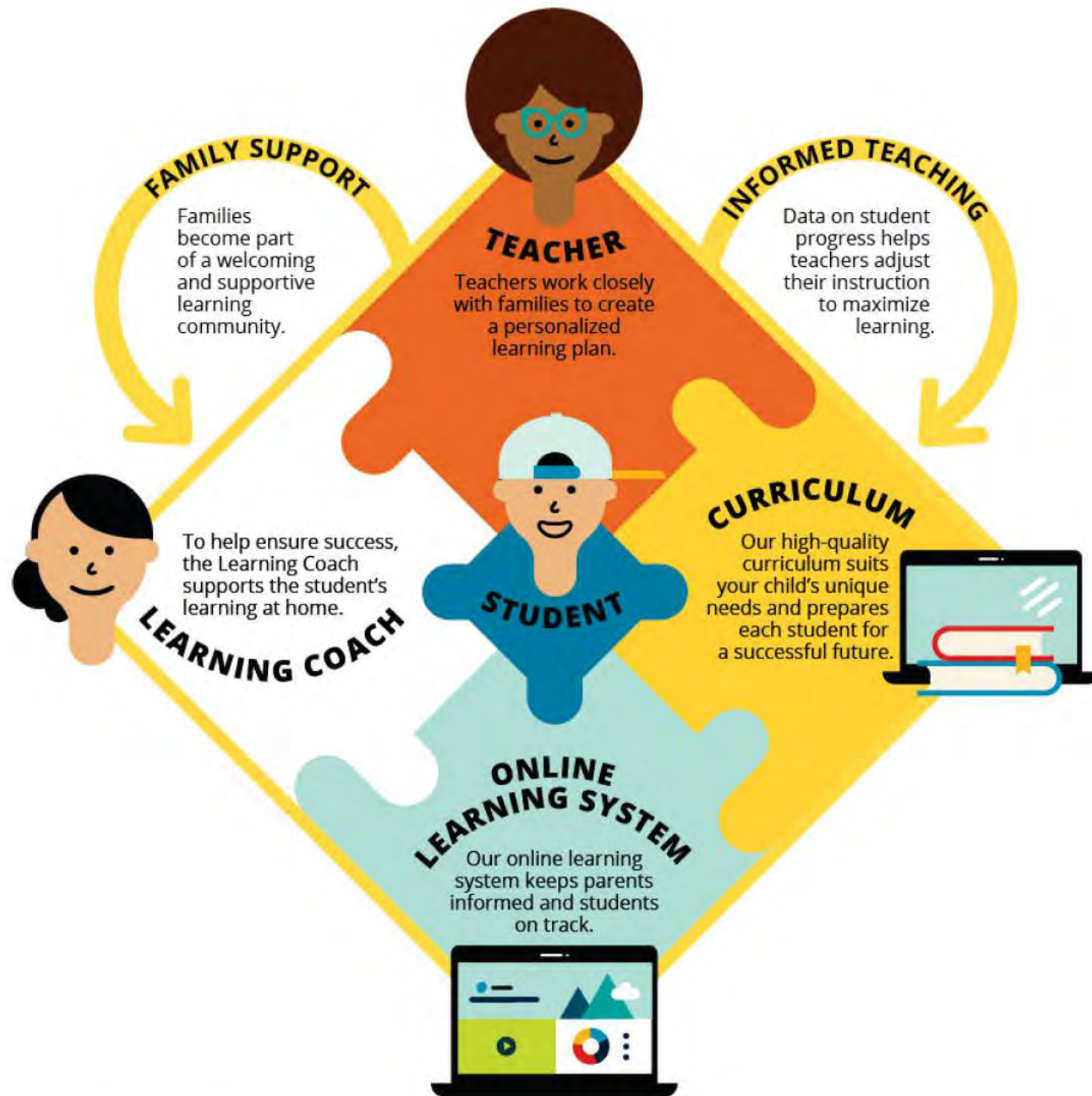**Students enrolled continuously from 6th to 12th: 95% GRAD rate**

Nevada School Climate/Social Emotional Learning:
- Impact of positive social/emotional learning
- NCA students > State average
  - Cultural/Linguistic Competence
  - Relationships
  - Physical & emotional safety

PERSONALIZED INSTRUCTION, QUALITY TEACHING

- Instruct, assess work, and grade

- Experts at engaging students in online learning

- Nevada-certified in grade and subjects

- Bachelor's degrees, master's degrees, and beyond

- Connected and available every school day via phone, WebMail, and live classroom interaction

FAMILY SUPPORT

Families become part of a welcoming and supportive learning community.

INFORMED TEACHING

Data on student progress helps teachers adjust their instruction to maximize learning.

TEACHER

Teachers work closely with families to create a personalized learning plan.

LEARNING COACH

To help ensure success, the Learning Coach supports the student's learning at home.

STUDENT

CURRICULUM

Our high-quality curriculum suits your child's unique needs and prepares each student for a successful future.

ONLINE LEARNING SYSTEM

Our online learning system keeps parents informed and students on track.

B-497

NCA's AWARD-WINNING CURRICULUM

- Enhances student achievement with flexible personalized pacing

"This school has been amazing! Allowing my child to strive for the best! They have a great curriculum and have shown that you are able to keep a good connection with the teachers, to see how much they care for all the children's education."

– Julia M., from an NCA parent-driven petition

93% of parents agree that NCA's curriculum is high quality

Results from 2019 Connections Academy Parent Satisfaction Survey

EQUIPPED FOR LEARNING

- Materials from leading academic curriculum provider

- Interactive multimedia tools bring concepts to life

"My 16-year-old will begin her third year at Nevada Connections Academy next fall. What a difference an all assistive technology school makes! I love that if we have a question, a teacher is just a phone call away. We love that the teachers take a genuine interest in my daughter and her education."

– Cindy Chamberlain, NCA Facebook page

93% of parents say NCA's technology improves their child's learning experience ✦

Results from 2019 Connections Academy Parent Satisfaction Survey

EXTRA ATTENTION SUPPORTS STUDENT SUCCESS

- Personalized learning plan based on student needs

- Support and encouragement in challenge areas

- Ongoing assessments used to update plan

- Reading and math remediation

ENRICHING THE SCHOOL EXPERIENCE

- Online clubs and activities

- Volunteer, service, and leadership options

- Family social events

THE PARENT'S ROLE

- Parent or other trusted adult has the opportunity to act as a Learning Coach

- Typically helps keep students motivated and on track

- Encouraged to regularly communicate with teachers

- Helps monitor attendance

- Exhibits a strong commitment to student growth in all grades

ELEMENTARY SCHOOL EXPERIENCE

LEARNING COACH

- ✓ Provides heavy daily oversight
- ✓ Assists with lessons
- ✓ Frequently consults with teacher and monitors grades

STUDENT

- ✓ Flexible schedule
- ✓ Mostly offline work
- ✓ 15%–30% of the day spent on interactive online courses

TEACHER

- ✓ One assigned teacher
- ✓ Motivates students and personalizes lessons
- ✓ Consults with Learning Coach regarding the student's progress

* Example Learning Coach activities only.

MIDDLE SCHOOL EXPERIENCE

LEARNING COACH

- ✓ Supports transition to independent learning
- ✓ Assists with some lessons
- ✓ Monitors student grades and comprehension
- ✓ Communicates with teachers and refers student to teachers when needed

STUDENT

- ✓ Increased independence
- ✓ Online and offline work
- ✓ 50%–75% of the day spent on interactive online courses

TEACHER

- ✓ Subject-specialist teachers
- ✓ Homeroom or advisory teacher monitors and assists with lessons
- ✓ Consults with Learning Coach regarding the student's progress

* Example Learning Coach activities only.

B-504

HIGH SCHOOL EXPERIENCE

LEARNING COACH

- ✓ Encourages and supports student's growing independence

- ✓ Verifies lesson and assessment completion

- ✓ Communicates with teachers and refers student to teachers when needed

STUDENT

- ✓ Mostly online work

- ✓ More frequent LiveLesson® sessions

- ✓ 80%–90% of day spent on interactive online courses

- ✓ May work with teacher to create modified schedule

- ✓ Academic advising and guidance

TEACHER

- ✓ Subject-specialist teachers

- ✓ Advisory teacher continues to monitor advancement and helps develop a Personalized Learning Plan to help student prepare for the future

- ✓ Consults with Learning Coach regarding the student's progress

* Example Learning Coach activities only.

THANK
YOU!

What does NCA mean to your family?

Ability to teach my daughter & give her a quality education at home.

- Chrissy Bruening

NCA has been an amazing experience for our family. We live in a very rural community with 1 very small public school. The local school is failing miserably and does not provide an adequate education. We are an hour away from any other charter alternatives. NCA has allowed my three young children an opportunity to grow and thrive.

- Ruthann Devereaux-Gonzalez

NCA has been an amazing thing in our lives. My son has flourished and grown so much intellectually while enrolled at NCA. He has severe pediatric psoriasis, and as such, must take medications that render him immune deficient. NCA has been able to provide him with the socialization he misses by not attending school in person, while also keeping him safe from the countless germs of a physical school. We are terribly disheartened to hear he will not be able to return to NCA next year.

- Austen Morse

Safety

- Veronica Gonzalez

Our children are zoned to a public school that is so overcrowded with children who don't even speak English that it would be impossible for my kids to learn in that environment. Our daughter's academic progression is above that of even the top school kids for her age using Nevada Connections Academy's educational curriculum.

The rate of change in technology and the economy has made it so that centralizing education in poorly funded facilities is no longer necessary. Attacking home-school services and charter schools does a disservice to many kids in poor neighborhoods that never get the attention they deserve from State and local officials.

We have no desire to place either of our children into the public school system where they will not get the attention they need to succeed. They do get that attention here at home and to great effect. The status quo in the state of Nevada's education system is not working. NCA works where county districts have failed. Do not take away our kids' educational future over politics.

- Bryan and Ashley Guzman

This is the best thing that has happened to my son. I am so grateful to all of his teachers. Christian was having a very difficult time in the Brick and Mortar school environment. I made the decision to have him go to Connections Academy and it was the best decision I have made.

1

My son now gets an intimate education with these wonderful teachers. Some kids need that one on one time or in smaller groups so they can be heard. My son is that kind of child. He has excelled so much in all aspects and I am thrilled!

- Helen Chandli

I moved to Nevada a little over a year ago. I homeschooled my eldest son from Kindergarten through 7th grade, and I homeschooled my youngest son in Kindergarten. When I moved to Nevada, I was inundated with recommendations for Connections Academy. I was still debating whether I wanted to try Connections Academy. Then, I heard from my aunt who lives in Nevada and her son went to Connections Academy. She had nothing but wonderful things to say about the school. The deciding factor for me was the fact that my cousin is now in college with a near 4.0 G.P.A. and my Aunt solely credits Connections Academy for his academic success. She has told me numerous times that NCA is an amazing college preparatory school, and I get to see if first hand with the success of my cousin.

Connections Academy was a life saver for me and my kids. I have a disability that makes it difficult for me to drive my kids to and from school daily. I have been able to homeschool my children on their current levels but I love how I have teacher assistance when needed. Homeschooling has been amazing for us but NCA has been the great compromise between homeschooling and the local Brick and Mortar school. It is a great option for families that do not want to put their children in the local Brick and Mortar school but don't have the capability to homeschool their children whether that is financially or just the inability to do it all themselves.

NCA gives the children many opportunities to socialize with their classmates through field trips and other excursions. They make sure the kids keep on track with their school work, and they assign important assignments, such as projects they call portfolios, that will prepare them for the vigorous work of college. The teachers are amazing and really care about our children. They are available to assist them whenever they need it, and you can tell they teach because they love children and want to help them succeed in their futures. My youngest son is in first grade, and I love the elementary program as well. They use the curriculum the schools use. I was actually looking into buying that curriculum for my son when I thought I would homeschool him for first grade. The issue is that the curriculum I am allowed to purchase as a homeschooling Mom is not as complete as the one provided by the school. He gets all the features included in the program because it is through a school. All the interesting things he would be denied as a traditional homeschooler are included through NCA. They make learning fun and exciting for my son. NCA is innovative, and they really put an effort into helping the children succeed. They also have this really fun program called Lexia that helps the kids where they are at in their reading level. It helps them get to where they should be in reading for their grade. It is amazing. I am sad that he will no longer have access to that.

I am so disappointed that the choices I have for my son next year are really limited. It's either Brick and Mortar or homeschooling. I can also choose private school but that would be thousands of dollars a year. Our children deserve better. They deserve options for education.

There is not a one size fits all when it comes to education, and we are really doing a disservice to our kids when we limit their options in regard to their education. Thank you.

- Lisa Leask

Having the ability to keep our daughter home with us, and still give her the best education that we can, has been invaluable! We have loved our experience over the last 2+ years with NCA and would be saddened to have it come to an end.

- Raini Lockett

Everything, my child loves this school.

- Cassandre Chavez

We choose to use this format of learning as all 3 children have been bullied not only by students but by teachers alike. My rural town has one option for schooling. Our youngest was spit on, yelling directly in her ear, pencils thrown at her and other classmates, and the teacher's response was he's special needs but not special enough to move to a special needs class. The school couldn't move her class because there aren't enough teachers. The other two have similar problems and all 3 would cry all morning before school, during school and a bit after school. Online school has been a blessing as now our kids are happy and look forward to classes and learning. The teachers have been very accommodating and it is truly a safe and tailored environment. Please do not take happiness and safety away from our and countless other children.

This program means EVERYTHING, and I mean EVERYTHING to our family! Our son has a rare disease and cannot attend a regular high school. I had to quit my job as a teacher in Clark county school district to care for him after teaching 24 years. We've tried for the last few years (5th grade through 9th grade) to make it work for Evan in a physical school and in other similar at home programs (homebound, on-line). What makes this school special is the FLEXIBLE TIME FRAME that allows us to fit Evan's needs to the curriculum. In other words, if Evan is sick all morning, he is not punished for it and can sleep then catch up that night. As a teacher, I've seen other programs and been extremely disappointed with their lack of organization, quality of teachers, the pace, curriculum (yes, I know they all are supposed to meet the same curriculum- but they don't), feedback, the program on-line (tech problems), materials, etc. - YOU GUYS ARE STELLAR!!

- Bernardo and Kristin Hernandez

Other schools, including the other online school we tried, have been nothing less than a nightmare for our entire family and promoted his illness. On multiple occasions they have continued to fail him regardless of all our efforts with meetings, parent involvement, his 504 and

3

even bringing in an advocate from NVPEP. He is a smart boy and was in the GATE program before becoming so ill. He just needs a different schedule that fits our family with accommodating teachers that push for his highest levels academically- while understanding him if there is a relapse or hospital stay. This WONDERFUL, GOD SENT program allows Evan to push himself intellectually during those times when he is at his best at home and can then accommodate his physical needs while being sick.

This school is VITAL to not only our son's success but also to his MENTAL AND PHYSICAL WELL BEING. It's slowly bringing back his self-esteem from the last few years of negative experiences and for the first time I've seen him smile in sometime. We've all been through a lot. We're still not sure about Evan's lifespan but we are sure about one thing- WE COULDN'T BE WITHOUT THIS PROGRAM! So please, I know there must be others like us out there. KEEP THIS OUTSTANDING PROGRAM WITH THESE QUALITY TEACHERS!!

- Nicolle Hallums

My daughter has anxiety and depression and PTSD from sexual abuse. She came forward in 6th grade and for 3 years we battled in court. She missed 7th and 8th grade. They could not keep her in school as the anxiety and feeling of wanting to die overtook her. By her freshman year her father had been sentenced and she was doing well. She joined cheer, band, ROTC, etc. Being her mom, I allowed her to go out of town to games on the bus without me. The cheer coach would become mad and call the girls " little whores". My daughter by December had a complete breakdown. My daughter would miss school A LOT due to anxiety and I attempted to have a meeting with the school and teachers. They belittled my daughter. My mom and I with my daughter tried explaining how my daughter had PTSD, etc. They had Dr and psychiatrist notes. My daughter was told "if your teacher with cancer can be at school a kid YOU with so called PTSD can too". At that point, I called the meeting and stormed out. They did not understand. We started connections the following year. My daughter homeschooled at the end of her freshman year. No one understood her. She took 13 classes per semester to get ahead last year. She is back on track, completely caught up and will be able to graduate when she is to graduate. My daughters only option is connections. She has been able to heal because of the school. No one is mean to her and her teachers understand her.

My son went 1 week to the middle school he is zoned for and was completely bullied and offered drugs. My son tried going back this year to public school and he was bullied badly again. Sadly, we are on a waitlist to get back in connections. Until then we do Leadership Academy of Nevada but my son hates it.

Connections academy saved my children's education. And they both have learned so much. No matter the issues it usually can get solved. Please know connections means so much to many of us. My kids will never go back to Washoe county schools. I'm prepared to homeschool if need be...

- Crystal Roberts

The Six Indicators of Student Success at Nevada Connections Academy (by Rebecca Fay)

With regards to the 2016-2017 District Accountability Report, our family has been able to achieve the following goals set by the school district for the school district. As representatives of that populace, we feel our experience deserves consideration concerning the rating of online schools, specifically Nevada Connections Academy.

Goal 1: Increase Grade 3 Proficiency Rates in Reading.

Our children's proficiency rates in reading have increased due to the staggered timing of reading assignments granted by the ability to walk away from a subject, therefore reducing anxiety and stress upon our children. Our children are excited to exhibit their ability to identify new words and openly practice the use of new words in an environment that encourages trial without fear from peers. We read large texts as a family, such as The Lord of the Rings novels and the Harry Potter collection. Proficiency clearly includes comprehension of the material provided, which our children easily demonstrate.

Goal 2: Reduce the overall achievement gap percentage points in elementary and middle school between the highest-performing subgroup and ethnic/racial subgroups.

The achievement gap has been reduced due to our ability to learn in our own environment, however this goal may not be available in the future if the online option is removed. Our second child is diagnosed on the autism spectrum and is receiving a 504 plan with the Nevada Connections Academy. He flourishes as the individual he is, with the freedom from classroom etiquette. The option to travel from his computer as he needs allows him the opportunity to recalibrate, thus demonstrating self-care and awareness. The online option at Nevada Connections Academy seamlessly integrates the 504 model by catering directly to the student's need for more time on assignments. In absence of classroom distraction and social adherence, our son is proving that he is an exemplary student.

Goal 3: Increase the percentage of students graduating each year.

Graduating as a Nevada Connections Academy student is our goal, but as the threat of closure looms, this goal will be a harder one to achieve. Our family has taken the option of applying into the Charter program in the past. We have attended CSN Cheyenne for preschool, Northwest Academy for Kindergarten, Quest Academy for 1st and 2nd, Coral Academy for 3rd, finally finding our school of choice at Connections Academy. We wish to stay with this school as we are the model family for success at the online level. We believe that allowing our family to prove that the school model at Nevada Connections Academy works, the school district, too, shall be impressed. It is our belief that Nevada Connections Academy is pioneering the path for future online options in Nevada with their comprehensive program and open acceptance model, quintessentially designed for the future.

Goal 4: Increase the percentage of parents reporting that they have been informed regarding their child's progress and feel welcome at school.

My family feels wholeheartedly welcome, supported, and well informed by Connections Academy. The school's webmail system is always available for teacher-student-administration

communication. We have not ever felt confused about our children's progress as we know precisely what they are learning, and we can witness first-hand how exactly the curriculum is implemented. We receive daily updates of happenings at our school, our children's progress, and on certain days, our children interact directly with their teachers via a web conference known within the school as a "Live Lesson." Here, our children demonstrate directly to the teacher what they have learned and receive feedback and guidance. The live lessons provide our children with teacher assisted instruction for harder projects and anticipated assignments. If the live lesson is missed, a recording is always provided to the student.

Goal 5: Increase the percentage of students who feel safe and happy at school.

The wellbeing of our children has increased substantially with the ability to stick together and work through the learning process as a family unit. Our children see and interact with their father, who works nights. They receive immediate help, not always available in a classroom setting. They receive the greatest level of student understanding from their parents, who know intimately their personal quarks. The environment is devoid of bullying and social pressure. The nutrition of our children stays within our family ideals and does not generate waste for the school district. They are not bound to time restraints or weather incompatibilities when physical education is considered. We are given the freedom to exercise as a family, to enjoy the outdoors later in the evening when the weather is optimal, and to engage in stimulating activities that don't require the cooperation of 20 other students. When a field trip is scheduled, our children are excited to meet their peers. Nevada Connections Academy staff have always been supportive of each family's level of involvement, and for the families of this school, it is a mighty fine system! The necessity to allow our children to be precisely who they are, rambunctious and sometimes spacey, without the fear of reprimand is crucial to their success. We would say that our children are very happy.

Goal 6: Increase the number of students completing Advanced Placement (AP) and Career and

Technical Education (CTE) courses each year.

We would love to apply in Advanced Placement (AP) and Career and Technical Education (CTE) courses when the time presents itself, yet again with the threat of closure looming, the ability to prove our excellence is removed.

Concerning attendance and truancy, these are non-issues. Exposure to pathogens in the school setting is nonexistent, therefore we do not have sick days. Compulsory engagement of each subject by our children does sometimes exceed the 8 hour school day, yet our children do not feel overburdened or that their personal time has been taxed. There isn't a reason not to attend class at home since the effort of travel is negated. We are always present and our assignments are always on schedule.

We believe that Nevada Connections Academy exhibits the foundations of the Every Student Succeeds Act. Nevada Connections Academy is an innovative approach to the learning environment. The school upholds standards and protections for disadvantaged and high-needs students. There is an absolute expectation of accountability that needs to be considered over a longer measure of time as the school does remain transient for students. With this regard, as the population shifts and changes, the school district must understand the need for flexibility.

There are students and families who excel and families who challenge the brick-and-mortar model. We call for the Nevada Board of Education to stand together with families of Nevada Connections Academy to keep the K-5, and continuing, K-12 online option open for all Nevada families as Nevada will be the model for the future of our national education system.

- Rebecca Fay

This is the third attempt at school for Zachary. He had an eye problem in kindergarten that was not caught by his teacher until the end of that year. He struggled all year and got by, by listening to the other students and copying what they said. He never learned to read or write, even with tutoring twice a week. His teacher let him scribble and said it would come eventually. For the fall I enrolled him in Nevada Virtual Academy. He had learned bad habits and refused to work. The challenge of having to do independent work angered him, he would run away from the screen crying, he fell behind and was removed from the program by November. For the remainder of that year, we worked on improving his eyesight, but very little, if any school work was done, he refused. I signed up for Connections Academy with little faith that this would be successful, knowing his history. I didn't have any other options as now he is seven and required to go to school. Currently we are four weeks into Connections and Zachary loves learning. He is engaged, he does not run away when it gets hard. He is starting to read and write. He is improving and understands the curriculum. I am amazed at his progress. He has done more in four weeks than in the last two years.

- Erin Holmes

NCA gives me peace of mind that both my children are safe while still studying and they learn at their own pace. I'm able to travel to California when my family needs my help and have both my children go and still participate in their studies.

- Kerri Chang-Torres

My son has special needs. As his brother before him public school does not work. They couldn't handle him walking out and being ADHD so they sent him to the principal and called me. This was 4 out of 5 days. I have been dealing with public schools since 1980. This is the best school for my children. Did you know that NCA kindergarten had him reading before his friends in public schools? Did you also know that the Authority doesn't care about our children? There are several public schools that should be closed to not teaching our children or keeping them safe. A lot of parents a few years ago took their children out of these public schools. My children will never go back to brick and mortar. Closing Elementary is the worst thing to do. My kids love school and one graduated NCA 2018 and one graduating 2020. Thanks to the teachers she did it in 3 years. My son is already devastated about this situation as the rest of the family is. We fought for NCA about fighting for us.

- Donna Jordan

NCA has been such a positive experience and truly a blessing to our family. My daughter has been with NCA since Kindergarten. She has always been a very shy girl who hates the spotlight and it takes time to bring her out of her shell. Being able to do school in the comfort of our home each day as well as being able to provide a one on one learning experience. NCA has completely eliminated all the stress of having to put her into an overflowing classroom environment that she would most likely just get lost in the shuffle. With the help of her teachers who have been nothing short of amazing (Mrs. Musselman - Kindergarten - 1st and Mrs. Savage 2nd - 3rd) I can confidently say that my daughter continues to thrive in this type of learning environment. She has had Principal's Honor Roll or Honor Roll every single semester. Seeing her growth and how much she has learned each year with NCA it was an obvious choice to have our son start kindergarten at NCA next year.

- Elizabeth Haro

Finding out about the school's decision to close grades K-5 has left us at a complete loss. We are devastated. Clark County doesn't have another virtual school option for us, and we are feeling very overwhelmed and not sure what will be next for our children for the next school year. Along with everything I've just written NCA literally means everything to me as a parent with young school aged children. I'm grateful for the years we have had and hope that we can return to NCA again in the near future. Please consider reopening our school again!!

This was our source of education, obviously. We have no options at this point. It has been beneficial for us who want to participate in our children's education. This was a very unfortunate decision.

- Heather Fuller

To our family, NCA means flexibility, self-paced learning and allowing our daughters to be in a positive and focused learning environment that meets their individual needs. It allows them to succeed without additional and unnecessary pressures of a brick and mortar school. We love NCA!

- Kimberlee Linton

It means I can feel safe about my child's environment and help him go at his own pace without worry he will miss something because he's in a classroom with a lot of children and not getting the attention he needs to succeed.

- Massiel Andreu

8

Appendix C: Resumes of Board Members

Scott Winslow Harrington, Ph.D., Board Chair and President

Relevant Professional Experience

Churchill County School District

Behavior Specialist (2018 – Present)

Consultant (2017 – 2018)

United National Educational, Scientific, and Cultural Organization

Consultant (2014 – Present)

Sierra Behavioral Solutions

Licensed Behavioral Analyst (2016 – 2018)

MOCAIC Center for Therapy Services

Clinical Services Supervisor (2015 – 2016)

Nevada Center for Excellence in Disabilities

Director of Youth Transition (2005 – 2015)

Institute for Applied Behavior Analysis

Senior Behavior Analyst (2011 – 2014)

Consumer Direct Personal Care

Behavioral Consultant for Autism (2008 – 2010)

Quality Behavioral Outcomes

Behavioral Treatments Director and Research Coordinator (2005)

Sierra Nevada Academy Charter School

Director, Behavioral Services (2004)

Math Teacher, Grades 5-8 (2003 – 2004)

Director, Learning Resource Center (1999 – 2003)

The Wilson Group

Organizational Consultant (1999)

Sierra Developmental Center

Behavioral Consultant (1998 – 1999)

Washoe County Unified School District

Behavioral Consultant (1997 – 1999; 1994 – 1996)

Independent Living Skills Training

Project Supervisor (1996 – 1998)

S.T.E.P Project

Supported Employment Supervisor (1004 – 1996)

Stockton Unified School District

Behavioral Consultant (1994 – 1996)

Community Re-Entry Program, Bright House Board & Care

Behavior Specialist (1993 – 1994)

Graduate Coordinator (1991 – 1993)

University of the Pacific's Behavior Medicine Clinic

ADHD Specialist (1991 – 1994)

Crisis Intervention Center and Psychiatric Holding

Mental Health Specialist (1993 – 1994)

Education
- Ph.D., Psychology, University of Reno
- M.A., Applied Behavior Analysis, University of Pacific
- B.A., Applied Psychology, California State University

Morgan Jackson, Board Vice President

Relevant Professional Experience

Bishop Gorman High School

Teacher (2013 – Present)

- Create dynamic lessons, incorporate technology into activities, participant on WCEA accreditation vital growth committee

Clark County School District

Teacher (2007 – 2013)

- Ensure compliance with IEPs and 504 plans, integrate technology into the classroom, develop critical thinking skills of students and work towards mastery of curriculum

Child and Family Research Center

Teacher (2004 – 2006)

- Monitor for age appropriate development and progress, document milestones and achievements, create age-appropriate lesson plans that support independent thinking and cognitive growth; maintain communications with parents and other centers

Education

- M.A., Teaching, Sierra Nevada College
- B.A., English, University of Nevada

Naima Benjelloun, Board Secretary

Relevant Professional Experience

House of Sultan

Operational Manager (2009 – 2012)

- Managed front house operations including employees and inventory Marketing and promotions including videography, commercial development, and print
- Developed a social media strategy to increase following

Multi-Target, Inc

Vice President (1999 – 2003)

- Implemented and improved internal communications system between accounts Managed hundreds of employees on a daily basis
- Co-founded and fully operated Multi-Target, Inc from startup to profiting company

Education

- B.A., Marketing Communication, Leiden Universiteit

Kelly McGlynn, CPA, Board Treasurer

Relevant Professional Experience

Exceptional Bookkeeping

President (2012 – Present)

Clausen & Company

Manager (2004 – 2012)

- Preparation and review of tax returns including individual, partnership, corporation, benefit plans, and gift tax returns
- Oversee financial statement preparation to ensure compliance with GAAP
- Performed annual in-house peer review and managed external peer review
- Performed multiple G/L, A/R, and A/P functions for clients in various industries including medical, construction, law firms, manufacturing, insurance companies, and retail and wholesale businesses
- Implemented standard procedures and required documentation for assurance services

Muckle Anderson, CPAS

Manager (2002 – 2004)

Senior Staff Accountant (2000 – 2002)

Staff Accountant (1998 – 2000)

- Performed A/P functions for clients. Processed monthly accruals; prepared checks, and reconciled bank statements
- Preparation of tax returns including individual, partnership, corporation, benefit plans, and gift tax returns
- Assisted with implementation of paperless office
- Managed and oversaw the work of multiple employees during audits

Education

- B.S., Business Administration, University of Nevada

Kevin Arnold, Board Member

Relevant Professional Experience

Dilworth STEM Academy

Social Studies Instructional Leader (2017 – Present)

7th-8th Grade Social Studies Teacher (2015 – Present)

- Provides instructional leadership for the Social Studies Department (grades 6-8)
- Conferences with teachers concerning data analysis, curriculum development, and pedagogy
- Designed and delivered instructional units focused on US History and US Government.
- Instructed Science and Language Arts Support classes using a variety of technological resources
- Taught research and writing skills in school wide interdisciplinary STEM projects

Academy for Career Education (ACE High School)

Social Studies Teacher (2014 – 2015)

- Designed and delivered instructional units focused on US Government (12th Grade)
- Designed and delivered instructional unites focused on World History (9th Grade)
- Designed and delivered instructional units focused on Economics and Personal Finance (9th Grade)

KIPP Impact Middle School

8th Grade Humanities Teacher (2013 – 2014)

Resident Teacher (2013)

- Designed and delivered instructional units focused around US History 1600-Civil War
- Implemented CAT pre paration writing classes
- Developed an interdisciplinary enrichment course based on the city of Jacksonville
- Substitute taught in many disciplines ranging from 5th-8th Grade

Matthew W. Gilbert Middle School

Corps Member (2012 – 2013)

- Served as a tutor, mentor and role model in schools to help 8th Grade students stay on track – and get back on track to graduate

- Worked in teams to identify three early warning indicators of dropouts that have been defined through research: attendance, behavior and course performance in Math and English
- Led groups of students in community events, field trips, and out of school service days.
- Worked as the after-school coordinator for Team-Up

Education

- M.E., Educational Leadership, University of Nevada
- B.A., History, Keene State College

Dr. Amelia Olivas Cook, Board Member

Relevant Professional Experience

Somerset Academy, Sky Pointe Campus

Mathematics Teacher (2015 – Present)

- Teach Algebra 1, Precalculus Honors, and AP Calculus AB
- Design and implement rigorous curriculum to challenge all students
- Provide cross-curriculum learning by incorporating STEM activities
- Motivate students and manage classroom through the KAGAN strategies

Bishop Gorman High School

Mathematics Teacher (2013 – 2015)

- Design and implement comprehensive lesson plans ensuring all students are able to retain and understand concepts
- Incorporate the iPad technology in the classroom
- Collaborate with colleagues in a Professional Learning Community to integrate activities and develop pacing guides

Waipahu High School

School Improvement Resource Teacher – Math Coach (2012 – 2013)

Mathematics Department Chairperson (2008 – 2012)

Mathematics Teacher (2001 – 2012)

- acilitate d department understanding and discussions of Common Core State Standards and Mathematical Practices
- Responsible for mathematics improvement and implementation of mathematical thinking and practices school wide
- acilitate d department in the development of performance tasks and assessments
- Provided support as a mentor to new teachers in math curriculum, instruction, and assessment
- acilitate d discussions on curriculum and instructional strategies with math department members
- Implemented stimulated lessons to capture student's attention and interest. Incorporated math labs and activities that connected real-world situations with mathematical content

- Participated in a Small Learning Community in the Health Pathway
- Developed and oversaw remedial courses and high-stakes testing preparation courses during school breaks
- Provided guidance and support as a Teacher Mentor for student teachers attending University of Hawaii and University of Phoenix, Hawaii Campus

University of Phoenix – Honolulu, Hawaii

Adjunct Faculty Member (2010 – 2013)

- Instructed MTH208 (College Mathematics I) and MTH209 (College Mathematics II). Design and implement comprehensive lesson plans, ensuring university students are able to retain and understand concepts

Education

- Doctor of Educational Leadership, Educational Technology, University of Phoenix
- M.A., Secondary Education in Mathematics, University of Phoenix
- B.S., Business Administration, Hawaii Pacific University

Thomas Prutzman, Board Member

Relevant Professional Experience

Prutzman Wealth Management

President (2006 – Present)

- Manage more than one hundred 401(k) retirement plans
- Provide financial planning to over 2,000 participants

Morgan Stanley

Associate Vice President (1991 – 1995)

Education

- B.S., Finance and Business Management, Cornell University