An Evaluation of Virtual School's Preparation of Second Grade Students for Third Grade Reading Proficiency

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ABSTRACT

Third-grade reading proficiency is an indicator of future student success in middle school and ninth grade, on-time graduation rates, and career success; however, 44% of third-grade students in one state were not meeting this goal. The purpose of this study was to investigate the extent to which virtual school in second grade prepared students for third-grade reading achievement. I used a mixed methodology to compare extant data from a state database on third-grade state achievement tests in the area of English Language Arts. Sixty-one second and third-grade teachers completed surveys, and three teachers participated in follow-up interviews. The data from my study demonstrated that third-grade students in virtual school outperformed third-grade students in face-to-face learning environments in reading proficiency by seven percentage points on the State Standards Assessments between the years 2015-2019. These data were in direct contradiction with the data from the teacher survey and interviews. With the results from this study, I made recommendations using Michael G. Moore's Theory of Transactional Distance to improve teacher effectiveness in online instruction to increase student reading achievement.

PREFACE

The study on the effectiveness of the virtual school in second grade is important to me for many reasons. To begin with, I am an elementary teacher in a face-to-face school setting with experience teaching first through fourth grades. Specifically, I taught first grade for seven years, second and third Montessori for one year, and second grade for seven years. Additionally, I was a student-teacher and worked as a classroom assistant in the third and fourth grades. Therefore, I understand the importance of student reading proficiency instruction as a foundation in the primary grades for third-grade success.

I see the value of online learning. I earned a master's degree in online teaching and learning and chose distance education as my preferred instructional method. I also encouraged my children to take courses online. Above all, I saw the world struggle in 2020 with the coronavirus pandemic and experienced the impact as brick-and-mortar school doors closed and virtual school doors opened. I had to switch from teaching my face-to-face second-grade students to teaching online. The following year, I taught second grade concurrently with half of my class face-to-face and the other half online. My online teaching and learning master’s degree background helped me. Still, I saw how this affected teachers and students in my school and district. The experience made me realize that virtual education is more than a charter school option; it is an educational reality that affects all teachers, students, and families.

One leadership lesson I learned was how to use data to create an informed decision. My data analysis taught me how to gather and analyze information from quantitative and qualitative data sources using the department of education's database, surveys, and interviews. I learned how to research with human subjects and respect their

rights. I learned how to code open-ended responses and identify patterns and trends. I also learned how to use diagnostic tools to identify and diagnose the elements that make up a school system as it currently is and how to plan for what I want the school system to be. I now understand the impact change leadership can have on a school system.

I have grown as a leader in my ability to use scholarly research to investigate a problem in my field and my community to create change. I have also grown in my ability to communicate my ideas in writing through the dissertation process and opportunities to make presentations to my classmates, university faculty, and university peers. This gave me the confidence to become an expert in the field of my research.

I learned about the power of politics in the field of education. I realize now the impact school district leaders have as they create policies. I understand the value of stakeholders and how to better include them in the process of creating change for better communities and schools.

My biggest leadership lesson was that no matter what the research topic may be, the focus is on the children and their success. School leaders have a duty to put the students first because it is in the children that all our futures lie. I will never forget that.

ACKNOWLEDGEMENTS

I would like to acknowledge the support of those who helped me through my doctorate journey. First, I must thank my fiancé, Dr. Gregg Hassler, Jr., for being my biggest advocate. He believed in me before I started and was a constant source of motivation and encouragement. I am a stronger and better person now because of his faith in me.

I would also like to thank my dissertation chairs and mentors, Dr. Carla Sparks and Dr. Lorrie Butler. Their collective guidance and support through the dissertation process helped me create work of which I am extremely proud. Their consistent communication through weekly check-ins, drop-in Zoom office hours, and timely feedback kept me moving forward. The flexibility, dedication, and passion for education they displayed was inspiring.

Finally, I need to thank Eric Robinson. His concern for the reading success of the state's children guided me in my dissertation topic. He influenced me to use my experience as an elementary teacher and knowledge in online teaching and learning to study an area in education that needed further research. I am forever grateful.

DEDICATION

This dissertation is dedicated to my mother, who is a perfect example of how learning is a lifelong journey. She always believed that I could do anything, even when I did not. I would also like to dedicate this dissertation to my fiancé, my partner in life and best friend, Gregg Hassler, Jr. He gave me the encouragement to pursue my dreams and the support to get through it. Finally, I would like to dedicate this to our children Devin, Brandon, Conner, Claudia, Elizabeth, Gage, and Lucas. Reach high and follow your heart.

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Chapter One: Introduction

A widely circulated newspaper announced on May 24, 2019 that 20% of third graders faced possible retention as the State Standard Assessment results were released (Citation withheld to protect confidentiality). Twenty percent of students statewide scored at level 1, the lowest score, in 2019 and 2018. That means for two consecutive years, 20% of all public school third graders in the state under study were at risk for retention.

Meanwhile, K-2 education changed as more parents chose online education for their children, especially with the coronavirus pandemic in 2020-2021 when most brick-and-mortar schools in the United States switched from face-to-face environments to online platforms. According to the department of education, virtual education gained acceptance and popularity as a charter school option (Citation withheld to protect confidentiality). Of the 313,586 students enrolled in charter schools for the school year 2018-2019, 215,505 students were enrolled in the state-wide Virtual School, and their numbers continued to increase (Citation withheld to protect confidentiality). With this increase in enrollment, there were no studies focused on K-2 online education effectiveness. Previous online education studies focused on higher education, high school, and middle school. K-2 is a unique grade span with a high impact on future success using third-grade student achievement scores in reading proficiency as an indicator for middle school and ninth grade success, on-time high school graduation rates, and future career success (Fiester, 2013, p. 3). There is a need for virtual school student success research.

Purpose of the Program Evaluation

The program I evaluated was Virtual School (VS) Full-Time. VS was established in 1997 as a grant-based pilot project, pioneering the state's first Internet-based, public high school. In 2021, as a fully accredited, statewide public-school district, VS offered more than 190 online courses to students in Kindergarten-Grade12. Certified teachers used a variety of personalized instructional programs to create individualized educational plans for students. Since 1997, VS students have completed more than 4.6 million semester enrollments. VS also provided its courseware to online and blended learning programs across the nation. As a not-for-profit, VS reinvested funds into developing new educational technologies and creating courses for students in the state and globally.

I used the VS program to evaluate second-grade student achievement in online education for several reasons:

1. A public school board member in the state under study requested the study.
2. There was a large student enrollment in VS, especially in the primary grades, where this number was increasing.
3. All state residents had easy accessibility to the VS program free of charge.
4. VS had a long-standing history within the state.
5. VS students were required to take the state assessments for third grade, so there were viable comparable data on third-grade student achievement in the area of English Language Arts.

Rationale

The rationale behind my study came from a public school board member in the state under study. I approached the school board member to assist me in finding a topic to

research for my dissertation. I wanted my study to be on a topic that was important to the stakeholders in my community to make impactful change. His suggestion was to research VS in second-grade for reading proficiency to see if it was successful (Citation withheld to protect confidentiality). There was a major concern in the state under study for third-grade reading proficiency and stakeholders were trying very hard to improve it. With more families choosing VS as an option in the primary grades, stakeholders wanted to know if VS at this age was viable. The school board member wanted data to help the school board make an informed judgement.

This study can benefit the state under study and add to the body of knowledge in online school effectiveness for elementary education, primary education, and more specifically, second-grade education. Recommendations for future research in the area of primary online education success have come from authors of various articles and reports, with one in particular, by Patrick and Powell (2009). They urged researchers to conduct a large-scale study across a state comparing online and traditional students using state achievement data because of the research gap in the primary grades (p.11). With the current state-wide problem with low achieving third graders and no research on second grade virtual school effectiveness, this was an area that needed more research.

The study on the effectiveness of VS in second grade is important to me for many reasons. First, I am a teacher in a face-to-face school setting with experience teaching first through fourth grades, so I understand the importance of student reading proficiency instruction as a foundation in the primary grades for third-grade success. I also see the value of online learning. I earned a master's degree in online teaching and learning and chose distance education as my preferred instructional method. I also encouraged three of

my children to take courses online. Above all, I saw the world struggle in 2020 with the coronavirus pandemic and experienced, as many did, the impact as brick-and-mortar school doors closed and virtual school doors opened. Virtual school is more than a charter school option; it is an educational reality that affects all students.

I assessed the effectiveness of online education in second grade as a viable option to increase student achievement in third-grade reading proficiency. Students in grades K-2 develop the necessary reading skill sets to achieve reading proficiency in third grade. Third grade is, therefore, a pinnacle grade level to collect state achievement data and determine if students attained reading proficiency while attending an online school in second grade, especially because third-grade reading proficiency is an indicator for a student's future success (Fiester, 2013, p.3).

With additional research in second-grade online education effectiveness for third-grade success, I hope to increase knowledge for the public and stakeholders. Suppose online education is found effective at the second-grade level. In that case, stakeholders can continue to support it and encourage its use. If online education is found to be less than effective, then stakeholders can collaborate with virtual schools to make adjustments to enhance the program.

The evaluation of a K-2 distance education program was essential. Stakeholders were interested in it because it is a free option for children throughout the state. It cost less for an online educated child through tax-payer money than did a traditional face-to-face educated child. School Board members needed to know if VS was successful at providing students with the necessary skills to be successful in third grade and beyond to endorse it. Virtual schools had the potential to save school districts money. Additionally,

virtual schools could service low-income areas with quality education, creating equity in education opportunities despite location. The biggest reason for conducting my research evaluation was to determine if online education could increase student achievement in third-grade student achievement scores and reduce the 20 percent of students state-wide who were at risk of retention.

School districts needed to know if second-grade online education was a viable option for their students. If students attended a virtual school, failed, and then returned to the traditional school system at a later time underdeveloped, the school district would have to spend more time and money on interventions, services, curricula, and teachers. Additionally, their school scores based upon state assessments would go down.

The community needed to know how successful VS was in second grade. Low-graded schools, based on the state department of education assigned grades, impacted the community because parents often moved or sent their children to different schools with a record of higher achievement. The community would then receive citizens not ready for the workforce which could have a negative impact on local poverty rates. According to Walter R. Tschinkel (1999), in his article Grading Schools on Poverty, "standardized test performance of schools is very reliably predicted by poverty, the poverty-level of a school is by far the strongest predictor of its grade" (p. 1). There was a link to low-performing schools and poverty rates. Virtual school success directly impacted the community it served.

Goals

The goal of my evaluation was to study whether a full-time virtual school in the second grade made a difference among students in the area of English Language Arts in

third grade. Additional goals were to build on existing research in this field and to fill in the gaps of knowledge. If a virtual school in second grade proved to be successful, then it could be used to increase student achievement. Additionally, I wanted to document how successful second-grade students were in attaining reading proficiency while attending a virtual school from the teacher's point of view.

Definition of Terms

In this study, virtual school, online education, e-learning, and distance education are interchangeable terms. Many studies use these terms with the same overall meaning as a program created for student education using an Internet technology platform with a teacher. Specific definitions and examples are:

1. Virtual school - refers to an educational program that takes place in a virtual environment, most typically on a computer screen. It can also refer to a specific school that provides instruction using such programs (Dictionary.com, 2021). My daughter attends a virtual school.
2. Online education - Online education is a flexible instructional delivery system that encompasses any kind of learning that takes place via the Internet. Online learning gives educators an opportunity to reach students who may not be able to enroll in a traditional classroom course and supports students who need to work on their own schedule and at their own pace (Encyclopedia.com, 2021). My son attends class through online education.
3. e-learning - also referred to as online learning or electronic learning, is the acquisition of knowledge which takes place through electronic technologies and media. In simple language, e-learning is defined as learning that is enabled

electronically. Typically, e-learning is conducted on the Internet, where students can access their learning materials online at any place and time. E-learning most often takes place in the form of online courses, online degrees, or online programs (e-student.org, 2021). My daughter uses e-learning to attend class.

4. Distance education - a form of education in which the main elements include physical separation of teachers and students during instruction and the use of various technologies to facilitate student-teacher and student-student communication (Britannica.com, 2021). My son enjoys distance education.
5. Transactional Distance (TD) - the psychological and communications space that occurs between teachers and learners with the special characteristic of separation (Moore, 1997, p. 22).

Research Questions

The overarching question that guided my study was: To what extent does virtual school in second grade prepare students for third grade reading achievement?

My related research questions were:

1. How do third-grade virtual students compare to traditional brick and mortar third-grade students in English Language Arts state assessments?
2. What is the experience of second-grade virtual teachers in relation to student achievement in English Language Arts?
3. What is the experience of third-grade teachers who have taught second-grade virtual students in relation to third-grade student achievement in English Language Arts?

Conclusion

To summarize, 20% of third-grade students in the state under study were at risk of being retained because of low achievement test scores in the area of English Language Arts. Meanwhile, the importance of third-grade students' reading proficiency has been identified as an indicator of future student success in middle school, high school, and their future adult career (Fiester, 2013, p. 3). With virtual school enrollment in second grade increasing to become a more mainstream charter school choice and necessity during the coronavirus pandemic, it was important to research if virtual school is a viable option in improving third-grade student achievement.

Chapter Two: Literature Review

Through this study, I investigated what is known in the field of online education and its effectiveness in the second grade as it pertained to reading proficiency and third-grade success. To lay the foundation for the importance of reading proficiency in second grade, I first established the leading research and findings for critical indicators. Then, I explained the Theory of Transactional Distance by Michael G. Moore (1997) and supporting studies conducted as they related to online student success. Finally, I presented the literature gap for online student success in second grade. I synthesized the research in online elementary school, high school, and undergraduate student achievement.

Critical Academic Indicator

Third-grade reading proficiency is linked with student success later in life, both academically and economically (Fiester, 2010, p. 9). In a Kids Count special report by the Annie E. Casey Foundation, author Leila Fiester stated, “Reading proficiency by the end of third grade (as measured by National Assessment of Educational Progress at the beginning of fourth grade) can be a make-or-break benchmark in a child’s development,” (2010, p. 9). She also said, “Three-quarters of students who are poor readers in third grade will remain poor readers in high school" (p. 9). The National Center for Education Statistics (1995), as reported by Snow et al. (1998), stated:

> Academic success, as defined by high school graduation, can be predicted with reasonable accuracy by knowing someone’s reading skills at the end of third grade… A person who is not at least a modestly skilled reader by that time is unlikely to graduate high school. (Snow et al., 1998, p. 21)

Fiester linked high school graduation and future student success when she stated, “Low achievement in reading has important long-term consequences in terms of individual earning potential, global competitiveness, and general productivity” (2010, p. 9). High school dropouts have an earning potential of half of what a student who completed a bachelor's degree or higher would earn, directly impacting their economic self-sufficiency (Fiester, 2010, p. 9).

Leila Fiester later wrote a follow-up report for the Annie E. Casey Foundation in 2013, *Early Warning Confirmed: A Research Update on Third-Grade Reading*, to revisit the 2010 findings. The Kids Count special report confirmed that the academic gap between fluent and struggling readers did not diminish over time (Fiester, 2013, p. 4). In one study, Canadian researchers, McNamara et al. (2011), conducted a longitudinal study of 382 kindergarten children and found that students with low reading proficiency were likely to remain low from kindergarten through Grade 3 (McNamara et al., 2011, as cited in Fiester, 2013, p. 4). Additionally, the reading gap increased as children continued in school, with struggling readers falling further behind in grade-level reading than their peers. Donald J. Hernandez's (2012) study of over 4,000 students corroborated Fiester’s 2010 report confirming critical indicators (p. 3). Hernandez reported that "children who do not read proficiently by the end of third grade are four times more likely to leave school without a diploma than proficient readers" (p. 3).

In 2014, Hanover Research reported additional findings in Critical Academic Indicators research on the importance of reading proficiency in third grade. Hernandez (2012) confirmed the relationship between third-grade reading proficiency and high school graduation using a sample of 3,975 students born between 1979-1989 (p. 4). He

tracked the sample students' reading progress every two years using a reading recognition subtest of the Peabody Individual Achievement Test (PIAT) (p. 4). Of the student sampling, 16% of students not reading proficiently in third grade failed to graduate by age 19 (p. 6). Hernandez stated that one in six children not reading proficiently in third grade fail to graduate high school on time which is four times the rate for children who did read proficiently in third grade (p. 6). Additionally, third-grade reading proficiency was identified as one of the "On-Track Indicators" by The Community Center for Education Results (2013) for students to be on track to earn a college degree or career credential (p. 10). Third-grade reading proficiency matters.

Jen Elise Prescott et al. (2018) remarked on the importance of acting on the critical academic indicator in the article, *Elementary School-Wide Implementation of a Blended Learning Program for Reading Intervention*. She supported Fiester's views on the importance of being a proficient reader by Grade 3. It is a key predictor of future academic and career success (p. 497). She went on to state, "Thus, there is an urgent need to identify instructional approaches that can effectively boost reading skills in elementary school students, particularly those from low-SES [socioeconomic status] backgrounds and students who are ELs [English Learners]" (p. 497). In summary, if identified reading instructional practices are used to increase reading fluency in struggling readers by Grade 3, their future academic and career success will also increase.

Theory of Transactional Distance

Michael G. Moore first attempted to articulate a theory to define distance education in 1972. In this original theory, he stated,

> Distance education is not simply a geographic separation of learners and teachers, but more importantly, is a pedagogical concept. It is a concept describing the universe of teacher-learner relationships that exist when learners and instructors are separated by space and/or time. (1997, p. 22)

He then expanded on his original theory and described transactional distance (TD) as the psychological and communications space that occurs between teachers and learners with the special characteristic of separation (1997, p. 22). TD profoundly affects teachers and learners and leads to "special patterns of learner and teacher behaviors." (1997, p. 22). Moore broke TD into three areas, referred to as clusters. The first two clusters describe teaching procedures in Dialogue and Structure. The third cluster, Learner Autonomy, describes learner behaviors.

Instructional Dialogue is developed by teachers and learners in a purposeful, constructive way that improves student understanding in the educational relationship (Moore, 1997, p. 23). Moore stated that the teachers and learners in a dialogue needed to be respectful and active listeners by contributing and building on the contributions of each party involved. Distance education was just beginning at the time Moore was developing his theory. He made this statement for the future:

> As the distance of education field matures, it is to be hoped that greater attention will be paid to variables besides the communication media, especially the design of courses and the selection and training of instructors, and the learning style of students. (1997, p. 23)

Program Structure consists of variables that determine TD through course design (Moore, 1997, p. 24). The flexibility and rigidity of a course's educational objectives,

evaluation methods, and teaching strategies describe to what extent they can meet each learner's individual needs. Moore described the different effects on TD through program design in his statement:

> When a programme is highly structured, and teacher learner dialogue is non-existent, the transaction between learners and teachers is high. At the other extreme, there is low transactional distance in those teleconference programmes that have much dialogue and little predetermined structure. (1997, p. 24)

Moore recommended six processes to be structured in every distant educational course (1997, p. 25). The first is the *presentation* in which he encouraged recorded media as the most powerful when presenting new information, modeling, or demonstrating a skill. The second is the *support of the learner's motivation*. Learner support is accomplished through stimulating the course content to be of the student's interest, stimulation through film, feedback, and unstructured teacher-learner dialogue. The third is to *stimulate analysis and criticism* with associated attitudes and values through teleconference with a recorded or printed presentation or recorded media.

The fourth process is to *give advice and counsel* (1997, p. 25). The course must guide how to use the learning materials, study techniques, and references for help to develop study skills and help with study problems. Guidance can be done electronically through the course shell or individual dialogue. The fifth is to *arrange practice, application, testing, and evaluation.* Students must be allowed to apply what they are learning, practice skills, and manipulate information. Even self-directed learners are vulnerable at the application process. The opportunity for dialogue is essential to assist the student in testing and getting feedback. Finally, the sixth process is to *arrange for*

student creation of knowledge. Students need to have the opportunity for meaningful dialogue with teachers to create knowledge.

The third and final cluster is *learner autonomy* (Moore, 1997, p. 26). Moore described this as "the extent to which in the teaching/learning relationship it is the learner rather than the teacher who determines the goals, the experiences, and the evaluation decisions of the learning program" (1997, p. 26). After analysis of the data, Moore recognized personality characteristic patterns among students who preferred and succeeded in highly dialogic and less structured programs and those who preferred and succeeded in less dialogic and more structured programs (1997, p. 27). He suggested that teachers assist students; in this case, they were adult learners, acquiring the skills for self-directed learning.

Overall, Moore was excited about the personal computer and its usefulness in distance education as having enormously significant implications in teaching-learning (Moore, 1997, p. 27). He described the engagement of collective intelligence, virtual groups, and students' individuality to interact in their own time and pace. Moore's Theory of Transactional Distance is still relevant today, especially in advancements in technology commonly used in distance education to reduce TD and improve student achievement.

In 2015, Huang et al. researched Moore's Theory of Transactional Distance, as documented in the study, *Measuring Transactional Distance in Web-Based Learning Environments: An Initial Instrument Development* (p. 106). Huang et al. developed and validated a measuring instrument for TD. Data from 227 online students suggested that the instrument could be used to measure TD for online courses (p. 113). This measuring

instrument proved useful for improving future online course design and instruction methods to bridge the "psychological and communications space" (Moore, 1997, p. 22).

Xiaoxia Huang et al. (2016) continued to research Moore's theory of TD in their study, *Understanding Transactional Distance in Web-Based Learning Environments: An Empirical Study*, and were able to provide evidence to support Moore's Theory of Transactional Distance (TD) as applicable to current online learning environments with newer types of instructional media and changing learner demographic attributes (p. 745).

Huang et al. (2016) addressed the impacts of the three constructs of dialogue, structure, and learner autonomy in TD. The researchers found that high dialogue (+D) and high structure (+S) led to the least perceived TD. In contrast, low dialogue (-D) and low structure (-S) led to the highest TD, and in between were high dialogue and low structure (+D-S) and low dialogue and high structure (–D+S). Huang et al. suggested that online instructors use +D+S, synchronous communication tools, and require student discussions to reduce TD (pp. 745-746). Huang et al. warned that special attention needed to go to the students required to take online courses but preferred face-to-face courses (p. 746). The research of Huang et al. also found that the older the students (aged 25 and older), the more autonomous they were compared to younger students (aged 18-24).

Online Education and Student Success

There is a gap in the literature for second-grade student success in online education that I addressed in my study. In the most thorough meta-analysis and review of online learning studies to date, the U. S. Department of Education (2009) found that only five out of 176 independent studies applied to K-12 students. Furthermore, none of those

five studies were in virtual school environments or on second-grade students, but blended school environments in face-to-face schools (p. 32).

The available literature on virtual school student success is focused on the main educational areas of elementary school, high school, and undergraduate school. There are more studies on undergraduate student success because it has been established the longest. Distance education premiered in adult course work as mail correspondence in 1840 in England, expanded into broadcasting television through the British Open University in 1969, and became web-based emerging onto the university scene worldwide in 1995 (Spector et al., 2014, p.17). Since 1996, K-12 online education has become "a major phenomenon" in the United States, and many school districts face competition from homeschooling, charter schools, and private schools starting virtual schools (Spector et al., 2014, p.17). Florida jumped on the virtual school scene and started the United States' first statewide virtual school, Florida Virtual School (FLVS), in 1997 (Hughes et al., 2015, p. 1). Florida then implemented a state-wide requirement in 2012 that high school students must complete one online course for high school graduation with a 24-credit standard diploma. With more students required to take virtual classes, data on high school students increased.

However, there was little data on elementary school student success in virtual education, especially in the primary grades. According to a report published by the National Educational Policy Center, *Virtual Schools in the US 2019*, Molnar et al. (2019), stated that approximately 3% of all virtual school students were in kindergarten, 3% were in first grade, almost 4% in second grade, and 4% were in third grade (pp. 27-28). With so few students enrolled in virtual schools, there was little data on student performance.

Elementary Online Education Studies

There was a gap in the literature with rigorous studies on student achievement for second-grade students in online schools. Many studies grouped K-12 generically to then focus on a specific area outside of second grade. With that in mind, there were also no rigorous studies on any primary grades (kindergarten through second grade) for student success in online schools (Molnar et al., 2019, p. 41). The studies discussed in the elementary (kindergarten through grade eight) online education section ranged from e-learning environments to blended classrooms, to virtual schools.

In the article, *The Effectiveness of E-Learning Environment in Developing Academic Achievement and the Attitude to Learn English Among Primary Students*, Dr. Afaf M. Aljaser (2019) identified the effectiveness of the e-learning environment in developing academic achievement along with increased attitudes in learning English with fifth-grade students (p. 176). E-learning in this study was defined as a real environment with electronic tools (p. 177). Aljaser designed an online learning environment English class according to the Analyze, Design, Development, Implementation, Evaluation (ADDIE) educational design model to test how e-learning could be used to improve student achievement in and attitude towards learning English (p. 177). Students were given pre- and post-teaching achievement tests and English learning attitude scales to measure academic growth and attitude (p. 176). Aljaser used a control group of 15 randomly selected students using the brick and mortar traditional method and an experimental group of 15 randomly selected students using the e-learning environment in Saudi Arabia (p.182). The e-learning environment combined synchronous and asynchronous communication tools, a high structure of course design, and learner

interests (p.181). He found that learners in the experimental group felt engaged and motivated by the online learning environment with a higher degree of dialogue and timely feedback, aligning with the Theory of Transactional Distance (p. 186). Additionally, the e-learning classroom had higher achievement scores in both the post-achievement test and the English learning attitude scale (p. 176). While this study was not based upon a fully online course, it showed how dialogue, structure, and learner autonomy could impact student success in distance education.

Jen Elise Prescott et al. (2018) described their study in the article, *Elementary School-Wide Implementation of a Blended Learning Program for Reading Intervention*, on kindergarten through Grade 5 student success in a blended environment for literacy instruction (p. 497). Prescott et al. defined blended learning as having face-to-face components and teacher-led instruction while optimizing digital technology to enhance differentiated instruction (p. 497). They used this blended learning model to study the effects blended learning would have on student achievement because there "is an urgent need to identify instructional approaches that can effectively boost reading skills in elementary school students," (p. 497).

The study by Prescott et al. included 722 participants representing kindergarten through Grade 5 students in 31 classrooms from October through May of the 2014-2015 school year (2018, p. 499). After a whole-school implementation of Core5, the blended learning program, results showed overall gains in reading skills, particularly in comprehension (p. 497). Overall, the most significant growth was in kindergarten, first, and second grade, respectively (pp. 501- 502). Growth was minimal in Grades 3-5 (p. 502). This was interesting because it showed that introducing an online component to a

language arts program can increase student achievement but that it diminished to small gains after second grade.

Sherrill Waddell (2017) studied the effectiveness of virtual school size and its impact on student achievement in her study, *Examining the Relationship Between Virtual School Size and Student Achievement* (p. 23). The achievement was measured by the State of Texas Assessments of Academic Readiness (STAAR) in the areas of English Language Arts/Reading and Math for Grades 5 and 8, and English 1, English 11, and Algebra 1 for Grades 9-12. Data were analyzed from the state education website for all fifth-grade virtual school students and eighth through twelfth-grade virtual school students in Texas for the years 2013-2016 for a total of 6,477 participants (pp. 24-26). She found that "In general, the students in the smaller schools performed significantly better across the three school years" (p. 32). Additionally, "in all testing categories, students performed better in small virtual schools than large virtual schools in all racial categories" (p. 32). Waddell advocated for virtual school as a cost-effective way to educate students (p. 33).

Gulnara M. Burdina et al. (2019) wrote the article, *Distance Learning in Elementary School Classrooms: An Emerging Framework for Contemporary Practice* and conducted a study with 430 online school students aged 8-9 years old in 29 schools in Kazan, Republic of Tatarstan (Russia) (p.1). Burdina et al. found that students need socialization and a teacher mentor to raise academic performance and motivation (p.1). They compared the students' progress through surveys and course grades twice. First, they surveyed and analyzed grade data in the existing course structure and found that 11% of students received As, 23% received Bs, 40% received Cs, 17% received Ds, and

9% received Es (p. 6). Burdina et al. then made a change in the online courses' structure to allow for increased dialogue of student-student and student-teacher in the form of no structure chat rooms and low structure teacher mentoring (p. 5). The change in course structure made a significant improvement in student achievement and motivation. At the end of the course, 26% of students received As, 39% received Bs, 27% received Cs, 8% received Ds, and 0% received Es (p. 9). This study showed high dialogue and course structure impact on student achievement in a virtual school learning environment.

High School Online Studies

In a study questioning which factors affect student achievement in a K-12 online school, researchers Heidi Curtis and Loredana Werth (2015) focused on one online high school in the Western United States. The article is *Fostering Student Success and Engagement in a K-12 Online School.* Eight parents of online students were selected to participate in semi-structured, one-on-one interviews. Each participant was interviewed twice.

The authors of the study had several findings. First, parents of self-motivated, fully engaged, and accountable students found online school to be pleasant and rewarding (Curtis & Werth, 2015, p. 187). Second, parents of students unsuccessful in online schooling had been unsuccessful in multiple school settings (p. 186). Third, parents were looking for an individualized student learning experience. The flexibility and control those students had online were helpful and motivated students to learn in some instances. Still, in other cases, the freedom increased failure (p. 186). Fourth, communication should be to both parents and students (p. 185). Fifth, parents wanted better communication on available resources to engage in school more effectively and avoid

student failure (p. 185). Sixth, the online classes' transparency through the Learning Management System (LMS) was appreciated by the parents and gave them the knowledge they needed to assist their children (p. 185). Overall, Curtis and Werth found that "No single factor affects student achievement in a full-time high school. Participants' shared perceptions demonstrated that students' achievement is affected by the performance of the school, students, and parents" (2015, p. 185).

In September of 2015, John Hughes et al. wrote the article *Comparing Success Rates for General and Credit Recovery Courses Online and Face to Face: Results for Florida High School Courses.* The study compared Florida high school students in online courses to students in the same courses completed face to face (p. i). Passing was determined to be a C or better (p. 5). Hughes et al. found that "In general academic courses students were more likely to earn a C or better in online courses than in face-to-face courses in grades 9-11" (p. 5). The most significant differences were in grade 9 and diminished in each subsequent grade (p. 5). Similar results were found in most subgroups until grade 12. Most subgroups did better face-to-face than in online courses in grade 12 (p. 5). The results were the same for credit recovery classes, with the highest success in grade 9 and diminished subsequently until no difference in grade 12 (p. 5). The exception to this subgroup and credit recovery results was English learner (EL) students (p. 6). ELs did better in face-to-face courses than online courses (p. 6).

Susan R. McNally (2012) analyzed the effectiveness of online schools in the state of Florida. In her study, *The Effectiveness of Florida Virtual School in Terms of Cost and Student Achievement in a Selected Florida Virtual School District*, McNally discussed the importance of engagement to increase student success like Curtis and Werth did (2015).

McNally stated, “Time and time again, students indicated they were successful in online courses because of the interaction they had with their teacher, and that they received more individualized and focused instruction in an online course” (2012, p. 30). In Curtis and Werth's study, personalized instruction is what parents said they were looking for when selecting online schooling for their children.

McNally’s study used three school years of data, 2006-2007, 2007-2008, and 2008-2009 (2012, pp. 40-41). Participants were Florida Virtual School (FLVS) students from grades 6-12 in ten middle schools and eight high schools in one school district in Florida (2012, p. 40). Students enrolled in FLVS at this time were not full-time online students. Among students enrolled in FLVS, 87% were in grade 12, seeking to fulfill graduation requirements or increase a D or F grade for GPA improvement (p. 50). Student enrollment increased by 62.3% over the three years of the study, with the least number of students in middle school (pp. 69 &71). McNally then focused on the high school student achievement in three FLVS courses: Algebra 2, Geometry, and Spanish 1.

McNally found that FLVS was unable to support all learners. There was an 18% - 43% withdrawal rate over the three years of the study (p. 73). Additionally, “students enrolled in the FLVS courses earned considerably more failing grades in the courses” (McNally, 2012, p. 73). McNally stated:

> In light of the high percentage of withdrawals from each course, coupled with the high percentage of failures in the three courses, the use of FLVS for these particular courses did not support academic achievement or student success during the three years of the study, based solely on this particular analysis (p. 73).

However, in a study by the non-profit taxpayer research institute and watchdog group, Florida Tax Watch, (2007) student achievement in middle and high school students were found to be a credible alternative to traditional schools (p. 1). FLVS was given "high marks" in the report (2007, p. 1).

Michael T. Callahan and Kathleen P. King conducted a study, *Florida Virtual School Impact on the Graduation Rate of a Higher Education Honors Program* (2018). They looked at the impact of AP courses online through FLVS on a student's future college success (p. 21). Callahan and King used data from a large Florida university for honors students admitted in 2010, 2011, and 2012 to determine if high school online education classes made a statistical significance in predicting graduation (p. 22). They found that students who had taken up to five AP online classes their freshman year increased their GPA (p. 22). Calllahan and King found this to not be a good predictor of graduation rate in a four-year model (p. 23). They did find that "with more high school online distance education classes completed, it is less likely that an honors student will graduate from a post-secondary institution compared to a student who took no high school distance education classes" (Callahan & King, 2018, p. 23).

Undergraduate Online Studies

Manya Suresh et al. (2018) conducted a questionnaire-based study in 2018, *Effect of E-Learning on the Academic Performance of Undergraduate Students.* For this study, e-learning was defined as a course taken online (p. 1797). Sixty-one participants between the ages of 18-21 took a 14 question online survey based on learning aids used, understanding capacity, and feasibility (p. 1798). Sixty-seven percent of participants preferred interactive e-learning (p. 1798). Forty-one percent of participants claimed to

have understood the course subject fully. Seventy-five percent of participants stated that they found e-learning courses made learning faster and deeper. In contrast, the remaining 25% of participants felt that e-learning took more time and was harder. Thirty-eight percent of participants stated that e-learning improved their academic performance. Suresh et al. concluded that "e-learning helps to improve the academic performance of undergraduate students" (p. 1799).

Thomas Chatman et al. (2019) found that online education "requires a different skill set compared to traditional face-to-face instruction" in the study, *Increasing Success with Online Degree Courses and Programs in the VCCS* (2019, p. 3). Chatman et al. gathered data from the Virginia Community College System (VCCS) from 2015-2016, 2016- 2017, and 2017- 2018 (p. 2). They found that out of 724,116 online classes taken by students, in 206,533 of the classes students either withdrew or failed (grade D or F), making a total of 29% of unsuccessful student completions of online courses (p. 2). This percentage did not include students who dropped the course early in the semester (p. 2).

To discover why there was such a high rate of failure in online courses from this data, Chatman et al. (2019) conducted a small focus group discussion with students taking online courses in VCCS (p. 6). They found that two major factors contributed to the high failure rate: student preparedness and accessibility (p. 7). Students did not have the self-regulatory skills necessary and were unfamiliar with the online learning management system (pp. 5 & 6). Additionally, 12% of students did not have Internet access (p. 4). Chatman et al. suggested creating a mandatory online orientation for all new online students and working with the community to provide Internet access in homes

for students without Internet access (p. 4). An online orientation would increase the successful completion of online courses.

In the study, *A Case Study Comparing Student Experiences and Success in an Undergraduate Mathematics Course Offered Through Online, Blended, and Face-to-Face Instruction,* by Virginia L. Thompson and Yonghong L. Mc Dowell (2019), the authors gathered data from students in three types of learning environments to analyze (p. 116). Thompson and McDowell concluded that "students can attain the same level of academic achievement through online, blended, and face-to-face courses (measured through final exam and course final grades)" (p. 116). Ninety-five participants took the same mathematics course, Computer Algebra Systems (CAS), grouped into online, blended, and face-to-face classes. Most online and blended learning students had a satisfactory experience when surveyed, with the area of most concern being working in groups online (p. 133). Thompson and McDowell stated that "students can achieve equal academic success across online, blended, and face-to-face courses" (p. 134).

Mark Brown et al. (2015) conducted a study in Australia to capture the motivation and experiences of college students in online courses (p. 1). Twenty first-time online learners created weekly video diaries in response to a reflective prompt from the researchers during their first semester (p. 4). Brown et al. concluded:

> The new digital learning environment made possible by the Internet offers a number of exciting possibilities for distance learners; however, more needs to be done by institutions to change the "lone wolf" preconception of distance education and to avoid the "goulash approach" to supporting distance learners. (p. 1)

Students have "relatively little concept of what it is like to study by distance," and that creates a high-risk transition period during the first six weeks of an online course (pp. 12 & 13). Brown et al. also found that there were many "shades of grey" like family support and responsibilities, job responsibilities, health, and home environment as well as academic preparedness and student attributes, that also contribute to online learners' success that was behind the high amount of course failure (pp. 6-9 &15).

Conclusion

Overall, studies of e-learning, blended environments, and virtual schools in elementary grades (K-8) showed student success. Some studies showed increased student motivation and achievement test scores through pre- and post-teaching tests and scales and increased reading comprehension skills (Aljaser, 2019; Prescott et al., 2018). Additionally, there was a higher rate of student performance in small versus large virtual schools and importance for socialization, teacher mentors, and student-teacher communication to raise student performance and motivation (Waddell, 2017; Burdina et al., 2019).

Authors of research studies in a virtual high school and in undergraduate student achievement reported mixed results. Some research showed that the student's attributes of self-directness with high student-teacher-parent engagement resulted in increased student achievement (Curtis & Werth, 2015). Additionally, data showed that e-learning improved student performance and those students were more likely to earn a C or better in online high school classes than face-to-face courses (Surech et al., 2018; Hughes, 2015). Furthermore, Florida Tax Watch gave FLVS "high marks" for student achievement outcomes (2007, p. 1).

However, other studies found that online schools had not performed well, and some went so far as to state that they "are performing terribly" (Kennedy, 2018, p. 37; Molnar et al., 2019, p. 37). This recent research consistently showed that full-time virtual school students performed at levels below their traditional school counterparts (Molnar et al., 2019). FLVS was found not able to support all learners, especially minority students who withdrew at a higher rate than White students (McNally, 2012). Research showed that virtual school students needed a different skill set to learn online compared to face-to-face and that students without these self-regulatory skills had a high-risk of increased failure for the first six weeks in a new course (Chatman et al., 2019; Brown et al., 2015; Curtis & Werth, 2015). This failure resulted in up to a 43% withdrawal or failure rate for students (McNally, 2012; Chatman, 2019).

In a neutral position, some research showed no difference in learning outcomes in students who took face-to-face, online, or blended learning courses (Thompson & McDowell, 2019). Additionally, there were no indicators of college success based on online course GPA for online AP honor course students in high school (Callahan & King, 2018).

In recent studies, second-grade student success in a virtual school setting has had no focus but rather a generalized attempt to group K-12 students. With third grade being a critical academic indicator year for future student achievement and success, having rigorous recent data on the success of virtual school in second grade is paramount. Through my research, I aimed to gather and analyze second-grade student success in a virtual school setting and fill this gap in the literature.

Chapter Three: Methodology

In Chapter Three: Methodology, I provided a detailed account of how I approached my dissertation study and why I chose this approach. I explained my research design overview, identified the participants in the study and defined the data gathering and data analysis techniques. I identified the ethical considerations and limitations of the study and finally drew the section to a conclusion.

Research Design Overview

I used this program evaluation to determine the effects of full-time virtual school in second grade for third-grade student reading achievement. I used a mixed-methods design, examining quantitative and qualitative data (Patton, 2008, p. 438). The results of my data analysis will help educators understand the impact of second-grade virtual school reading proficiency to assist the state and districts in supporting current and future virtual schools in the primary grades.

For quantitative data, I evaluated extant data from the state's department of education PK-20 Education Information Portal for all brick-and-mortar public schools and Virtual School (VS) Full-time to measure student achievement in third-grade. I collected data from the State Standards Assessments (SSA) English Language Arts (ELA) scores from 2015- 2019. These data were for all third-grade students in brick-and-mortar public schools and VS Full-time in the state under study. The SSA is the only common test administered to public school students and VS Full-time students which can be used to compare achievement accurately. I also used demographic data to gain a broader perspective of the students enrolled in both settings. I analyzed the differences in the scores and demographic information between the two sets of data.

I surveyed second and third-grade educators who were in Facebook educator groups to collect quantitative and qualitative data. The surveys consisted of multiple-choice and open-ended questions. I conducted semi-structured interviews with second and third-grade virtual teachers from the participants who completed the surveys to gain more in-depth insight from the teachers' perspective. I was able to ascertain a degree of satisfaction or dissatisfaction educators have in virtual education for second-grade reading proficiency using the surveys and interviews.

My quantitative and qualitative data sets analysis provided insight into virtual school reading instruction strengths and weaknesses for second-grade students. I used a summative evaluation (Patton, 2008, p.140) in conjunction with an effectiveness focus (Patton, 2008, p. 301) and an implementation focus (Patton, 2008, p. 303) to study the effectiveness of second-grade virtual school from the perspective of student performance and teacher satisfaction. Through the summative evaluation, I described the effectiveness of an English Language Arts program of the virtual school in second grade. The effectiveness focus allowed me to provide data to stakeholders. The implementation focus provided insight for future adaptations of virtual schools.

My overarching question in this program evaluation was: To what extent does virtual school in second grade prepare students for third grade reading achievement?

My related research questions were:

1. How do third-grade virtual students compare to traditional brick and mortar third-grade students in English Language Arts outcomes on state assessments?
2. What is the experience of second-grade virtual teachers in relation to student achievement in English Language Arts?

3. What is the experience of third-grade teachers who have taught second-grade virtual students in relation to third-grade student achievement in English Language Arts?

Participants

I used extant data from the SSA from the state's department of education for public school third-grade students (both male and female, approximately 220,000 students, ages 8-10) and VS Full-time third-grade students (both male and female, approximately 300 students, ages 8-10) in ELA. These data are public records and available online through the department of education's website.

I surveyed second and third-grade virtual teachers who were in Facebook educator groups (male and female, ages between 18-99). These Facebook educator groups included:

1. Teachers (male and female, approximately 39,900 members, ages between 18-99)
2. School Education K-12 (male and female, approximately 48,000 members, ages between 18-99)
3. Teachers Using Google Suite for Education GEG Virtual (male and female, approximately 108,500 members, ages between 18-99)
4. Instructional Designers in Education (male and female, approximately 8,900 members, ages between 18-99)
5. Distant Learning Educators (male and female, approximately 21,800 members, ages between 18-99)

6. K-12 Teachers Using Google Classroom (male and female, approximately 17,500 members, ages between 18-99)
7. For Teachers by Teachers (male and female, approximately 20,300 members, ages between 18-99)
8. Teachers Teaching Online (male and female, approximately 69,500 members, ages between 18-99)
9. Teachers Sharing Ideas and Experiences (male and female, approximately 2,700 members, ages between 18-99)

A total of 77 second and third-grade teachers responded to the survey. However, one second-grade teacher did not agree to the informed consent form, and 16 third-grade teachers did not meet the requirements to continue onto the second section of the survey. Therefore, 30 second-grade teachers and 31 third-grade teachers completed a full survey. Additionally, 11 survey respondents agreed to a 30-minute interview and provided their contact information. After I followed up with these participants, two second-grade teachers and one third-grade teacher scheduled and completed an interview.

Data Gathering Techniques

I implemented a mixed-methods research design consisting of extant data, and data from surveys and semi-structured interviews.

Quantitative Data

I used extant data from the state's department of education PK-20 Education Information Portal and website (Citation withheld to preserve confidentiality). I collected data from SSA ELA scores and demographics from 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019 for all third-grade students in brick-and-mortar public schools and

VS in the state under study. I analyzed these quantitative data to compare student achievement between the brick-and-mortar public schools and VS Full-time ELA scores.

Qualitative Data

Surveys provided me with qualitative data to compare student reading achievement from a teacher's point of view. I requested permission to survey teachers by contacting the administrators of 12 Facebook educator groups. Once I received permission from the administrators, I posted a recruitment flier on the Facebook educator group pages. I created two surveys in Google Forms, one for second-grade virtual teachers (Appendix A) and one for third-grade teachers (Appendix B).

I created and administered a survey for second-grade teachers. The surveys consisted of seven multiple-choice questions and three open-ended questions for a total of ten survey questions using Google Forms (Appendix A). A survey for third-grade teachers consisted of seven multiple-choice questions and one open-ended question using Google Forms (Appendix B). I reposted the surveys weekly for six weeks.

I provided teachers with an electronic informed consent form to participate in the survey by having it open when they clicked on the link for the selected survey. After agreeing to the informed consent, participants completed surveys with open-ended questions and multiple-choice questions. I included a question on the survey inviting participants to take part in a follow-up semi-structured interview on a volunteer basis. Participants exited the survey in Appendix A if their answer to question one, "What is your experience with teaching virtual school in second grade?", was none. Participants exited the survey in Appendix B if their answer to question one, "How many years have you taught third grade?", or their answer to question two, "Have you taught third-grade

students who attended virtual school in second grade?", was none. I ensured teachers' anonymity by using coding identifiers (numbers) and did not have their names, sex, age, or workplace location identified in any way.

I conducted three interviews with second-grade and third-grade teachers to understand the degree of satisfaction or dissatisfaction with virtual education for second-grade reading proficiency. The qualitative data provided insight from the teachers' perspectives. I invited the virtual teachers who completed the surveys to participate, and I looked for 10 participants who had full-time virtual school teaching experience in second grade and 10 who had previous second grade virtual school students in their third grade class. Ultimately, I conducted two interviews over the telephone and one via the Internet (Appendix C). I provided the participants with an informed consent form electronically for inclusion in the study. With participant permission, I recorded and transcribed the interviews using the application, Call Recording by NoNotes, to accurately indicate what the participant conveyed during the interview.

Data Analysis Techniques

I compared third-grade student achievement in brick-and-mortar schools and VS Full-time using the SSA in ELA for 2015-2019. The state under study ranks the students by levels based on their performance on the SSA as follows: Level 5 = Mastery, Level 4 = Proficient, Level 3 = Satisfactory, Level 2 = Below Satisfactory, and Level 1 = Inadequate. Students met the passing score on the SSA by performing at Level 3 or above. For each year, I compared the number of students, the mean scale score, the percentage of students in Level 1, the percentage of students in Level 2, percentage of students in Level 3, percentage of students in Level 4, the percentage of students in Level

5, and percentage of students in Level 3 or higher. I used demographic data to gain a broader perspective of the students enrolled in both settings. I analyzed the differences in the scores and information between the two sets.

I summarized and examined survey data for themes to determine teachers' perceptions of the second-grade virtual school program. I quantified and analyzed the multiple-choice questions and evaluated and coded the open-ended survey questions according to themes using the grounded theory method (Corbin & Strauss, 1990). I evaluated the open-ended survey questions and used open coding to establish initial codes for survey responses. Then, I correlated codes that matched previous responses using axial coding and assigned a new code to comments that did not match an existing code. Finally, I categorized and grouped the data using a selective coding method.

I used interview data from second and third-grade virtual teachers to understand their experiences and how they perceived student achievement in reading for second-grade students in a virtual school. I reviewed interview data to determine which aspects of the virtual school program they felt were successful and what challenges they faced, and their ELA daily routines and assessments. I recorded, transcribed, and checked interviews for accuracy. I analyzed the interviews and used open coding to establish initial codes for the open-ended survey responses. I correlated codes that matched previous responses using axial coding and assigned a new code to comments that did not match an existing code. Finally, I categorized and grouped the data using a selective coding method. Themes emerged from the extensive evaluation of interview and survey data, and I discussed these themes in the Findings section in Chapter Four.

Ethical Considerations

The extant data collection included the SSA results of all third-grade public school students available in the state's department of education databases that are public records. I used coding identifiers (numbers) to secure teachers' anonymity in the qualitative data I collected. I did not have their names, sex, age, or workplace location identified in any way.

I requested permission from administrators of Facebook educator groups before posting the survey flier. Informed consent forms were required before participants took the survey or gave an interview.

There were no anticipated risks to participants in this program evaluation beyond that of everyday life. Participants who took part in this study may have benefited by contributing to data compilation to assist stakeholders in implementing and improving virtual schools for education in the primary grades. Participants may have benefited by paving the way for teachers to implement their contributions to virtual school improvements in courses.

Limitations

One limitation of the program evaluation was the number of teachers who participated in my surveys and, consequently, interviews. I identified 14 Facebook educator groups to recruit participants, but not all the groups remained open. When I sought administrator permission to post the recruitment flier for the surveys, I found that two educator groups were closed, one was archived, one administrator never responded, and one administrator did not extend permission. Therefore, there were nine out of 14 potential groups I could use to recruit participants. Additionally, some educator groups

had restrictions on commenting and the number of times I could repost the surveys. Finally, of the 11 participants who provided contact information for an interview, only three responded to my requests to schedule a time. After two failed attempts to schedule through email and text messages, I did not continue to follow up. I did not want the survey participants to feel harassed.

The Coronavirus pandemic impacted extant data for the school year 2019-2020 SSA assessments. No state testing occurred when the state closed brick-and-mortar schools for the last quarter of the 2019-2020 school year and only offered distance learning. Therefore, there were no comparative assessments to measure student achievement for the 2019-2020 year.

Lastly, limitations lay in the lack of common assessments for virtual and brick-and-mortar students in the state under study. Common assessment was limited to the SSA and began in third grade. While brick-and-mortar schools commonly used the iReady assessments throughout the year to document student progress and achievement in second-grade ELA, VS did not. Therefore, my quantitative data relied solely on third-grade SSA scores.

Conclusion

I collected both quantitative and qualitative data for my virtual school program evaluation. The various data sets provided information to help me determine the effects of full-time virtual school in second grade in reading proficiency for third-grade student achievement. The data analysis provided information to guide virtual schools' future implementations in second grade and may influence policy and funding decisions.

Chapter Four: Results

Through this study I aimed to determine the effectiveness of virtual school in second grade for third-grade student success in English Language Arts (ELA). I used the state-wide Virtual School (VS) in the state under study because of the large student enrollment in the primary grades, the program's availability to all students in the state as free of charge, the long-standing history with the state, and the mandatory State Standards Assessments (SSA) in third grade. I presented the data results in three areas: extant data, survey data, and interview data. In this chapter, I reported the findings in each area, related the findings to the 4 Cs of Contexts, Culture, Conditions, and Competencies (Wagner et al., 2006, pp. 98-110), explained my interpretations, judgments, and recommendations, and then concluded with a summary of the chapter.

Findings

To conduct this study, I analyzed various factors. The analysis of each factor was presented in this chapter. I used extant data gathered from the department of education website of the state under study, conducted surveys online through Facebook Educator Groups, and conducted interviews.

Extant Data

I collected data from SSA ELA scores and demographics from the school years 2014-2015, 2015-2016, 2016-2017, 2017-2018, and 2018-2019 for all third-grade students in brick-and-mortar public schools throughout the state under study and the state-wide VS in the state under study. For clarity, I referred to the students in brick-and-mortar schools as face-to-face students and the VS students as virtual students. In this section, I compared the number of students who took the SSA, the SSA ELA scores, and

demographics. I analyzed demographic information for English Language Learners (ELLs), economic status, disability status, and race/ethnicity.

Third-grade students in the state under study took the SSA at the end of each school year. The Table 1 shows the year and the number of students who took the SSA. The number of third-grade face-to-face students increased over the five-year period from 215,264 students in 2015, to 216,823 students in 2019, with a peak of 228,104 students in 2017. The number of third-grade virtual students spiked over the five years from 278 students in 2015 to 388 in 2016. Virtual school enrollment in third grade steadily decreased from 2016 to 192 students in 2019.

Table 1

Third Grade Student State Enrollment 2015-2019

School Type	2015	2016	2017	2018	2019
Face-to Face Students	215,264	220,663	228,104	221,791	216,823
Virtual Students	278	388	365	319	192

Note. Data source: state department of education (state withheld for anonymity purposes); data are displayed as reported in the state department of education portal

The SSA ELA results showed improvement over five years for both face-to-face and virtual students, with virtual students outperforming face-to-face students each year (Figure 1). The state under study ranked the students by levels based on their performance on the SSA. Figure 1 displays the percentage of tested students who scored at each level for each year of the study. Blue represents Level 5, Mastery. Green represents Level 4, Proficient. Purple represents Level 3, Satisfactory. Orange represents Level 2, Below Satisfactory. Amber represents Level 1, Inadequate. Students met the passing score on the SSA by scoring at Level 3 or above.

In 2015, 7% of face-to-face students scored a Level 5 compared to 10% of virtual students. Eighteen percent of both face-to-face and virtual students scored a Level 4. Twenty-seven percent of face-to-face students received a Level 3 compared to 34% of virtual students. Twenty-five percent of face-to-face students scored a Level 2 compared to 22% of virtual students. Twenty-two percent of face-to-face students received a Level 1 compared to 17% of virtual students. These data showed 47% of face-to-face students scored Below Satisfactory and Inadequate compared to 39% of virtual students.

In 2016, 9% of face-to-face students scored a Level 5 compared to 12% of virtual students. Nineteen percent of face-to-face students achieved Level 4 compared to 20% virtual students. Twenty-seven percent of face-to-face students received a Level 3 compared to 29% of virtual students. Twenty-four percent of both face-to-face and virtual students scored a Level 2. Twenty-two percent of face-to-face students received a Level 1 compared to 15% of virtual students. These data showed 46% of face-to-face students scored Below Satisfactory and Inadequate compared to 39% of virtual students.

In 2017, 9% of face-to-face students scored a Level 5 compared to 8% of virtual students. Twenty-one percent of face-to-face students achieved Level 4 compared to 27% of virtual students. Twenty-eight percent of face-to-face students received a Level 3 compared to 33% of virtual students. Twenty-three percent of face-to-face students scored a Level 2 compared to 19% of virtual students. Nineteen percent of face-to-face students received a Level 1 compared to 13% of virtual students. These data showed 42% of face-to-face students scored Below Satisfactory and Inadequate compared to 32% of virtual students.

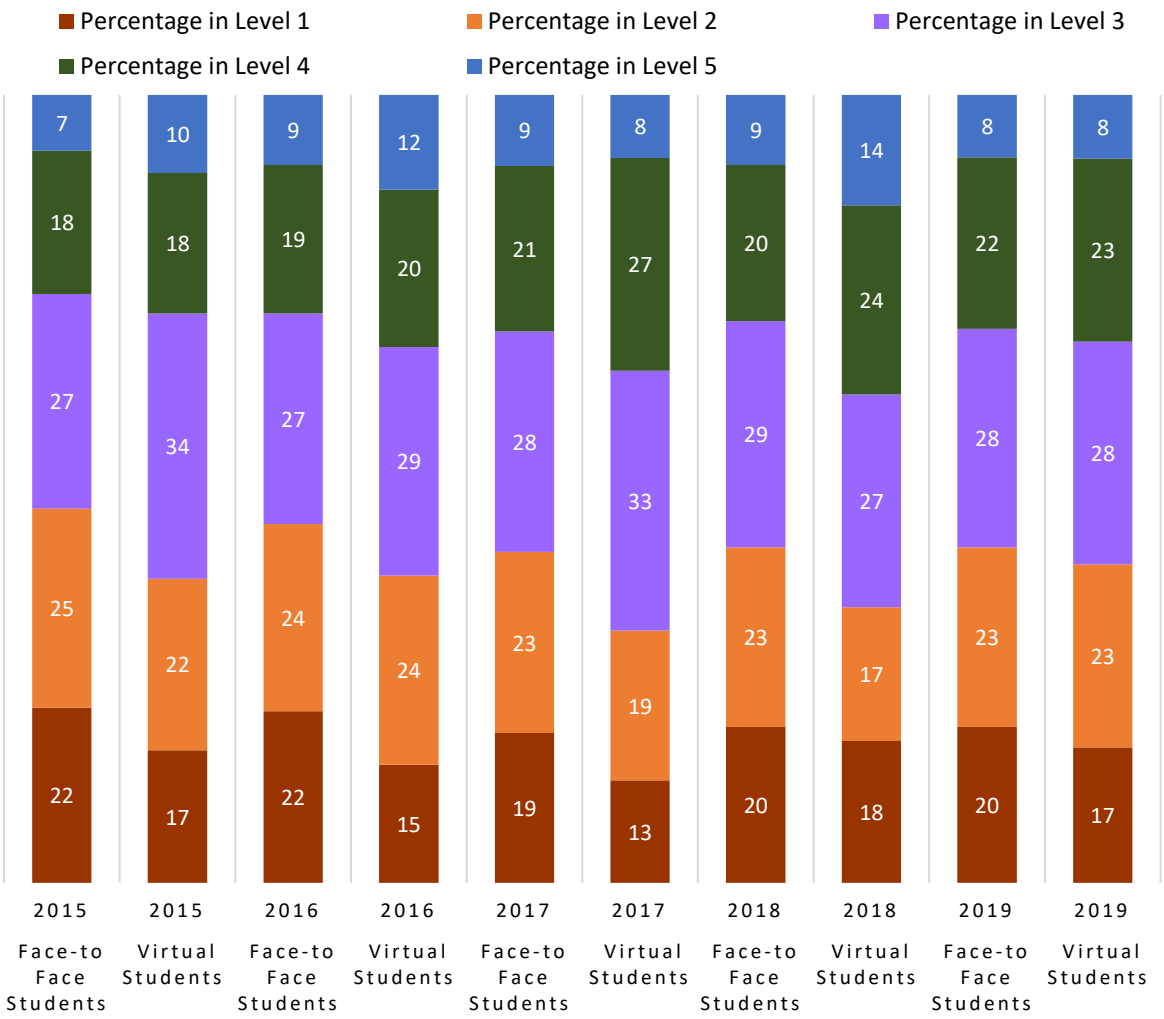
In 2018, 9% of face-to-face students scored a Level 5 compared to 14% of virtual

students. Twenty percent of face-to-face students achieved Level 4 compared to 24% virtual students. Twenty-nine percent of face-to-face students received a Level 3 compared to 27% of virtual students. Twenty-three percent of face-to-face students scored a Level 2 compared to 17% of virtual students. Twenty percent of face-to-face students received a Level 1 compared to 18% of virtual students. These data showed 43% of face-to-face students scored Below Satisfactory and Inadequate compared to 35% of virtual students (Figure 1).

In 2019, 8% of both face-to-face and virtual students scored a Level 5. Twenty-two percent of face-to-face students achieved Level 4 compared to 23% virtual students. Twenty-eight percent of both face-to-face and virtual students scored a Level 3. Twenty-three percent of both face-to-face and virtual students scored a Level 2. Twenty percent of face-to-face students received a Level 1 compared to 17% of virtual students. These data showed 43% of face-to-face students scored Below Satisfactory and Inadequate compared to 40% of virtual students.

Figure 1

Third-grade State Standards Assessments Scores 2015-2019

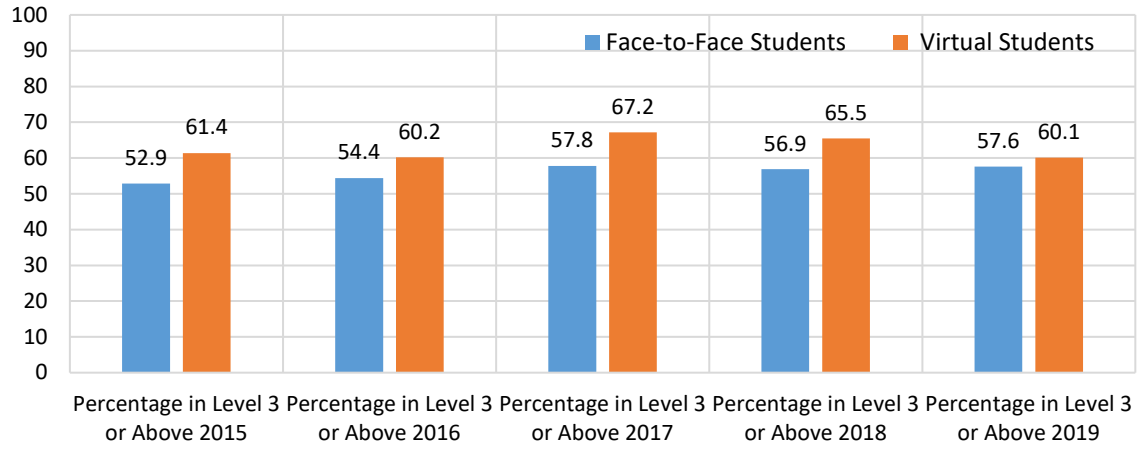


Note. Data source: data are displayed as reported in the state department of education portal

Virtual students have consistently outperformed face-to-face students on the SSA in ELA for five consecutive years, 2015-2019 (Figure 2). However, the gap has narrowed over time. In 2015, more virtual students than face-to-face students passed (8.5%). In 2016, more virtual students than face-to-face students passed (5.8%). In 2017, more virtual students than face-to-face students passed (9.4%). In 2018, more virtual students than face-to-face students passed (8.6%). In 2019, 2.5% more virtual students than face-to-face students passed.

Figure 2

Percent of Students at Level 3 or Above in SSA ELA in Years 2015-2019



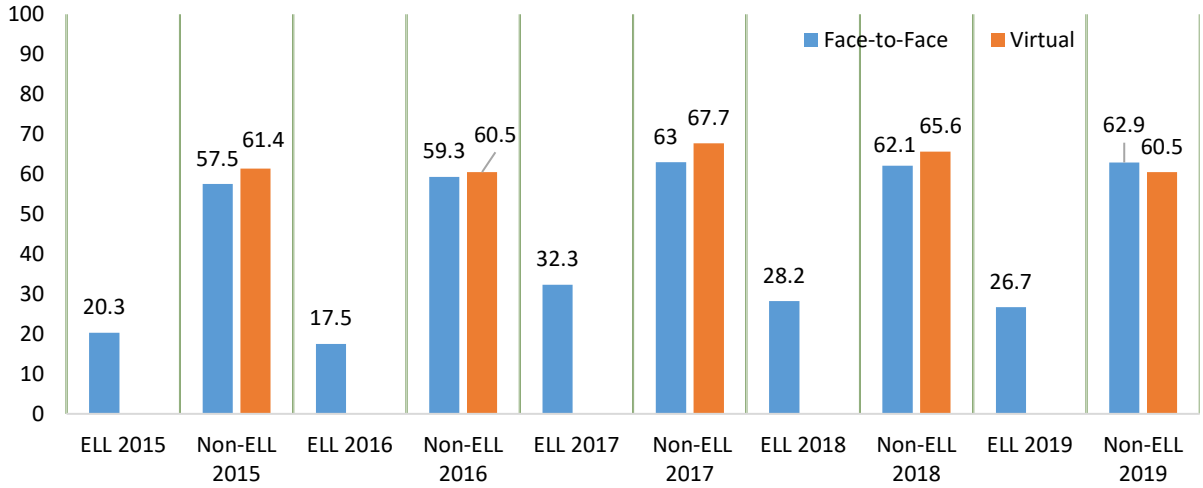
Note. Data are displayed as reported in the department of education portal; percentages may not add to 100 due to state report rounding.

In 2015-2019, fewer than ten English Language Learners (ELL) took the SSA in VS and scores were not reported to protect student identity (Figure 3). Therefore, the only comparable data in the demographic area of ELL is for non-ELLs. Non-ELL virtual students outperformed non-ELL face-to-face students four out of five years. In 2015, 3.9% more non-ELL virtual students scored at Level 3 or above than non-ELL face-to-face students. In 2016, 1.2% more non-ELL virtual students scored at Level 3 or above

compared to non-ELL face-to-face students. In 2017, 4.7% more non-ELL virtual students scored at Level 3 or above compared to non-ELL face-to-face students. In 2018, 3.5% more non-ELL virtual students scored at Level 3 or above compared to non-ELL face-to-face students. Unlike in 2015-2018, in 2019, 2.4% more non-ELL face-to-face students scored at Level 3 or above compared to non-ELL virtual students (Figure 3).

Figure 3

Percent of Students at Level 3 or Above by ELL in Years 2015-2019



Note. Data are displayed as reported in the department of education portal; percentages may not add to 100 due to state report rounding.

The next demographic area I compared was economic status in students with economic disadvantages and students without economic disadvantages between the years of 2015-2019 (Figure 4). Overall, disadvantaged virtual students outperformed disadvantaged face-to-face students, and non-disadvantaged face-to-face students outperformed non-disadvantaged virtual students. In 2015, 21.8% more disadvantaged virtual students scored at Level 3 or above compared to disadvantaged face-to-face students, and 12.7% more non-disadvantaged face-to-face students achieved at Level 3 or

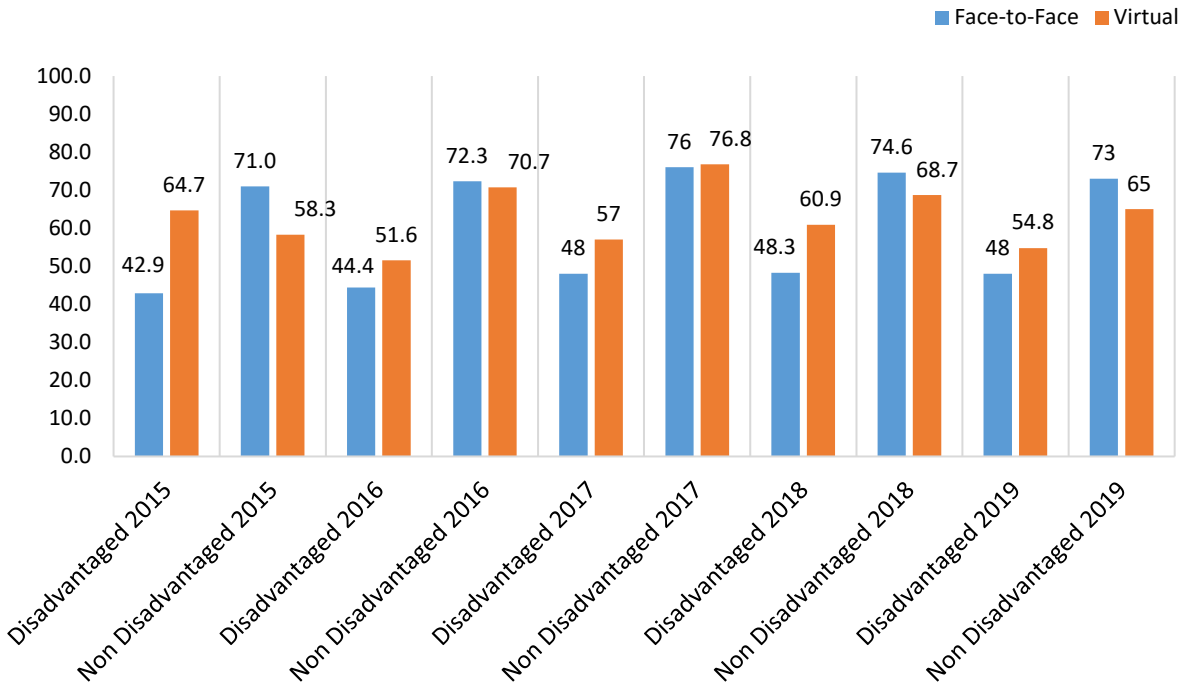
above compared to non-disadvantaged virtual students.

In 2016, 7.2% more disadvantaged virtual students scored at Level 3 or above compared to disadvantaged face-to-face students, and 1.6% more non-disadvantaged face-to-face students achieved at Level 3 or above compared to non-disadvantaged virtual students. In 2017, 9% more disadvantaged virtual students scored at Level 3 or above compared to disadvantaged face-to-face students, and 0.8% more non-disadvantaged virtual students achieved at Level 3 or above compared to non-disadvantaged face-to-face students.

In 2018, 12.6% more disadvantaged virtual students scored at Level 3 or above compared to disadvantaged face-to-face students, and 5.9% more non-disadvantaged face-to-face students achieved at Level 3 or above compared to non-disadvantaged virtual students. In 2019, 6.8% more disadvantaged virtual students scored at Level 3 or above compared to disadvantaged face-to-face students, and 8% more non-disadvantaged face-to-face students achieved at Level 3 or above compared to non-disadvantaged virtual students (Figure 4).

Figure 4

Percent of Students at Level 3 or Above by Economic Status in Years 2015-2019



Note. Data are displayed as reported in the department of education portal. Percentages may not add to 100 due to state report rounding.

I compared the demographic area of disability status from 2015-2019 in students with disabilities (SWD) and students without disabilities (Non-SWD) on the SSA in ELA (Figure 5). Overall, virtual students with and without disabilities outperformed face-to-face students. In 2015, 6.6% more Non-SWD virtual students scored at Level 3 or above than Non-SWD face-to-face students, and 11.2% more SWD virtual students scored at Level 3 or above than SWD face-to-face students.

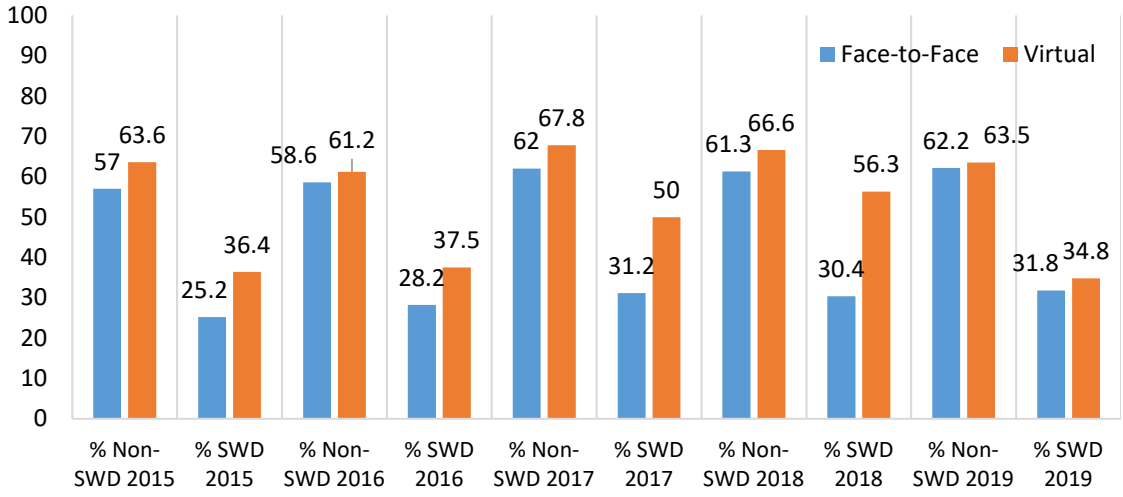
In 2016, 2.6% more Non-SWD virtual students scored at Level 3 or above compared to Non-SWD face-to-face students, and 9.3% more SWD virtual students scored at Level 3 or above compared to SWD face-to-face students. In 2017, 5.8% more Non-SWD virtual students scored at Level 3 or above compared to Non-SWD face-to-

face students, and 18.8% more SWD virtual students scored at Level 3 or above compared to SWD face-to-face students.

In 2018, 5.3% more Non-SWD virtual students scored at Level 3 or above than Non-SWD face-to-face students, and 25.9% more SWD virtual students scored at Level 3 or above than SWD face-to-face students. In 2019, 1.3% more Non-SWD virtual students achieved at Level 3 or above compared to Non-SWD face-to-face students, and 3% more SWD virtual students scored at Level 3 or above compared to SWD face-to-face students (Figure 5).

Figure 5

Percent of Students at Level 3 or Above by Disability Status in Years 2015-2019



*Note.D*ata are displayed as reported in the department of education portal.

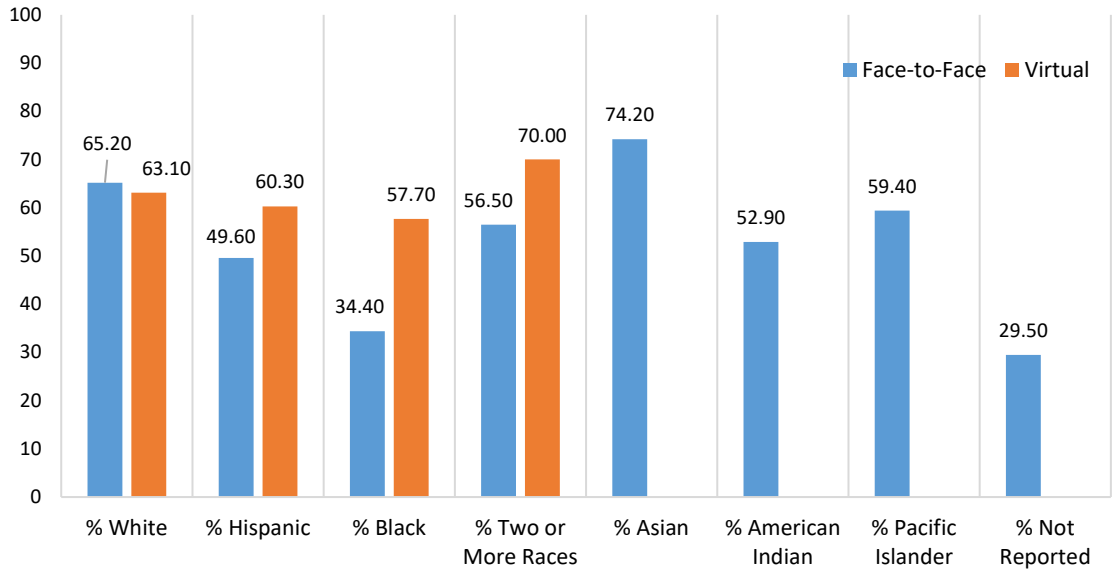
In the last section of demographics, I compared student race/ethnicity over five years for the SSA in ELA from 2015-2019 (Figure 6). The virtual student population of American Indian and Pacific Islander data are not shown to protect students' privacy when there are less than 10 students in a category. For four out of the five years, the virtual school Asian population was also less than ten and scores were not reported to

protect students' privacy. Overall, in the remaining subgroups, the findings were that White face-to-face students outperformed White virtual students, Hispanic and Black virtual students outperformed Hispanic and Black face-to-face students, and virtual and face-to-face students of two or more races performed similarly.

In 2015, the percentage of White face-to-face students who scored at Level 3 or above (65.20) was 2.1% higher than White virtual students (63.10). The percentage of Hispanic virtual students who scored Level 3 and above (60.30) was 10.7% higher than Hispanic face-to-face students (49.60). The percentage of Black virtual students who scored Level 3 or above (57.70) was 23.3% higher than Black face-to-face students (34.40). The percentage of virtual students with two or more races scored at Level 3 or above (70.00) was 13.5% higher than face-to-face students with two or more races (56.5).

Figure 6

Percent of Students at Level 3 or Above by Race/Ethnicity in Year 2015

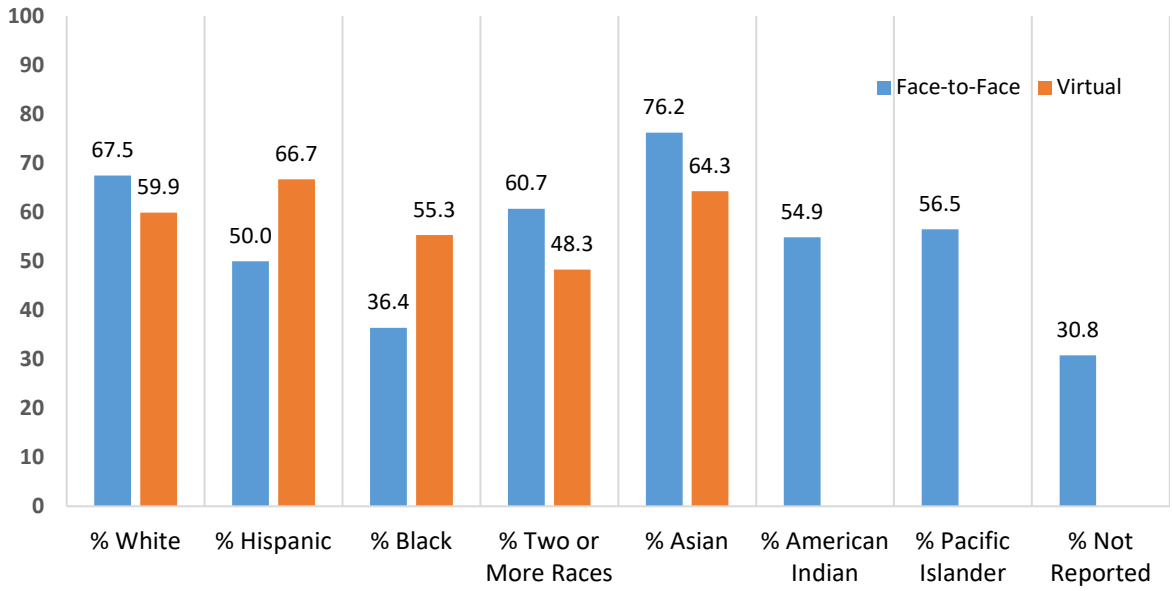


Note. Data are displayed as reported in the department of education portal.

In 2016, the data indicated that 7.6% more White face-to-face students scored at Level 3 or above (67.5) on the SSA in ELA compared to White virtual students (59.9) (Figure 7.). The data also indicated that 16.7% more Hispanic virtual students scored at Level 3 or above (66.7%) than Hispanic face-to-face students (50.0%). The data showed that 18.9% more Black virtual students achieved at Level 3 or above (55.3) than Black face-to-face students (36.4). Furthermore, the data showed that 12.4% more face-to-face students with two or more races scored at Level 3 or above (60.7) than virtual students with two or more races (48.3). Finally, the data indicated that 11.9% more Asian face-to-face students scored at Level 3 or above (76.2) than Asian virtual students (64.3).

Figure 7

Percent of Students at Level 3 or Above by Race/Ethnicity in Year 2016



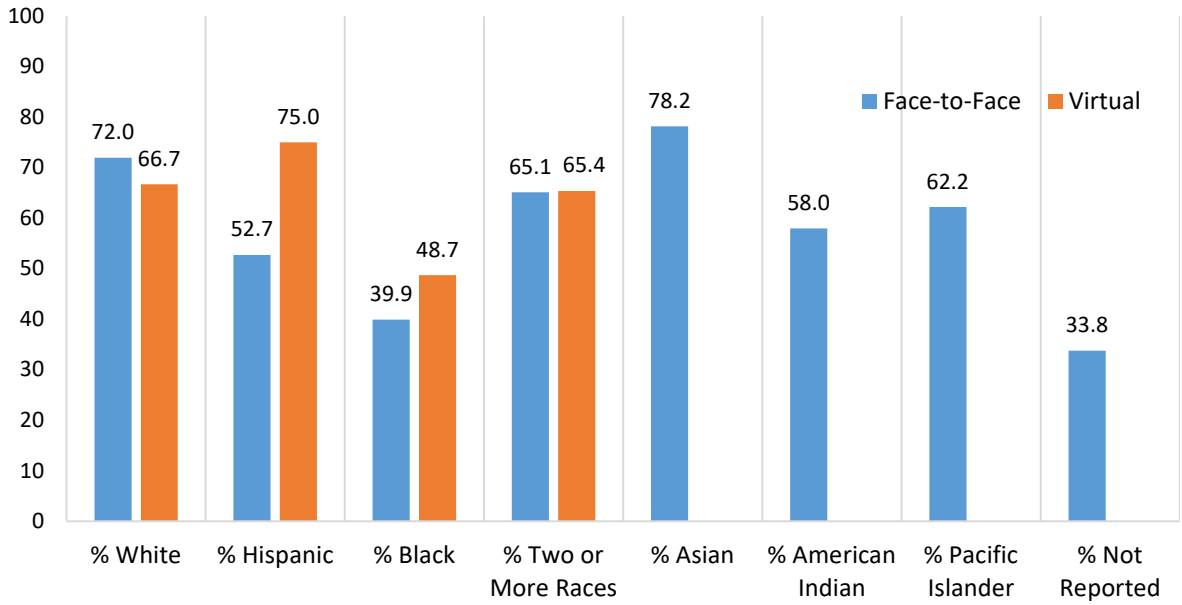
Note. Data are displayed as reported in the department of education portal.

In 2017, the percentage of White face-to-face students who scored at Level 3 or above (72.0) on the SSA in ELA was 5.3% more than White virtual students (66.7) (Figure 8). The percentage of Hispanic virtual students who scored at Level 3 or above

(75.0) was 22.3% more than Hispanic face-to-face students (52.7). The percentage of Black virtual students who scored at Level 3 or above (48.7) was 8.8% more than Black face-to-face students (39.9). The percentage of virtual students with two or more races who scored at Level 3 or above (65.4) was 0.3% more than face-to-face students with two or more races (65.1).

Figure 8

Percent of Students at Level 3 or Above by Race/Ethnicity in Year 2017



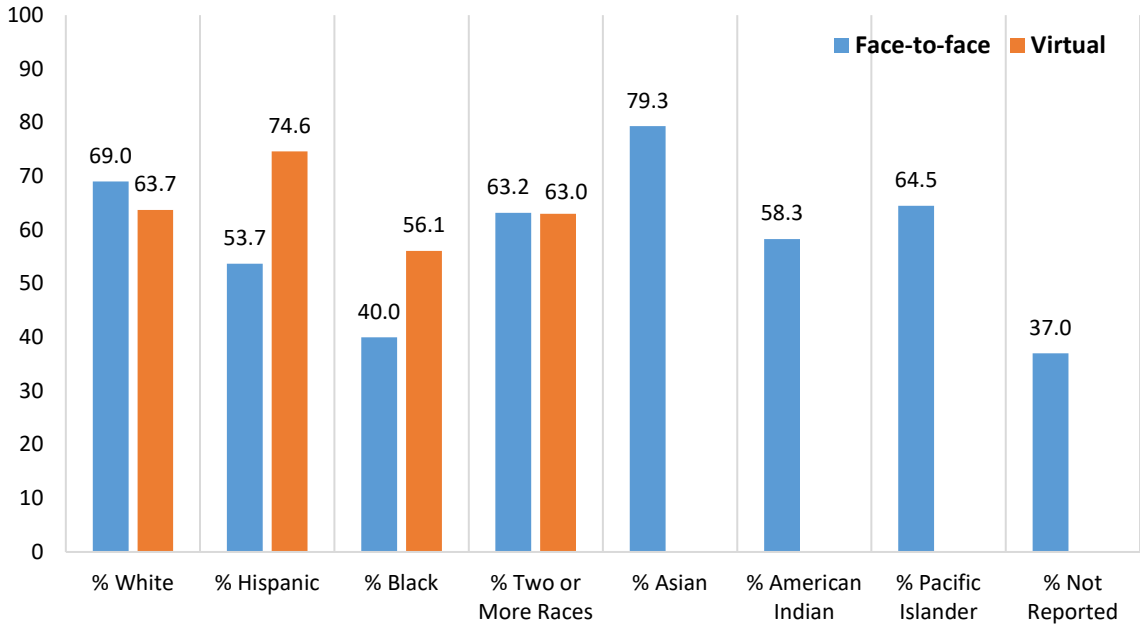
Note. Data are displayed as reported in the department of education portal.

In 2018, the percentage of White face-to-face students who scored at Level 3 or above (69.0) on the SSA in ELA was 5.3% more than White virtual students (63.7) (Figure 9). The percentage of Hispanic virtual students who scored at Level 3 or above (74.6) was 20.9% more than Hispanic face-to-face students (53.7). the percentage of Black virtual students who scored at Level 3 or above (56.1) was 16.1% more than Black face-to-face students (40.0). The percentage of face-to-face students with two or more

races who scored at Level 3 or above (63.2) was 0.2% more than virtual students with two or more races (63.0).

Figure 9

Percent of Students at Level 3 or Above by Race/Ethnicity in Year 2018

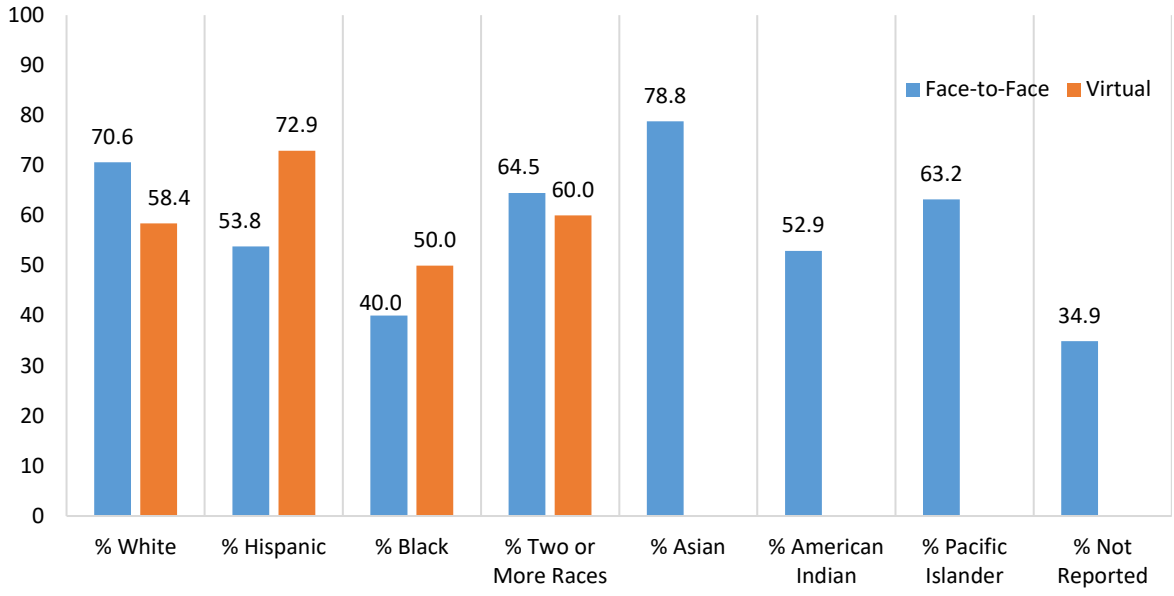


Note. Data are displayed as reported in the department of education portal.

In 2019, the percentage of White face-to-face students who scored at Level 3 or higher (70.6) on the SSA in ELA was 12.2% more than White virtual students 58.4) (Figure 10). The percentage of Hispanic virtual students who scored at Level 3 or above (72.9) was 19.1% more than Hispanic face-to-face students (53.8). The percentage of Black virtual students who scored at Level 3 or above (50.0) was 10% more than Black face-to-face students (40.0). The percentage of face-to-face students with two or more races who scored at Level 3 or above (64.5) was 4.5% more than virtual students with two or more races (60.0).

Figure 10

Percent of Students at Level 3 or Above by Race/Ethnicity in Year 2019



Note. Data are displayed as reported in the department of education portal.

Survey Data

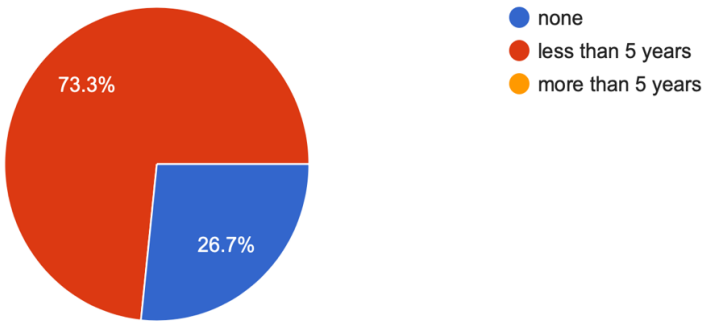
I created and administered two surveys, one for second-grade teachers and one for third-grade teachers. The survey for second-grade teachers consisted of seven multiple-choice questions and three open-ended questions for a total of 10 survey questions using Google Forms (Appendix A). The survey for third-grade teachers consisted of seven multiple-choice questions and one open-ended question for a total of eight questions using Google Forms (Appendix B).

Second-Grade Teacher Survey Summary. For the first question in the second-grade teacher survey, I asked: What is your experience teaching virtual school in second grade? This was a multiple-choice question, and there were 30 responses (Figure 11). Eight second-grade teachers (26.7%) had no experience teaching virtual school in second

grade. In comparison, 28 second-grade teachers (73.3%) had less than five years of experience. No second-grade teachers surveyed had more than five years' experience teaching virtually. Most second-grade teachers had less than five years' experience teaching virtual school in second grade.

Figure 11

Second-grade Teacher Survey Question 1 Responses

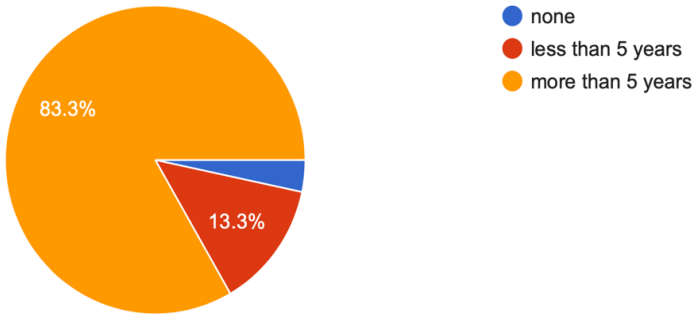


Note. Data show number of years teaching virtually in second grade (n=30).

For the second question in the second-grade teacher survey, I asked: What is your experience teaching in a traditional face-to-face classroom? This was a multiple-choice question, and there were 30 responses (Figure 12). One second-grade teacher (3.3%) had no face-to-face classroom experience teaching. Four second-grade teachers (13.3%) had less than five years' experience teaching face-to-face. Twenty-five second-grade teachers (83.3%) had more than five years' experience teaching face-to-face. Most second-grade teachers surveyed had more than five years' experience teaching in a traditional face-to-face classroom.

Figure 12

Second-grade Teacher Survey Question 2 Responses

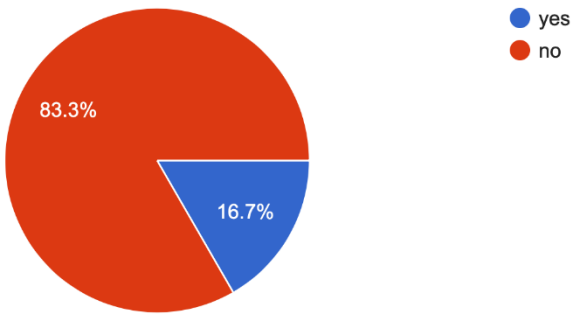


Note. Data show number of years teaching traditional face-to-face second-grade classroom (n=30).

For the third question in the second-grade teacher survey, I asked: Do you think virtual school prepares second-grade students to achieve grade-level reading proficiency for third grade? This was a multiple-choice question, and there were 30 responses (Figure 13). Five second-grade teachers (16.7%) chose yes. Twenty -five second-grade teachers (83.3%) chose no. Most second-grade teachers did not believe that virtual school prepared second-grade students to achieve grade-level reading proficiency for third grade.

Figure 13

Second-grade Teacher Survey Question 3 Responses

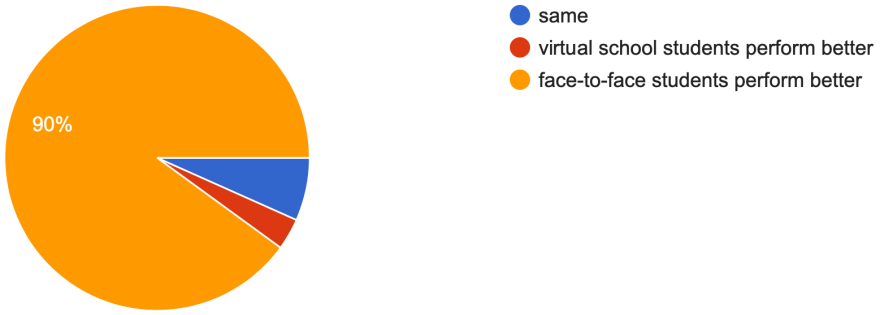


Note. Data show teachers' perceptions as to whether 2nd-grade virtual school prepares students for 3rd grade-level reading proficiency success (n=30).

For the fourth question in the second-grade teacher survey, I asked: How would you compare the reading proficiency levels for virtual school students compared to traditional face-to-face students for second grade? This was a multiple-choice question, and there were 30 responses (Figure 14). One second-grade teacher (3.3%) selected that second-grade virtual school students performed better than face-to-face students in reading proficiency levels. Two second-grade teachers (6.67%) chose that virtual school students and face-to-face students performed at the same reading proficiency levels. Twenty-seven second-grade teachers (90%) chose that second-grade face-to-face students performed better at reading proficiency. Most second-grade teachers thought that face-to-face students performed better than virtual school students in their reading proficiency levels.

Figure 14

Second-grade Teacher Survey Question 4 Responses



Note. Data show teachers' perceptions of comparison of second grade virtual school reading to the reading proficiency of traditionally taught face-to-face students (n=30).

Second Grade Teacher Themes. For the fifth question in the second-grade teacher survey, I asked: What challenges do you face when teaching second-grade reading proficiency to students online? This was an open-ended question, and there were 30 responses. There were five major themes and three outliers. The five major themes were teaching methods, students, resources, technology, and parents. The outliers were support, time, and handwriting. The most common challenges were teaching methods and students.

Teaching Methods. Half of the second-grade teachers listed varying teaching methods as one of the biggest challenges when teaching second-grade reading proficiency to students online. Some examples were the difficulty of scheduling small reading groups, cooperative work, and differentiation. Other examples dealt with the lack of rich classroom discussions, modeling reading in-depth, observing students interacting with text, listening correctly, and having students read aloud spontaneously. Other challenges in methods stated that assessing student proficiency was time-consuming, and

teachers could not accurately determine skills and deficits. One teacher commented that "not hearing or seeing mouth movements makes it harder to track and coach miscues. It also makes it harder to model phonemic awareness and phonics skills." Lastly, teachers felt that meeting students' needs virtually and planning instruction to support students was challenging because students with low reading skills needed more attention than teachers had time to give.

Students. Half of the second-grade teachers listed various struggles with students as one of the biggest challenges they faced when teaching second-grade reading to students online. Students struggled with focus, distractions at home, lack of discipline, consistent attendance, completion of assignments, and accountability. Second-grade teachers also felt that there was low student motivation and interest. One teacher wrote, "Student engagement is more difficult because they were able to get up and walk away, or simply log off." One second-grade teacher stated that students felt "uncomfortable or ashamed of home life." Student distractions were the top challenge listed by second-grade teachers.

Resources. One-third of the second-grade teachers surveyed stated that lack of resources was one of the biggest challenges they faced when teaching second grade reading to students online. The top resource second-grade teachers listed was a lack of books. Many students did not have physical books, and teachers had difficulty finding and getting them to their students. Second-grade teachers also reported a lack of matching synchronous materials and online books to meet their needs. In addition, teachers felt that some students struggled with learning to read by not touching the physical book to sound out words or track the text. One teacher wrote, "Reading on a computer is more difficult

and requires tracking skills that students may not have." One second-grade teacher reported that students did not have access to the educational software they would have had in face-to-face school.

Technology. Seven out of 30 second-grade teachers listed technology as one of the biggest challenges when teaching second-grade reading proficiency to students online. The most common technology challenge identified was poor Internet connections, and one teacher stated that it "hampers effective instruction." In addition, second-grade teachers reported that some students had no Internet, older devices, and technology issues. Students and parents also struggled with trying to navigate the technology and had no training or support.

Parents. Six out of 30 second-grade teachers listed parents as one of the biggest challenges when teaching second-grade reading to students online. Second-grade teachers felt that parents were not giving students adequate support at home. Second-grade teachers stated that some parents gave very little support to their children at home or left their children completely alone. Other parents or caregivers gave too much support by reading or thinking for them, "helping" their children even during assessments, and "doing the work for the students." One teacher attributed this to the lack of parents' knowledge in being a "full-time parent-teacher" and parents not "realizing the demand or wanting to do the work." A minor challenge in the parent theme was parents' complaints about the work.

Outliers. I identified three outliers in the second-grade teacher's responses as the biggest challenges they faced when teaching second grade reading to students online. One second-grade teacher stated that there was "no leadership," "no support," and "no

training." Another second-grade teacher felt that there was "low handwriting practice." Finally, one second-grade teacher stated time as the most significant challenge faced.

For the sixth question in the second-grade survey, I asked: What benefits which affect reading proficiency do you think students have when attending a second-grade virtual school? This was an open-ended question, and there were 30 responses. There were six significant themes and two outliers. The six significant themes were none, better lessons, increased access to books online, increased student autonomy, and a better learning environment. The outliers were increased interaction and less social pressure.

None. About one-third of the second-grade teachers responded that students had no benefits which affected reading proficiency when attending a second-grade virtual school. Six second-grade teachers said there were none. One second-grade teacher said at least children were being exposed to the grade-level curriculum during COVID-19. One second-grade teacher said that virtual school was better than no school and was a safe alternative to face-to-face school due to the pandemic. On the other hand, one teacher said it had a negative effect.

Better Lessons. Five out of 30 second-grade teachers responded that students could have better lessons which would affect reading proficiency when attending a second-grade virtual school. Second-grade teachers reported that more technology was incorporated into their lessons, lessons could give a greater opportunity for differentiation and independent assessments, and lessons were shorter and more specific. One second-grade teacher stated, "I can't get sidetracked like I can in the room."

Increased Student Autonomy. Four out of 30 second-grade teachers stated an increase in student autonomy was a benefit that affects reading proficiency when

attending a virtual school. In addition, second-grade teachers reported that students had more control over their work pace, could repeat materials when needed, and were becoming more technologically proficient. As a result, two second-grade teachers felt that virtual students had better independent reading than face-to-face students.

Increased Access to Books Online. Four out of 30 second-grade teachers cited the ability to access books online as a benefit that could affect reading proficiency when students attended a virtual school. Second-grade teachers stated that students had access to many books online and "hundreds of virtual books." One second-grade teacher said that virtual books gave students the opportunity to "lots of listening to reading from all sources and accents."

Better Learning Environment. Three out of 30 second-grade teachers reported a better learning environment for students as a benefit that could affect reading proficiency when attending a virtual school. Second-grade teachers said there were fewer classroom behavior distractions. Students could focus on the teacher in one-to-one environments and a small group with fewer distractions if parents provided a quiet environment. One second-grade teacher said the comfort of their homes benefited some students because "more comfortable = better performance."

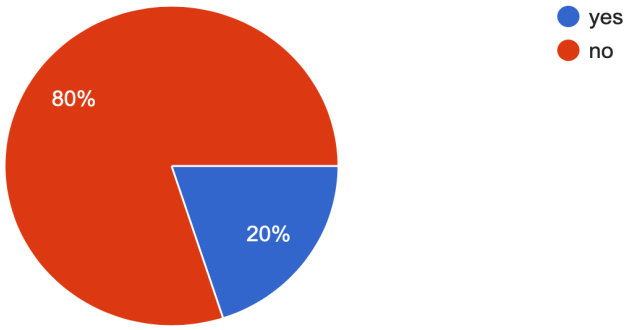
Three out of 30 second-grade teachers felt that students received more support at home than in a face-to-face classroom, positively affecting reading proficiency when attending a virtual school. Two teachers said that students had a better focus with parent support and that parent help and support benefited students. One teacher said that parental involvement was high and that students may be getting more one-on-one reading time with parents.

Outliers. Three teacher responses regarding benefits that affect reading proficiency when attending a virtual school were outliers. Two second-grade teachers felt that there was an increase in student interaction with teachers and that students received more one-on-one attention. One second-grade teacher said that there was "much less social pressure for struggling readers. They don't become self-conscious about their own reading if they don't have peers to compare themselves to."

For the seventh question in the second-grade teacher survey, I asked: Do you feel that students in a virtual second-grade school receive an equitable English Language Arts education as their peers in a traditional face-to-face school? This was a multiple-choice question, and there were 30 responses. Six second-grade teachers (20%) chose yes. Twenty-four second-grade teachers (80%) chose no. Most second-grade teachers who responded to the survey did not feel that second-grade virtual students receive an equitable ELA education compared to their face-to-face peers.

Figure 15

Second-grade Teacher Survey Question 7 Responses

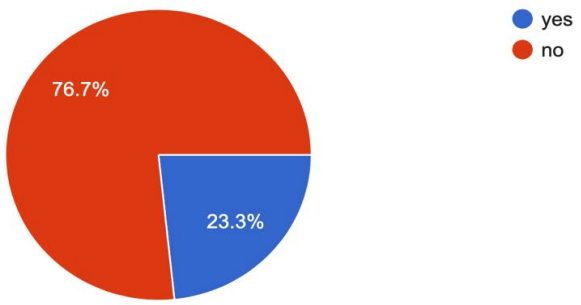


Note. Data show teachers' perceptions about whether students in a virtual second-grade school receive an equitable English Language Arts education as their peers in a traditional face-to-face school (n=30).

For the eighth question in the second-grade teacher survey, I asked: Would you be willing to participate in a thirty-minute interview? This was a multiple-choice question and there were 30 responses. Seven second-grade teachers (23.3%) chose yes. Twenty-three second-grade teachers (76.7%) chose no. Two second-grade teachers (6.7%) completed the follow-up interview. I analyzed their responses in the interview section.

Figure 16

Second-grade Teacher Survey Question 8 Responses

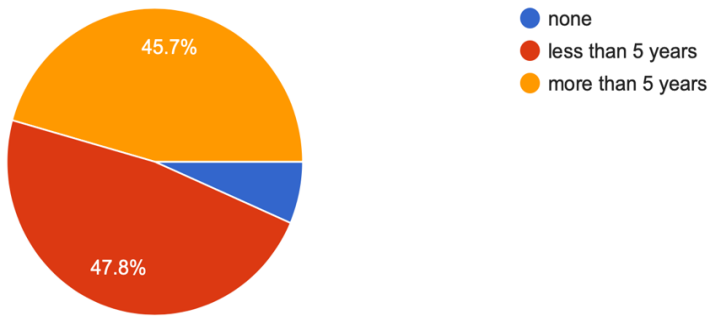


Note. n=30

Third-Grade Teacher Survey Summary. For the first question in the third-grade teacher survey, I asked: How many years have you taught third grade? This was a multiple-choice question, and there were 46 responses. Three teachers (6.5%) had no experience teaching third grade. Twenty-two teachers (47.8%) had less than five years' experience, and twenty-one teachers (45.7%) had more than five years of experience. The three teachers with no experience teaching third grade were exited out of the survey after the third question. The remaining participants were equally divided between having less than five years of experience and having more than five years of experience teaching third grade.

Figure 17

Third-grade Teacher Survey Question 1 Responses (N=46)

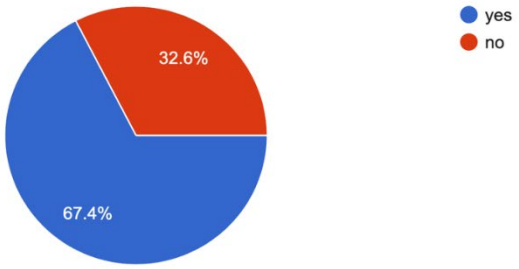


Note. n=46

For the second question in the third-grade teacher survey, I asked: Have you ever taught third-grade students who attended virtual school in second grade? This was a multiple-choice question, and there were 46 responses. Fifteen teachers (32.6%) said no. Thirty-one teachers (67.4%) said yes. The 15 teachers who had never taught third grade to students who attended a second grade virtual school exited out of the survey at this point.

Figure 18

Third-grade Teacher Survey Question 2 Responses

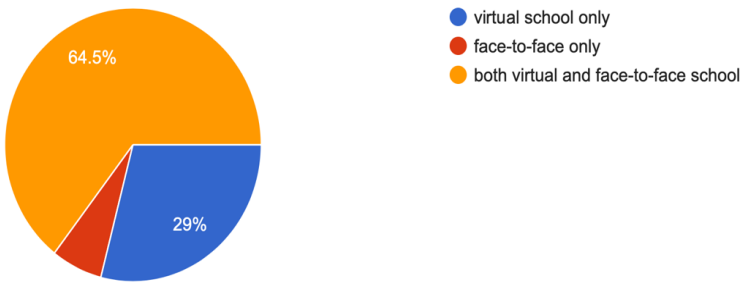


Note. n=46

For the third question in the third-grade teacher survey, I asked: How would you describe your teaching experience? This was a multiple-choice question, and there were 31 responses. Twenty third-grade teachers (64.5%) had experience teaching in both virtual and face-to-face schools. Nine third-grade teachers (29%) had experience teaching virtual school only. Two third-grade teachers (6.5%) had experience teaching face-to-face only. The majority of third-grade teachers had experience teaching in both virtual and face-to-face school environments.

Figure 19

Third-grade Teacher Survey Question 3 Responses

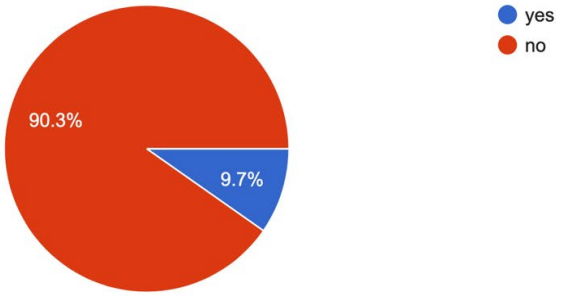


Note. n=31

For the fourth question in the third-grade teacher survey, I asked: Do you think virtual school prepares second-grade students to achieve grade-level reading proficiency in third grade? This was a multiple-choice question, and there were 31 responses. Three third grade teachers (9.7%) chose yes. Twenty-eight third-grade teachers (90.3%) chose no. Most third grade teachers did not believe that virtual school prepared second grade students to achieve grade-level reading proficiency in third grade.

Figure 20

Third-grade Teacher Survey Question 4 Responses

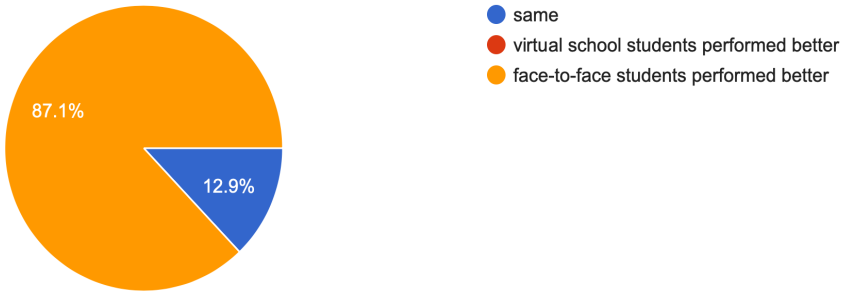


Note. Data show teachers' perceptions concerning second grade versus 3rd-grade preparation for reading success (n=31).

For the fifth question in the third-grade teacher survey, I asked: How do third-grade students who were enrolled in a virtual school for second grade perform in English language Arts assessments compared to their peers who were enrolled in a traditional face-to-face classroom for second grade? This was a multiple-choice question, and there were 31 responses. Twenty-seven third-grade teachers (87.1%) responded that face-to-face students performed better, and four third-grade teachers (12.9%) responded that the performance was the same for both groups of students. No third-grade teachers (0%) chose that virtual school students performed better. Most third-grade teachers felt that students who attended a face-to-face school for second grade performed better in third-grade English Language Arts assessments than students who attended a virtual school in second grade.

Figure 21

Third-grade Teacher Survey Question 5 Responses

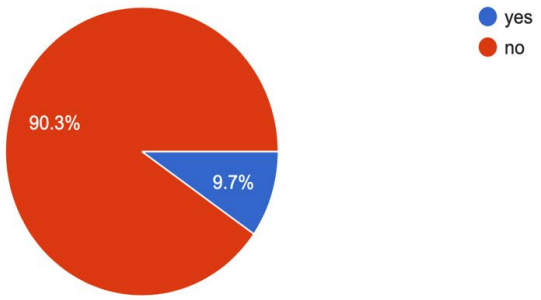


Note. Data show teachers' perceptions of how third-grade ELA students performed comparatively between second grade VS and second grade face-to-face instruction (n=31).

For the sixth question in the third-grade teacher survey, I asked: Do you feel that students in virtual second grade receive an equitable education in English language Arts as their peers in a traditional face-to-face school? This was a multiple-choice question, and there were 31 responses. Twenty-eight third-grade teachers (90.3%) said yes and three third-grade teachers (9.7%) chose the no. Most third-grade teachers felt that students who attended a virtual second grade did not receive an equitable education in English language Arts compared to their peers in a traditional face-to-face second-grade class.

Figure 22

Third-grade Teacher Survey Question 6 Responses

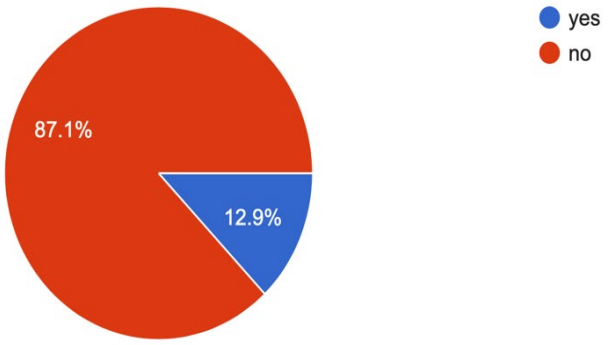


Note. Data show teachers' perception of VS versus face-to-face equitability in terms of ELA education (n=31)

For the seventh question in the third-grade teacher survey, I asked: Would you be willing to participate in a thirty-minute interview? This was a multiple-choice question, and there were 31 responses. Twenty-seven third-grade teachers (87.1%) chose no and four third-grade teachers (12.9%) chose yes. One third-grade teacher (3.2%) completed the follow-up interview. I analyzed their response in the interview section.

Figure 23

Third-grade Teacher Survey Question 6 Responses



Note. (n=31)

Interview Data

I conducted three interviews with second-grade and third-grade teachers to understand the degree of satisfaction or dissatisfaction with virtual education for second-grade reading proficiency from virtual teachers who completed the surveys. The interviews consisted of nine open-ended questions. I conducted two interviews over the telephone and one via the Internet (for a copy of the interview questions, see Appendix C). I recorded and transcribed the interviews using Call Recording by NoNotes to document the participants' responses accurately. I referred to participants as Participant A, Participant B, and Participant C throughout this analysis.

The first question I asked was: Please briefly share with me your background as a teacher. Two participants were second-grade female teachers, and one participant was a third-grade female teacher. Participant A taught second grade for an online school in Florida. Participant B taught second grade virtually for a public suburban school in Texas. Participant C taught third grade virtually for a small California public school in a rural agricultural area. All participants were currently in their first year of virtual teaching during Spring 2020 during the COVID-19 pandemic. All participants had more than five years of teaching experience in the classroom face-to-face from pre-kindergarten through eighth grade, with the most time teaching in the primary grades. Two participants had 30 or more years of teaching experience.

The second question I asked was: What different types of professional development have you had for virtual teaching? Participant A had a master's degree in instructional design and technology, which she felt prepared her for her online teaching role. Participants B and C had training from their schools before reopening in the fall of

2020 in Google Classroom, Screencastify, and Zoom. Participants B and C also sought out professional development independently during the summer of 2020, which consisted of Simple K-12 webinars, various other professional webinars, online courses, a union conference, online courses through the Texas Educators group, and the Indiana Educators Conference. Participant C felt that a book she read, *The Distance Learning Playbook*, helped her the most because the authors discussed what worked, explained how to do what worked, and what was necessary for good online teaching. She found it encouraging that there was "some research behind what works and what's effective."

The third question I asked participants was: Can you explain how satisfied you have been with virtual teaching? Participant A said that she was "about 50/50" and that the most challenging thing was "the realization of the lack of ability and technology, not by the student but by the parent." Parents did not know how to navigate the online platform and could not help their children navigate. Parents asked her, “What does upload mean?” and did not know how to take a picture with a laptop camera to submit an assignment. She stated, “It has been a real eye opener at the lack of knowing the technology that parents have.”

Participant B said, "Surprisingly, I’ve been okay with it.” She felt that “It's exhausting, to say the least, but now that I’ve found a groove for it, most days I feel like I’m actually teaching kids and they understand the material I’m presenting.” Participant C said she started not feeling confident or sleeping at night, but said that after four weeks, "[I] really, really like it." Participant C liked virtual teaching so much that she asked to be the distance educator for her grade level.

The fourth question I asked participants was: How would you compare your experiences with virtual and face-to-face teaching in English Language Arts for student reading proficiency? Participant A said that she used running records through Raz Kids, a K-5 digital literacy program, in the virtual classroom, accurately recording miscues and rates. However, she said Raz Kids lacked the "human approach" for the retelling part, and children did not respond as well compared to face-to-face. Participant A also said students "don't do well" and "it's really hard to tell what level they're really at." She felt that a blended method would work best by using Raz Kids for reading fluency and face-to-face for reading comprehension.

Participant B said that it was "really tricky because while I said that I feel like I have my groove down when I'm teaching kids, I know that I am not being the most effective as a virtual teacher." She felt that her interventions would have been more impactful if she could have students face-to-face to sit at her "teacher table" to do sight words and word patterns. Teaching virtually, she did sight word drills across the screen with cards in small groups, but said she "can't see their thinking going on." She tried to read the students' facial expressions but did not know whether she understood them correctly because the expressions were hard to gauge. Participant B said she had to tell students constantly to "Turn off the TV. I know you're watching that, not me, because I can see where your eyes are tracking," and "Tell your parents to stop reading the words for you."

Regardless of the challenges, Participant B felt that she gained more from doing a reading running record with the students than a benchmark assessment because she knew they were reading the words on the computer screen to her. Students struggled with

reading the text presented over the computer and did better when the text was in their hands in the classroom. Participant B also stated that she competed with family distractions and struggled with students being on YouTube and Minecraft during her lessons. To increase student engagement, she gave Class Dojo points, and rewards like personal letters sent to students' homes with bookmarks, coloring pages, a Zoom lunch with the teacher, and local restaurant coupons the school received to keep students engaged. She even drove by students' homes and took books to read outside with them.

Participant C used iReady and Renaissance Star Reading assessments in the face-to-face classroom and virtual classroom. She felt that iReady provided reliable data, but Renaissance Place tended to "give third-grade students higher scores that aren't really all that reliable." She administered a benchmark assessment to her students at the beginning of the year and reassessed students five weeks after she provided interventions to monitor student progress. Participant C had some children working with reading specialists, the special education teacher, and an assistant who helped some students with phonics skills because the iReady diagnostic showed that their phonics skills were lacking.

The fifth question I asked participants was: How would you assess students for reading proficiency in a virtual school compared to a face-to-face setting? All participants used reading running records in face-to-face instruction to assess reading proficiency. Participant A used Raz Kids while teaching virtually. Participant B had her students read a reading running record passage shared on the computer screen when teaching virtually but did not feel students were as accurate as they had been face-to-face because it was difficult for students to read the text on the computer screen. While face-to-face, she would have also had additional subjective assessments of students' work, like students

reading passages aloud and students saying and writing their sight words to determine student reading proficiency. Participant C used the assessments provided within the Language Arts series, Benchmark Advanced, and iReady while teaching virtually. She "was not willing to spend that much time one on one over Zoom having the kids read those [reading running records]." She did not think that administering the reading running records online was worth the amount of instructional time it would take and that the iReady assessment gave her more accurate and useful data to assess student reading levels.

The sixth question I asked participants was: What are some aspects of virtual teaching English Language Arts that you like? Participant A said she loved reading and instilling the love of reading in her students by getting into chapter books with "really good meaty material" that got them excited and feeling mature. Participant B said she felt that her second-grade students were "going to be more tech-savvy than students in the past."

Participant C said she liked starting her morning off reading a book to "set the tone for our work," and that gave students time to get into the Zoom meeting and not miss a huge amount of instruction. She felt that her virtual teaching was pretty similar to how she instructed face-to-face previously. She faced many technical issues at the beginning of the year with her students' families not being computer literate, so she adjusted her virtual teaching methods to what she considered a "low tech, more traditional model." Some of her students' families were busy and worked in the agriculture fields, and many of her students were English Language Learners. Students used the materials from their reading series, and the teacher used a document camera to

instruct. Parents turned in their children's work by taking it to the school weekly, where Participant C would grade it. All work was returned through parent-school pick up, as well. No student work was submitted electronically, and no student worked independently to watch something prerecorded.

The seventh question I asked participants was: What are some aspects of virtual teaching English Language Arts that you did not like? Participant A stated that it was harder to "tell where the needs lie in the students; where to help them." She found herself second-guessing student work and wondered if it was the students' work or their parents' work, but that "you have to accept it."

Participant B disliked the students being on the computer so much and not handwriting things because she "can't see if they're understanding a concept" when everything has been "made into something easy for the kids to do" by clicking and dragging. She said when previously teaching face-to-face she gained valuable information from handwritten work, such as whether a student needed to work on letter reversals.

Participant B also had concerns over who was completing the students' work and wondered, "Is it mom that's doing it, or is it the kid who did it? I do not know." One parent told her that she "probably over helped him" and that "it was tough watching him struggle." Participant B also disliked students not having books in their hands. Even though she gave her virtual students online options to listen to a story online or read it with a grownup, she did not know if they ever actually read the book. Additionally, she felt that the students with the lowest reading levels who did not participate online would have participated more if they were face-to-face because she could have stood by them in

class and said, “This next question is yours.” She felt that virtual school was a “double-edged sword” with “some good parts to it, but it's more the negative pieces than there are the positive pieces.”

Participant C also disliked students not having physical books in their hands to read during independent reading time and for instruction. She had an extensive classroom library in her face-to-face classroom, and students would have had access to a variety of several books from which to choose and “loving all the [books] I have for them to read.” Her virtual students did not have access to her extensive face-to-face classroom library, so she bought books to send home and even sent some books home to students from her face-to-face classroom library. She also encouraged parents and students to go to the public library.

The eighth question I asked participants was: Can you describe the structure and routines you have established in your classroom that you feel have positively impacted student achievement in reading proficiency? Participant A felt that while teaching face-to-face, the structure and routine of students knowing when the reading and writing blocks and word study happened kept students focused and able to transition easily from one component of reading into the other. She also stated that “absolutely having a 30-minute sustained quiet reading time every day” was necessary because students “need to sit and read and be able to absorb and practice their reading.”

Participant B said that she was very structured and had many daily routines in her classroom, like attending every live teaching lesson and reviewing what assignments had been turned in to keep her students on track. She sent out reminders if students did not show up for live lessons, emailed parents, and went on Go Guardian, an online software

classroom management tool, to send students announcements. She created morning and afternoon slideshows with a star at the top, indicating if a student had a live lesson with her to assist students with time management skills.

Participant B said she read aloud to students as a daily routine to impact reading fluency. She also used the reading series, Benchmark Advance, to work on activities together when they did their lessons. Benchmark Advance is a Language Arts curriculum with a consumable magazine-like format packet that was replaced every three weeks and had online assessments. Participant C felt that teaching virtually to the "low tech traditional model" combined with the Benchmark Advance reading series worked successfully.

The ninth question I asked participants was: Is there anything else you would like to add from the teacher's point of view in regard to virtual teaching English Language Arts? Participant A said, "I think the most important thing is the parents, honestly. Because I'm a teacher, I was able to establish a routine and get my second grader onto a schedule, and you know what he has to do. He's pretty independent, but I'm a teacher… I know how to teach him to help him." She stated, "I hear the fluency readings, and I hear the parents; they are sitting right there next to the kid telling the kid the word." Participant A felt that parents not knowing how to help their child like a trained teacher does, and not allowing them to make mistakes was negatively impacting their reading. She said, "They want to give it to them when they struggle. So, the kids aren't making mistakes; the parents aren't allowing them to."

Participant B said the lack of resources the students had was her biggest concern. She taught in a Title 1 building and knew that some students did not have any home

resources. Even though she provided students with digital books at their reading level through Epic, a subscription-based reading and learning platform, or Houghton Mifflin Harcourt, the lowest-performing students were not opening those accounts. Teaching face-to-face, she could see them with a book in their hands during Drop Everything and Read (DEAR) time. She said, “That part is the one that worries me the most about our kids moving up to the next grade level.” When considering parents’ choice to continue with virtual education or returning to campus for face-to-face instruction, she and her team were crossing their fingers to have more students come back to campus. She concluded, “That’s where kids need to be, on campus.”

Participant C was thankful to be teaching third grade because virtual teaching was “pretty doable in third grade.” She felt for her colleagues in kindergarten and first grade because teaching beginning reading would be difficult online. She thought that it was probably a challenge as well for second grade. Therefore, she understood why the children who came to third grade from a virtual second-grade experience “don't have the same skill set, and that they don't read at the same level that they would have otherwise.”

Contexts

My first related research question was: How do third-grade virtual students compare to traditional brick-and-mortar third-grade students in English Language Arts state assessments? The coronavirus pandemic of 2020-2021 made the need for virtual schools a worldwide urgency. Also, it made English Language Arts state assessments not possible in 2020. The challenge in context was the societal and political influence for a more flexible, accessible learning environment for students of all ages. Still, it was crucial to consider the data from that time period. Data showed that virtual students

outperformed face-to-face students on the SSA in ELA by an average of 7 percentage points over the five years between 2015-2019, prior to the pandemic. This virtual student outperformance included the demographic areas of Economically Disadvantaged students by 11.5%, Students with Disabilities (SWD) by 13.6%, Hispanic students by 17.9%, and Black students by 15.4%, which gives hope to the political topic of equitable education. Another challenge was that all demographic areas were not equally represented in these data. For example, ELL, Asian, and Pacific Islander virtual student subgroups had fewer than ten students in the state-wide virtual program under study. Therefore, the state under study did not report the English Language Arts SSA results to compare with face-to-face students.

Culture

The remaining two related research questions in my study referred to second and third-grade teachers' experiences. One question was: What is the experience of second-grade virtual teachers in relation to student achievement in English Language Arts? The other question was: What is the experience of third-grade teachers who have taught second-grade virtual students in relation to third-grade student achievement in Language Arts?

According to the survey data, 85% of second- and third-grade teachers felt that virtual schools did not prepare second-grade students to achieve grade-level reading proficiency in third grade. Among second- and third-grade teachers surveyed, 83% did not feel that students in a virtual second grade received an equitable education in English Language Arts as their traditional face-to-face school peers. This was in direct contrast to

the department of education extant data for the English Language Arts state assessments between the years of 2015-2019.

The challenge in the culture of teaching was that it was heavily rooted in face-to-face traditions and theories, as evidenced in my survey and interview data. Some significant challenges the teachers I surveyed and interviewed reported facing were in their teaching methods and parents of their students. Teacher training was based on face-to-face strategies and methodologies. Therefore, there was a lack of vision among teachers for what good virtual teaching and learning looked like.

Conditions

My overarching research question for this study was: To what extent does virtual school in second-grade prepare students for third grade reading achievement? The data results showed that while third-grade virtual students outperformed face-to-face students on the SSA in ELA, second and third-grade teachers felt that face-to-face students outperformed virtual students in reading proficiency. The extant data did not correlate with the quantitative and qualitative data in the teachers' surveys and interviews and begged the question as to why. It is important to note here that the time and societal conditions between the data sets were vastly different. The extant quantitative data from the SSA in ELA were administered between 2015-2019, prior to the coronavirus pandemic. The quantitative and qualitative data from teachers' surveys and interviews were taken during the 2020 coronavirus pandemic.

Interviewed participants had concerns and faced many challenges teaching reading proficiency to second-grade students virtually. Second-grade teachers reported significant challenges in their lack of resources, technology, and parents had concerns

over administrative support and time management. From my professional experience, the challenges for the conditions of virtual education are the insufficient technology and increase in the financial cost to the school. Surveyed teachers and I experienced a lack of up-to-date technology and one-to-one devices to support virtual learning in computers, cameras, and Internet access with appropriate bandwidth for virtual students during the coronavirus pandemic. Additionally, I experienced the need to increase teacher knowledge in the learning platforms, learning software programs, digital curriculum and digital assessments. Lastly, interviewed participants received insufficient technical support for virtual students, families, and teachers.

Competencies

The challenge in competencies was that teachers and leaders who moved from face-to-face educational environments to virtual education environments during the coronavirus pandemic had insufficient knowledge in virtual teaching and learning theories and strategies. As previously stated in the culture section, teaching was heavily rooted in face-to-face traditions and theories. Teacher training was based on face-to-face strategies and methodologies. Therefore, there was a lack of knowledge among teachers for what good virtual teaching and learning looks like. Some major challenges the surveyed and interviewed teachers reported facing was in their teaching methods. Teachers did not know how to teach virtually, as they were never trained to do so. One interviewed teacher was trained in distance education and felt that virtual second grade ELA instruction was equitable to face-to-face second-grade instruction. Her perception was that the parents fully supported the virtual school child appropriately. They took on the role of co-teacher for their child's education.

Interpretation

The data results showed that while third-grade virtual students outperformed face-to-face students on the SSA in ELA, second- and third-grade teachers felt that face-to-face students outperformed virtual students in reading proficiency. The extant data from the SSA in ELA showed virtual students passed at an average of 7% higher than face-to-face students between the years of 2015-2019. However, 85% of teachers surveyed felt that virtual school did not prepare second-grade students to achieve grade-level reading proficiency in third grade. Additionally, 83% of teachers surveyed felt that students in a virtual second grade did not receive an equitable education in English Language Arts as their peers did in a traditional face-to-face school.

One possible reason that third-grade virtual school students outperformed face-to-face students on the SSA in ELA could be based on the number of ELLs and races/ethnicities enrolled in both groups. There were significantly fewer third-grade virtual ELL students tested between 2015-2019 compared to third-grade face-to-face ELL students. Face-to-face ELL students had a 25% average passing rate, and virtual ELL students did not rank because there were less than 10 ELL students tested, which was below the threshold to be considered in the testing data in the state under study. This could have reduced the overall passing rate for face-to-face students but did not affect virtual school students' passing rate. Additionally, VS had fewer races/ethnicities than those enrolled in face-to-face schools in the state under study. Asian, American Indian, and Pacific Islander were underrepresented in VS between 2015-2019.

Judgments

The overarching question in my study was: To what extent does virtual school in second grade prepare students for third grade reading achievement? My data results were overall positive. Sixty-three percent of virtual students between 2015-2019 passed the SSA in ELA compared to 56% of face-to-face students. That was an average of 7 percentage points higher. These data are in stark contrast to teachers' perceptions.

The extant data did not correlate with the quantitative and qualitative data in the teachers' surveys and interviews and raised the question of why. According to the survey data, 85% of second and third grade teachers felt that virtual school did not prepare second-grade students to achieve grade-level reading proficiency in third grade. Furthermore, the interviewed participants had concerns and faced many challenges teaching reading proficiency to second-grade students virtually.

A related research question was: How do third-grade virtual students compare to traditional brick and mortar third-grade students in English Language Arts state assessments? Again, the results were positive for the third-grade virtual students. The data gathered from the state under study showed that virtual students were outperformed face-to-face students on the SSA in ELA by an average of 7 percentage points over the five year period of 2015-2019. This included the demographic areas of Economically Disadvantaged students by 11.5 percentage points, Students with Disabilities (SWD) by 13.6 percentage points, Hispanic students by 17.9 percentage points, and Black students by 15.4 percentage points. The demographic areas not measurable were ELL, Asian, Pacific Islander, and Not Reported because of the low virtual student population of fewer than 10 students.

The second related research question was: What is the experience of second-grade virtual teachers in relation to student achievement in English Language Arts? The results were negative. Among the second-grade teachers surveyed, 90% thought that face-to-face students performed better than virtual school students in their reading proficiency levels. Additionally, 83.3% of second-grade teachers surveyed did not feel that virtual school prepared second-grade students to achieve third-grade reading proficiency. The significant challenges second-grade teachers reported facing were their teaching methods, resources, technology, and parents with some concern over support, time, and handwriting. However, second-grade teachers also reported benefits of virtual school as none (about a third), better lessons, increased access to books online, increased student autonomy, and a better environment with some increased interaction with students and less social pressure for students. Among the second-grade teachers surveyed, 80% felt that second-grade students in a virtual school did not receive an equitable ELA education compared to their peers in a traditional face-to-face school.

The final related research question was: What is the experience of third-grade teachers who have taught second-grade virtual students, in relation to third-grade student achievement in English Language Arts? The results were negative. Among the third-grade teachers surveyed, 90.3% did not feel that virtual school prepared second-grade students to achieve grade-level reading proficiency in third grade. Furthermore, 87.1% of third-grade teachers surveyed felt that students who attended a face-to-face school for second grade performed better in third-grade ELA assessments than students who attended a virtual school in second grade. Finally, 90.3% of third-grade teachers surveyed felt that students who attended a virtual second grade did not receive an equitable

education in English Language Arts compared to their peers in a traditional face-to-face school.

Recommendations

I propose a policy that requires all teachers in the state under study to have online education training. The policy will occur in two prongs. The first prong requires preservice teachers at every level to have three semester hours in the area of online teaching and learning. The second prong requires all in-service teachers to have professional development in three semester hours or 60 in-service points in the area of online teaching and learning. Inservice teachers will have one year from the day and month assigned an online student to complete the professional development. Inservice teachers without an online student assigned to their classroom will have two years to complete the three semester hours or 60 in-service points requirement. Teachers will submit documentation of required completion to the Certification office at the state's department of education office. Teachers not meeting the requirement will be considered out-of-field.

I recommend this specific policy because I found that teachers did not feel prepared to teach online in my research. They felt that the virtual students in their classroom received a less than equitable ELA education compared to their face-to-face peers. The teacher data was in direct contrast to the quantitative data from the SSA in ELA that showed third-grade virtual students outperforming face-to-face students by an average of 7% for five years, 2015-2019. The lack of training in online teaching and learning received by brick-and-mortar teachers who pivoted quickly to teaching virtually during the coronavirus pandemic of 2020 impacted negatively education and teachers'

perceptions of student achievement in ELA, specifically in the area of reading proficiency.

The policy will effectively address low student reading proficiency by allowing more students to receive an equitable ELA education online by teachers trained in online teaching and learning. Online teaching and learning training for teachers benefits both teachers and students. Teachers will have more flexibility in their teaching assignments and teach with research-based methods of instruction. Students who cannot attend school face-to-face will have an equitable ELA education compared to their face-to-face peers.

Conclusion

In conclusion, I analyzed data to determine the effectiveness of the virtual school in second grade for third-grade reading success. I found the use of VS in second grade as related to student achievement in the area of reading proficiency in third grade is positive but relies heavily on the student and parents. Families should consider the amount of structure and knowledge needed to support a student at this age fully in a virtual learning environment. Additionally, teachers need adequate support and training to successfully instruct and monitor reading proficiency. In Chapter 5, I described my vision for the future related to the 4 Cs of organizational change based on the work of Wagner et al. (2006).

Chapter Five: To-Be Framework

My study of the impact of Virtual School (VS) in second grade on third-grade reading achievement has uncovered several issues impacting student success. I created a change leadership plan based on Michael G. Moore's Theory of Transactional Distance (1997) and the research of Xiaoxia Huang et al. (2015; 2016) that aims to improve online education and student reading achievement. My vision of success is that all students will read on grade level by third grade for future success.

According to the K-20 Education Code for the state under study, "Each district school board shall establish a comprehensive plan for student progression which must provide for a student's progression from one grade to another based on the student's mastery of the standards in specifically English Language Arts" (Citation withheld to protect confidentiality). The district plan must "include criteria that emphasizes student reading proficiency in kindergarten through Grade 3" demonstrated with "grade level proficiency in a manner determined by the district, which may include achieving a Level 3 on the statewide, standardized English Language Arts assessment" (Citation withheld to protect confidentiality). Regarding retention, the state statute determined that "to be promoted to Grade 4, a student must score a Level 2 or higher on the statewide, standardized English Language Arts assessment required for Grade 3" (Citation withheld to protect confidentiality). In accordance with the language in the statutes of the state under study, I refer to student grade-level reading proficiency as scoring a Level 3 or above on the State Standards Assessments (SSA) in English Language Arts (ELA).

I found that an average of 44% of third-grade students in the state under study were not reading at proficiency level because they scored Below Satisfactory (scoring

Level 1 and 2) on the SSA in ELA in the school years 2015-2019. Furthermore, an average of 21% of the total number of third-grade students in the state under study were not reading proficiently in 2015-2019 and were at risk for retention because they scored Below Satisfactory (scoring Level 1). A more significant percentage of the VS students scored Satisfactory or higher (Level 3-5) with an average of 62.8% compared to the face-to-face students in the state under study with an average of 56% scoring Satisfactory or higher. Overall, there was a difference of approximately seven percentage points between third grade VS and face-to-face students achieving grade-level reading proficiency during the school years 2015-2019.

I found the state department of education extant data and the quantitative and qualitative data from the teachers I surveyed and interviewed to contradict. Of the teachers surveyed, 90% of second-grade teachers felt that face-to-face students performed better than virtual school students in reading proficiency levels for second grade and 83.3% did not feel that virtual school prepared second-grade students to achieve third-grade reading proficiency. Additionally, 87.1% of third-grade teachers surveyed felt that third-grade students enrolled in a traditional face-to-face school for second grade performed better in English Language Arts assessments than their peers who were enrolled in a virtual classroom for second grade. Of the second and third-grade teachers surveyed, 85.15% did not feel that students in a virtual second grade received an English Language Arts education equitable to their peers who were in a traditional face-to-face school. Surveyed teachers reported challenges with insufficient professional knowledge in online teaching methods, student accountability and engagement, access to resources such as books and educational software programs, inadequate student support from

parents, technology, out-of-date devices, stable Internet accessibility, and parent's knowledge of online platforms.

It is important to note that during the time of this study, politicians closed the brick-and-mortar schools in the spring of 2020, and school districts across the country were mandated to educate all public-school children virtually due to the coronavirus pandemic in 2020-2021. Stakeholders during that time did not have the choice of virtual school or brick-and-mortar school as they did before the spring of 2020. The pandemic impacted how children were educated across the state under study and created an immediate need in society to offer a viable distance education program. In addition, it increased attention to the reality that the teachers had not been trained in online education through teacher training programs. Traditional brick-and-mortar school districts had not provided adequate professional development in online education prior to the pandemic.

I propose a change leadership plan focused on creating a teacher training alignment between the state university education degree programs and school district professional development for online education to create a culture shift that includes a virtual education program as part of every brick-and-mortar school. Teachers and students will have the option to teach and learn online. Online teachers will instruct online students from brick-and-mortar schools. Students will have flexible schedules to take the ELA class online from home with a choice to rejoin the face-to-face class for the rest of the day to allow for socialization. Another student option will be to join an ELA online classroom in the brick-and-mortar school, requiring no transportation or childcare issues for families. This online classroom will be for multiple grade levels and monitored by one teacher. Teacher knowledge in online education combined with the option of ELA

virtual education in every school will provide an equitable ELA education across the state to increase reading achievement among third-grade students.

Envisioning the Success To-Be

My To-Be vision includes an ideal virtual education program's contexts, culture, conditions, and competencies (see Appendix D) (Wagner et al., 2006). In my To-Be organizational analysis, school district leaders will know to support virtual education with appropriate funding for teacher training. Additionally, the community will understand, support, and advocate for virtual education by fully utilizing it as an instructional resource across the state, bringing equitable English Language Arts education to all students.

Future Contexts

Historically, teachers have taught in a face-to-face, brick-and-mortar school setting with a fixed yearly calendar and fixed instructional times. Virtual education was available first to undergraduate students in college that expanded to include K-12 students. Virtual School has been a cost-free K-12 public school option for families since 1997 in the state under study. However, virtual schools receive less funding per student than brick and mortar schools. Student enrollment in VS has increased yearly, yet not all demographic areas were equally represented in the five years between 2015 and 2019 that I studied.

Stakeholders and the state department of education hold administrative leaders and teachers accountable that students will be grade-level proficient and demonstrate reading proficiency by passing the yearly SSA in ELA. However, only 56% of all third-grade face-to-face students in the state under study passed the SSA in ELA by scoring a

Level 3 or above between 2015-2019. A 56% third grade reading proficiency rate is alarming when third-grade reading proficiency has been identified as an indicator for ninth-grade student success, on-time high school graduation rates, and future career success (Fiester, 2013, p. 3). With 44% of third-grade students not passing the SSA in ELA and 21% of students at risk for retention, the outcome did not meet the stakeholders' expectations.

The ideal context is that all students will read proficiently in third grade regardless of race, ethnicity, ELL status, ESE status, socioeconomic factors, and technology access. Politicians will advocate ELA virtual education in second grade as a viable option to increase reading proficiency because it has proven to be more effective than face-to-face learning. VS students scored an average of seven percentage points higher than face-to-face students on the SSA in ELA between 2015-2019. SSA ELA extant data from the department of education between 2015-2019 showed that third grade VS economically disadvantaged students performed at a higher rate (57.8%) than third grade face-to-face students (46.32%). Of the Students with Disabilities (SWD), the department of education reported third grade VS students performed at a higher rate (55.72%) than third-grade face-to-face students (29.36%). Data also showed that third-grade Hispanic VS students performed at a higher rate (69.9%) than third-grade Hispanic face-to-face students (41.96%). Finally, the department of education data showed that third-grade Black VS students performed at a higher rate (53.56%) than third-grade Black face-to-face students (38.14%). Virtual education will create equitable education opportunities in ELA for all students.

The department of education leaders will financially support virtual education as a viable learning option for students of all ages by allocating state funding to required teacher training in online education and the technology needed to operate online classrooms within already established brick-and-mortar schools. Virtual education will save the school districts money by having more students perform on grade level and require fewer school services. Ultimately, more students will succeed in high school and graduate on time to move onto successful careers. These contextual elements will enable the state under study to meet the expectations of the stakeholders.

Future Culture

The culture of pre-service teacher education is based on face-to-face theories and methods of instruction. In my teacher surveys and interviews, I found that most teachers were not adequately trained in how to provide online education. In my vision for the future, the culture of all undergraduate teacher education programs will include instruction in the theories and methods for online teaching and learning.

The proposed online teaching and learning course and professional development will include Michael G. Moore's Theory of Transactional Distance (TD) as a pedagogical concept to describe teaching procedures and learner behaviors in distance education (Moore, 1997, p. 22). His theory supports the increase in student achievement in distance education by reducing TD. Increased TD between learners and teachers reduces student achievement. Moore breaks TD into three areas, referred to as clusters. These clusters are Instructional Dialogue, Program Structure, and Learner Autonomy. Teachers will learn the theory of TD and apply his methods to reduce TD in their online classrooms and improve student achievement.

Additionally, Xiaoxia Huang et al. (2015) created an instrument for measuring transactional distance in online courses, which proved to be useful for improving online course design. Huang et al.'s TD measuring instrument will be part of the required teacher training to improve online course design and instruction methods (p.113). Another component to teacher education will be the findings of the research by Huang et al. (2016) which address online learning environments with newer types of instructional media and changing learner demographic attributes (p. 745). Online teachers will incorporate the suggestion by Huang et al. that online instruction should include high dialogue and high structure, synchronous communication tools, and require students' discussion to reduce TD (pp. 745-746).

Finally, I will ensure that teachers will be trained in cultural competencies as part of my proposed online teaching and learning course and professional development requirement. Cultural competency training will decrease the achievement gap between mainstream and culturally diverse students by providing all students with an equitable online education (Pang et al., 2011, p. 560). Cultural competencies for educators will include reviewing biases and cultural misconceptions, implementating English language development strategies, teaching high-level discipline content, and guiding students in decision making and critical thinking skills (Pang et al., 2011, p. 560).

Teachers and school district leaders will increase their perceived value of virtual education and include it in strategic plans to increase reading proficiency. Students, parents, and community members will become aware of the effectiveness of virtual education in second grade as a viable option to increase student achievement in third-

grade reading proficiency and access its available resources, making ELA education more equitable.

Future Conditions

My study found that teachers faced several internal challenges teaching second-grade students to read proficiently in a virtual setting. In ideal conditions, I will remove the challenges to enhance the teachers' ability to educate and improve student success. Huang et al. (2016) recommended high dialogue and high structure in the virtual classroom using synchronous communication tools and the requirement for student discussions to reduce the transactional distance to impact student success positively (pp. 745-746).

The leaders in the department of education will allocate funds to virtual education for resources to reduce transactional distance. Teachers and students will have the technology they need from school district leaders to allow for high dialogue between teachers and students using synchronous communication tools with up-to-date, one-to-one devices that can process the applications, videos, learning platforms, cameras, and live streaming necessary to teach and learn online. Teachers and students will use a learning platform to provide high structure and have up-to-date software and access to digital curriculum and assessments, like Raz Kids, to monitor reading progress. Teachers will have document cameras and cords to connect to devices. Leaders in the school district will provide Internet access with bandwidth to support the virtual classroom network and technology support with a dedicated Information Technology (IT) employee. Technology support will extend to include the virtual school teachers, students, and families.

Teacher education will include training in online teaching technology. I found that the teachers in my study had additional challenges that included the lack of knowledge in online teaching tools. In ideal conditions, universities will include an online teaching and learning course as part of their teacher training programs, and the state will provide professional development for teachers in online teaching and learning. Additionally, school districts will provide meaningful professional development to teachers and school leaders in developing and maintaining online learning platforms like Canvas or Google Classroom; intervention Reading learning software programs like Fast Forward, digital ELA curriculum; and digital assessments like iReady. School leaders will know best virtual teaching practices to be able to support teachers and families.

Future Competencies

In ideal competencies, teachers and leaders will know what good virtual teaching and learning looks like. Most teachers I surveyed in this study did not know how to teach online because they did not have training in online teaching methods and student learning. Historically, teacher education programs provided the teacher with face-to-face training, not training in online theories and methods. One teacher interviewed in my study was an outlier because she was trained in online education through a master's degree program, which positively impacted her view that virtual second grade ELA instruction was equitable to face-to-face instruction. Ideally, all teachers will have online education training. Preservice teachers will have three semester hours in the area of online teaching and learning through their university educator programs. All in-service teachers will have professional development of three semester hours or 60 in-service points in the area of online teaching and learning.

Conclusion

In my study, I found several issues impacting VS in second grade for third grade reading achievement. I created a change leadership plan based on Michael G. Moore's Theory of Transactional Distance (1997, p. 22) and the research of Xiaoxia Huang et al. (2015; 2016) that aims to improve online education and student reading achievement. My vision of success is that all students deserve the successful future that reading proficiently in third grade brings. In Chapter 6, I will bridge the "As-Is" and the "To-Be" (Wagner et al., 2006) concepts with a series of strategies and actions.

Chapter Six: Strategies and Actions

Fully realizing my ideal virtual education in second grade for third-grade student reading success combines the identified challenges in the "As Is" 4 Cs Analysis diagram (Appendix D) and the vision for success in the "To Be" 4 Cs Analysis diagram (Appendix E) (Wagner et al., 2006) to create a Strategies and Action Chart (Appendix F). I used an eight-step process for leading successful change first identified by John P. Kotter in his book *Leading Change* published in 1996 and revised in 2012, and then later outlined in his book *Accelerate* in 2014. This research-based process helped me identify the strategies and actions I will use to realize my vision of increased reading proficiency among third-grade students in virtual education.

Step One: Create a Sense of Urgency

According to Kotter, the first step of the eight-step process is to create a sense of urgency around a Big Opportunity (2014a, p. 27). The Big Opportunity is defined as a way to "help others see the need for change through a bold, aspirational opportunity statement that communicates the importance of acting immediately" (2014a). Kotter recommends "being relentless" to build a sense of urgency and to deliver with passion the importance of the Big Opportunity to accurately reflect how I feel to "capture people's attention in a way that almost compels them to be open-minded" (2014a, pp. 119 & 127). I will do this by meeting with the leaders in education in my state who influence state policies and educational requirements for teachers and students. These leaders will include the State Board of Education members, the Commissioner of Education, the superintendents of school districts within the state, and the presidents of the universities in the state system.

I will meet with these state, district and university educational leaders to share information about the disparity between teachers' perceptions and the reality of virtual education success. I will share the data from the state department of education third grade State Standards Assessments (SSA) in English Language Arts (ELA) in 2015-2019 and the national survey I conducted. The main idea of my message is that third-grade student reading proficiency was identified as an indicator of on time high school graduation rates and future career success, and 44% of third-grade students in the state under study were not reading proficiently based on the SSA. However, third grade VS students in the state under study were seven percentage points higher in the number of students reading proficiently than third grade face-to-face students between the school years 2015-2019. For teachers to be more successful in teaching students to read online and increase reading proficiency among third-grade students across the state, all teachers need to be trained in online teaching methods. Based upon historical data, every year another percentage of third-grade students in the state under study are in jeopardy. The students need state educational leaders to make a policy that mandates that all teachers in the state under study be trained in online teaching and learning now because their futures and their students' futures depend on it.

Step Two: Build a Guiding Coalition

The second step, according to Kotter, is to build a guiding coalition (2014b). I will assemble a guiding coalition of the educational leaders in my state with whom I met and shared my data and vision. The members of this group will feel the urgency profoundly. The coalition will include the State Board of Education members, the Commissioner of Education, the superintendents of school districts within the state, and

the presidents of the universities in the state system. In addition, these leaders will use their knowledge in educational policy and educator preparation programs to include additional members to help build a group of members with diverse backgrounds, cultures, and professional affiliations. Kotter described these members as "individuals from all silos and levels who want to help you take on strategic challenges, deal with hyper-competitiveness, and win the Big Opportunity" (2014a, p. 29). They will have the "drive, the intellectual and emotional commitment, the connections, the skills, and the information to be an effective sun in the dynamic new solar system" (2014a, pp. 29-30).

Step Three: Form a Strategic Vision

Once the guiding coalition is assembled, the third step, form a strategic vision, occurs. The guiding coalition will create a statement that details what online education skills in which teachers need to be knowledgeable to positively impact student reading achievement. This statement will include the clear expectations that students will read proficiently by scoring a Level 3 or higher on the SSA in ELA. The guiding coalition will also develop a clear, inspiring, and attainable vision of the benefits of online teaching and online student learning for reading proficiency. Teachers should be adequately trained through their university educator programs to teach in all classrooms without needing a master's degree specializing in one specific modality. Every child deserves a bright future. It is time for teachers to gain knowledge in online teaching methods so that students and teachers will be successful in all classrooms.

Step Four: Enlist a Volunteer Army

In the next step, the guiding coalition takes the vision for the change plan and communicates it for buy-in from stakeholders in ways that will "lead large numbers of

people to buy into the whole flow of action" (Kotter, 2014a, p. 31). Therefore, in the fourth step, the guiding coalition will enlist a volunteer army. The guiding coalition will share information about the change vision and strategic initiatives about what online teaching and learning skills teachers need, what related professional development is needed, and the expected student reading proficiency results. The volunteer army will consist of teachers who recognize their need to know more about the online method they are expected to use to instruct students in the coming school year. Additionally, parents who have struggling students in the public school online classroom or face-to-face classroom in reading proficiency will be part of the volunteer army. The volunteer army will share this vision in meetings, emails, and presentations to stakeholders including school board members, parents, students, and school leaders. The volunteer army will help draw attention and energy to the vision of the guiding coalition and the need to make policy change mandating that all teachers be trained in online teaching and learning methods.

Step Five: Enable Action by Removing Barriers

Kotter's fifth step is to enable action by removing barriers (2014b). First, I will engage the guiding coalition to help identify what the barriers are. I anticipate that the barriers will be in opposition to mandating additional teacher training through the state by the department of education decision-makers. Teacher unions may also oppose the need for additional training. District school board members and school leaders may be opposed to incorporating online education into their brick-and-mortar schools. Finally, university leaders may not see the need to add an additional course to their educator programs because they would possibly have to take a course out of the programs.

I will share with state decision-makers the importance of supporting online teaching and learning by mandating pre-service teachers have the necessary coursework in their university training and allocating funds for professional development for inservice teachers. I will urge school leaders that the allocated funds used for yearly professional development be used for online teaching and learning training for their teachers. Finally, I will meet with State Board of Education members, the superintendents of school districts within the state under study, and the presidents of the universities in the state system monthly to discuss successes and how to communicate those to stakeholders. Successes would be in the form of total number of teachers with online teaching and learning training completed at 100%. Another success would be monitoring student fluency annually based on the SSA in ELA among students who are in a virtual reading classroom with the goal of grade-level reading proficiency for all. We will also identify ineffective processes or challenges for online teaching and learning professional development and university courses and share solutions to remove those barriers "which slow or stop strategically important activity" (2014, p. 32).

Step Six: Generate Short Term Wins

The guiding coalition's monthly meetings will reveal successes that need to be communicated to stakeholders. Kotter's sixth step, generate short-term wins, is about how important it is to create ongoing, strategically relevant wins that can be seen and celebrated to give credibility and draw respect to the vision (2014a, pp. 32-33). The guiding coalition will create short-term goals along the path to the ultimate goal vision. A short-term win will be the progress monitoring of completed online teacher professional development until 100 percent is reached over the course of five years (renewal of

certification deadline). Six-month target goals will be set in twenty 20 percent increments. The short-term goals will be communicated and celebrated with stakeholders each time such goals are met, even if only in small ways. Online teacher professional development completion rate and goal attainment will be announced on the state's department of education website. All teachers in the state under study will receive celebratory email updates with a progress announcement, thanking them for their commitment to the children in their community. Kotter explained that "These wins, and their celebration, can carry great psychological power" (2014a, p. 32).

Step Seven: Sustain Acceleration

The seventh step by Kotter is to sustain acceleration (2014b). He stated that this step "keeps the entire system moving despite a general human tendency to let up after a win or two" (2014a, p. 33). I will maintain the monthly meetings with State Board of Education members, the superintendents of school districts within the state, and the presidents of the universities in the state system. I will monitor six-month online teacher professional development completion rates in the state under study for five years and push for all universities in the state system to require an online teaching and learning course for all preservice teachers. Additionally, I will continue to assess yearly third-grade reading proficiency rates on the SSA in ELA for increasing student success. Finally, I will share all progress through the state's department of education Website, meetings with the school districts' leaders, and emails to all public school teachers in the state under study with updates until online teaching and learning training is part of the teacher preparation culture. This step is the motor that keeps the other steps moving, so it

needs to be maintained with relentless energy focused forward to new opportunities and challenges (2014, p. 33).

Step Eight: Institute Change

The eighth and final step in Kotter's eight-step process for leading change is institute change (2014b). Instituting change helps "institutionalize wins, integrate them into hierarchy's processes, systems, procedures, and behavior, in effect, helping to infuse the changes into the culture of the organization" (Kotter, 2014a, pp. 3& 34). The guiding coalition will develop this institutional change by having a process established through the state under study to have all preservice teachers take online teaching courses through the state university system. The guiding coalition will also establish the process for all in-service teachers new to the state under study to take online teaching and learning professional development courses to recertify. This action will make the vision part of the organization's DNA (Kotter, 2014a, p. 34).

Assessing the Effectiveness of the Strategies and Actions

I will create a comprehensive plan to assess the effectiveness of the strategies and actions in my change plan. The assessment plan will include communication of the progress toward the achievement of districts' vision and goals to the community and other stakeholders. To begin with, I will work with the guiding coalition to monitor the effectiveness by surveying the teachers who have completed the online teaching and learning course and professional development. I will use this method based on my professional experience, including what I learned from collecting data during this study. I will continue to implement this method to show the change outcomes. My goal is to find out how teachers view their effectiveness in the classroom on student reading proficiency

since the training and if it has changed their experience. I will ask for feedback about the challenges teachers encounter and suggestions for areas to improve. Finally, I will use the data to help develop the online teaching and learning course and professional development.

Additionally, the guiding coalition and I will survey parents and students in ELA classes where teachers have online teaching and learning training. Some questions for parents will be their degree of satisfaction in the ELA class and whether the teacher used specific strategies that parents found effective in improving their child's reading proficiency.

Finally, I will work with the guiding coalition to collect and analyze third-grade SSA in ELA data. The state under study requires yearly SSA in ELA to monitor student proficiency on state standards. The state department of education leaders use the SSA in ELA to hold school district leaders and teachers accountable for student reading proficiency. The results of SSA in ELA are communicated through the department of education's website. The guiding collation will also use the teacher, parent, and student surveys and student proficiency levels from the SSA in ELA to communicate progress toward the vision to stakeholders. These stakeholders are parents and teachers in communities in the state under study, State Board of Education members, the Commissioner of Education, the superintendents of school districts within the state, and the presidents of the universities in the state system.

Involving Community Partners in Decision Making

I will use community partners in decision-making related to the strategies and actions for the change plan. My community partners will be reading advocacy groups and

university education departments. One reading advocacy group will be the members of the Just Read initiative supported by the department of education in the state under study. The main components of the Just Read initiative are student success, educator quality, and parent support. My vision to improve teacher training in online teaching and learning aligns with the Just Read initiative goal to have every child read at or above grade level (Citation withheld to protect confidentiality). One university partner will be a Center for Learning located at one of the state universities. This organization generates innovations to improve educational outcomes through research. They work with preservice teachers, families, and in-service teachers by offering free resources in literacy and virtual instruction, including online professional development.

I will develop effective relationships with various district community partners like State Regional Literacy Directors and the state Grade-Level Reading Campaign networks. The State Regional Literacy Directors work with the Just Read state initiative but are on a regional level with which I will partner to coordinate strategies and actions for my change plan. I will also maximize the collective impact of organizations using peer-to-peer learning exchanges for community partners to align student reading proficiency efforts by participating in the Community Leaders Network and State Leadership Network through the Grade-Level Reading Campaign (Citation withheld to protect confidentiality).

Conclusion

According to Donald Hernandez (2012), “Children who do not read proficiently by the end of third grade are four times more likely to leave school without a diploma than proficient readers” (p. 6) My goal is to improve the way teachers are trained to

impact reading proficiency in third grade and give students a brighter future. I will use Kotter's (2014b) eight-step process for leading change to help guide my strategies and action plan and successfully realize my vision of increased reading proficiency in third grade students. In chapter seven, I described a policy recommendation for teacher education.

Chapter Seven: Implications and Policy Recommendations

I propose a policy that requires all preservice and in-service teachers in the state under study to have online education training. Preservice teachers at every level will be required to take at least three semester hours in the area of online teaching and learning. Inservice teachers will be required to have 60 in-service points for professional development in the area of online teaching and learning. Training will ensure that all teachers educate students effectively in an online classroom and increase student achievement. Raised student achievement will positively impact reading achievement, and more students will read on grade level, specifically in third grade. Increased reading proficiency in third grade will impact the students' future success with on-time high school graduation and career socioeconomic status (Fiester, 2013, p. 3).

Policy Statement

I propose a policy that requires all teachers in the state under study to have online education training. The policy will occur in two prongs. The first prong requires preservice teachers at every level to complete three semester hours of college-level coursework in the area of online teaching and learning. The second prong requires all in-service teachers to complete professional development with three semester hours of college-level coursework or 60 in-service hours in the area of online teaching and learning. Inservice teachers will have one year from the day and month assigned an online student to complete the professional development. Inservice teachers without an online student assigned to their classroom will have two years to complete the three semester hours of college-level coursework or 60 in-service hours required. Teachers will submit documentation of required completion to the certification office at the state's

department of education office. Teachers not meeting the requirement will be out-of-field, meaning that they are qualified to teach only what their professional certificate indicate, but not in the online version of any subject area.

I recommend this specific policy because I found in my research that teachers did not feel prepared to teach online. Of the teachers surveyed, 83% felt that the virtual students in their classroom received a less than equitable English Language Arts (ELA) education compared to their face-to-face peers. Additionally, 85% of the teachers surveyed felt that virtual school did not prepare second-grade students to achieve grade-level reading proficiency in third grade. The teacher data was in direct contrast to the quantitative data from the department of education's State Standards Assessments (SSA) in ELA that showed third-grade virtual students outperformed face-to-face students by an average of seven percentage points for five years, 2015-2019, across the state under study. The lack of online teaching and learning training received by brick-and-mortar teachers impacted education and teachers' experiences in teaching ELA, specifically in reading proficiency, during the coronavirus pandemic of 2020. Brick and mortar schools closed and teachers had no choice as to how they would teach. Teachers had to learn how to teach students online even after brick-and-mortar schools reopened when parents chose to keep their children home and learning remotely.

I believe the policy will effectively address low student reading proficiency by allowing more students to receive an equitable ELA education online by teachers trained in online teaching and learning, as demonstrated by the data from the VS students from 2015-2019. Online teaching and learning training for teachers benefits both teachers and students. Teachers will have more flexibility in their teaching assignments by being

prepared to effectively educate students in both face-to-face and virtual classrooms with research-based methods of instruction. In addition, students who cannot attend school face-to-face will have an ELA education that is equitable to their face-to-face peers.

Analysis of Needs

In this section, I analyze my policy recommendation through six distinct disciplinary areas to fully understand how my policy proposal will impact all stakeholders. I address my policy recommendation through educational, economic, social, political, legal, and moral and ethical analyses. My objective is to provide stakeholders with an understanding of how my policy recommendation will increase reading proficiency by creating equitable access to highly qualified online teachers across the state under study.

Educational Analysis

According to my research, 21% of third-graders in the state under study were at risk for retention from 2015-2019. To be considered for retention, a student would have to test at a Level 1, Inadequate, out of the five levels (1-5) on the SSA in ELA. Students who score a Level 2, Below Satisfactory, are promoted but do not meet grade level reading proficiency. The average percent of students not reading proficiently enough to score satisfactorily on the SSA in ELA from 2015-2019 in the state under study was an astounding 44%.

Learning experiences in Grades K-2 set the foundation for reading skills among students. According to Fiester (2013), third-grade student achievement scores in reading proficiency indicate middle school and ninth-grade success, on-time high school graduation rates, and future career success (p. 3). Three-fourths of poor readers in third

grade will remain poor readers in high school (Fiester, 2010, p. 9). According to Hernandez (2012), one in six children not reading proficiently in third grade fail to graduate high school on time (p. 6). Third grade reading proficiency matters, and there is a concern for 44% of students in the state under study and their future. There is an urgent need to identify instructional practices that can effectively boost reading skills among elementary school students (Prescott et al., 2018, p. 497).

Meanwhile, the primary education setting in Grades K-2 have changed as more families choose online education for their children. According to the education department in the state under study, virtual education had gained acceptance and popularity as the student enrollment in virtual schools continued to increase from 2015-2019 (Citation withheld to protect confidentiality). With the coronavirus pandemic of 2020, states closed brick-and-mortar school buildings in the spring across the United States of America. The virtual school became a reality that affected all students. However, there were no studies focused on the effectiveness of K-2 online education. There was a need to study the effectiveness of virtual school in second grade for third-grade reading proficiency. Through the extant data from the department of education's SSA in ELA for years 2015-2019, I found that Virtual School third grade students performed an average of seven percentage points higher than face-to-face third grade students.

The survey and interview data I collected from teachers across the United States of America revealed a different perspective than the extant data from the state department of education in my study. According to the survey and interview data, 85% of second and third-grade teachers felt that virtual schools did not prepare second-grade students to

achieve grade-level reading proficiency in third grade. Among those second and third grade teachers surveyed, 83% did not feel that students in a virtual second grade received an equitable education in English Language Arts compared to their traditional face-to-face peers. The challenges teachers reported to have faced when teaching second-grade reading proficiency to students online fell into five major themes. The five themes were teaching methods, students, resources, technology, and parents.

With more than half of surveyed teachers reporting that teaching methods are the biggest challenge, and the coronavirus pandemic of 2020 impacting possible future school closings across the United States of America, it is imperative to address the issue of teachers not being adequately trained in online teaching and learning in the form of a policy. It is important to note that one interviewed second-grade teacher, Participant A, held a master's degree in instructional design and technology and felt that virtual school students did receive an equitable education in English Language Arts compared to their face-to-face peers. It is also important to note that Virtual School students achieved an average of seven percentage points higher scores on the SSA in ELA for five consecutive years before the coronavirus pandemic of 2020, which shows the effectiveness of online teaching with trained teachers. Teachers trained in online teaching and learning methods will be better prepared to teach online and enhance their face-to-face instruction methods. All students will have a more equitable education in ELA and reading proficiency will increase.

Economic Analysis

There is an economic impact of a policy proposal requiring all teachers to be trained in online teaching and learning on three levels: students, community, and school

districts. The first level is the students. Hernandez reported that “Children who do not read proficiently by the end of third grade are four times more likely to leave school without a diploma than proficient readers” (2012, p. 3). In addition, high school dropouts have an earning potential of half of what a student who completed a bachelor's degree or higher degree would earn, which directly impacts their economic self-sufficiency (Fiester, 2010, p. 9). Implementing this policy will increase student achievement in reading proficiency, positively impact high school graduation rates and the future socioeconomic status of students.

The second level that the policy proposal will impact economically is the community. Teachers trained in online teaching and learning will use research-based methods for improving online instruction in ELA to increase student achievement in reading proficiency. Increased ELA scores on the SSA will increase the school’s rating as assigned by the state department of education based upon student outcomes on the SSA. Families will feel that they are getting the best education for their children, which will increase the number of families who want to send their children to the local public school, thereby increasing the property value in the community. School success impacts the community it serves.

The third level of the economic impact of the policy for trained teachers in online teaching and learning is the school districts. Waddell (2017) studied the effectiveness of virtual school size and its impact on student achievement, and she advocated for virtual schools as a cost-effective way to educate students (p. 23). Virtual School (VS) is a free option and a public school in the state under study, directly competing with brick-and-mortar public schools for students. In 2018-2019, it cost $1,715.16 less per student per

year to educate in VS than brick-and-mortar schools (Citation withheld to protect confidentiality). Additionally, school districts will save money by not building as many brick-and-mortar schools. Flexible schedules and shared office space by teachers can better utilize existing buildings and stop the growing need to build. The state politicians need to change how they fund school district capital building and allocate monies to include online training for inservice teachers and the technology needed to support virtual education in brick-and-mortar public school districts.

Funding for professional development by the school district can come from Title II Part A: Supporting Effective Instruction in the Every Student Succeeds Act. My policy proposal aligns with the purpose of Title II because it will improve teacher preparation programs in quality and effectiveness within the state to increase student academic achievement in ELA. The department of education decision-makers in the state under study will need to apply for Part B: National Activities portion of the Title II funding from the U. S. Department of Education and provide a description of my policy plan to improve equitable access to effective teachers (NASSP, 2021).

Social Analysis

The social impacts of the policy proposal will increase engagement between teachers, students, and parents. Moore stated in his original theory that distance education "Is a concept describing the universe of teacher-learner relationships that exist when learners and instructors are separated by space and/or time" (1997, p. 22). His Theory of Transactional Distance (TD) describes this psychological and communications space that profoundly affects teachers and learners, which leads to special teacher and learner behaviors (Moore, 1997, p. 22). Moore broke TD into three areas, referred to as clusters.

He made this statement for the future:

> As the distance of education field matures, it is hoped that greater attention will be paid to variables besides the communication media, especially the design of courses and the selection and training of instructors, and the learning style of students. (1997, p. 23)

Moore recommended six processes to be structured in every distance educational course (1997, p. 25). Training in Moore's theory of TD is the cornerstone of teacher education in online teaching and learning policy in an effort to reduce TD and improve student achievement.

Huang et al. (2015) conducted two studies to research the validity of Moore's theory of TD related to distance courses today. Huang et al. developed and validated a measuring instrument of TD, which proved helpful in improving the future online course design and instruction methods to bridge the psychological and communications space (p. 113). Through an empirical study, Huang et al. provided evidence to support Moore’s theory of TD as applicable to current online environments with newer types of instructional media and changing learner demographic attributes (2016, p. 745). Second, Huang et al. addressed the impacts of the constructs of dialogue, structure, and learner autonomy in TD and found that high dialogue (+D) and high structure (+S) led to the least perceived TD. They suggested that online instructors use +D+S, synchronous communication tools, and require student discussions to reduce TD (2016, pp. 745-746). Huang et al. warned that special attention needed to go to the students required to take online courses but preferred face-to-face courses and found that students aged 25 and older were more autonomous than students aged 18-24. Gulnara M. Burdina et al. (2019)

supported Moore and Huang et al. with his study of 430 eight-nine-year-old online students. Burdina et al. found that students need socialization and that a course structure with +D+S made a significant improvement in student achievement in a virtual school learning environment (2019, p. 1).

The policy will impact the social relationships between students and parents as well. Parents will spend more time with their child supporting their education, increasing student and parent interaction, and raising academic achievement. Second-grade teachers in my survey felt that students received better support, affecting reading proficiency when attending a virtual school. Surveyed teachers also stated that students had a better focus with parent support, parent support was high, and students may have received more one-on-one reading time with parents. Heidi Curtis and Loredana Werth (2015) found that "Student achievement in online classes is affected by the performance of the school, students, and parents" (2015, p. 185). Curtis and Werth interviewed parents of online students and found that communication should be to both parents and students. They found that parents wanted better communication on available resources to engage in school more effectively to avoid student failure (2015, p. 185). The transparency of online classes through the Learning Management System (LMS) was appreciated by the interviewed parents and gave them the knowledge they needed to assist their children (2015, p. 185). This policy will train teachers in online course design and how to properly manage Learning Management Systems to improve communications with students and parents to raise student achievement.

Political Analysis

The political impact of this policy concerns many stakeholders. School district leaders rely primarily on state funding to operate VS. Brick-and-mortar school district leaders may be opposed to this policy because it could lead to more families choosing VS, which would reduce their funding. However, if all teachers were trained in online methods of instruction, school districts could offer virtual learning as an option to keep families in their district. District leaders could listen to their community to find their needs and offer options for virtual schools using flexible building space such as shared virtual classrooms for teachers and students. The community will support a school district that develops the teachers' current teaching practices and theories to raise student achievement.

The Education Association in the state under study will support the policy for the teachers it serves. According to my survey data, half of all the second and third-grade teachers listed teaching methods as one of the biggest challenges they faced when teaching online. The teachers I interviewed sought professional development to be better prepared to teach online because very little was offered through their teacher unions or school districts. I want to emphasize that it was different for each teacher in each state and that there was no consistent training in the best practices for online teaching and learning. My proposed policy would give teachers the training they need to be more successful and competitive in the changing field of education without additional cost to them personally, which the Education Association would see as positive for their members. The policy will support the Education Association members' need to have better training for online teaching unlike when teachers were forced to educate online

with little support during the coronavirus pandemic of 2020-2021. This policy supports the Education Association members without their having to seek additional degrees in instructional design or online teaching and learning.

Legal Analysis

There could be legal implications on school districts by teachers and families. Suppose teachers are not effectively trained in teaching online and are required by their school district to teach online. In that case, there may be negative consequences to the district. If the students take the SSA at the end of the year and the scores go down, teachers' pay and bonuses will likely be affected. Teachers will be held accountable and may lose their "Highly Effective" teacher ranking in the state. Teachers may then sue the school district for their loss of pay and emotional distress due to circumstances out of their control because the school district did not provide proper training for teachers to provide quality education to students remotely.

Additionally, school districts are held legally responsible for providing all students in their district with equitable education, according to the Every Student Succeeds Act (ESSA). Of the teachers surveyed across the United States of America in my study, 85% did not feel that virtual school prepared second-grade students to achieve grade-level reading proficiency for third grade. Additionally, 83% of teachers surveyed felt that students in a virtual second grade did not receive an equitable education in English Language Arts as their peers did in a traditional face-to-face school. If students take the required SSA and do not demonstrate grade-level proficiency, families may seek legal consequences for the school district leaders for not providing their children with an equitable education. School district leaders need to ensure that any future brick-and-

mortar school building closures will not negatively impact children's education by supporting my policy to require that all teachers be trained to teach online.

Moral and Ethical Analysis

The moral and ethical implications of my policy are rooted in the responsibility society has to educate all children equitably. School districts are held to the community's expectations that their children will leave school prepared to have a socioeconomically successful future and positively contribute to society. The Every Student Succeeds Act (ESSA) supports this societal expectation. My policy will improve the quality and effectiveness of teachers and schools, increase students' access to high-quality instruction regardless of location, and improve student academic achievement.

Implications for Staff and Community Relationships

I believe my policy requiring all preservice and in-service teachers in the state under study to be trained in online teaching and learning will have implications for staff and community relationships. Staff relationships will improve because the staff will be supported with professional training to be effective. Staff will feel supported by the school district leaders. Preservice teachers will be competent upon entering the teaching profession in both face-to-face and virtual school environments. All teachers will have common knowledge in best practices in online teaching and learning and can support each other.

My policy will give the community confidence in the local school district's ability to provide equitable education with qualified teachers in both face-to-face and virtual school environments. In addition, school board members will promote the policy in the community by advocating the schools' and teachers' commitment to improving the

quality of education to 21st-century learners. As a result, my policy will rebuild trust in the school system and strengthen community relationships.

In my professional experiences, I have found that when teachers have the knowledge and skills they need to meet the expectations of the school leaders, they feel less disstress and are happier in their roles. Jon Gordon (2007) explained that E+P=O, meaning people can control the perception (P) and the response of the events (E) in their lives, which determines the outcome (2007, p. 46). He continued by saying, "Positive energy and positive people create positive results" (2007, p. 46). Gordon's statement supports my experience because when teachers have the knowledge and skills they need, then they can respond to the events in teaching, like having to teach online to students, with a more positive attitude which determines a more positive outcome for students, families, and administrators.

Lastly, the improved academic achievement in students positively impacts teachers' relationships with the community. Giving parents viable choices between virtual and face-to-face education increases their trust in the state and local school systems. Increased equity between virtual and face-to-face education will cause the community relationship to be stronger and more positive.

Conclusion

I propose a policy requiring all preservice and in-service teachers in the United States of America to have online teaching and learning training to ensure that they effectively educate students in face-to-face and virtual classrooms. Effective teaching will positively impact reading achievement. Increased reading proficiency in third grade will impact students' future success with on-time high school graduation and career

socioeconomic status (Fiester, 2013, p. 3). The policy ultimately benefits the community and society as a whole. Chapter 8 concludes my study and explains how I will use the leadership lessons learned going forward as a leader.

Chapter Eight: Conclusion

I evaluated a state-wide Virtual School (VS) and compared it to the brick-and-mortar public schools in the same state to measure the effectiveness of the VS program in second grade for third-grade reading proficiency. My research results informed my future vision for teacher training. I hope educational leaders read this evaluation and see the potential impact on student success if they implement the teacher training recommended.

Discussion

The purpose of my study was to evaluate the extent to which virtual school in second grade prepares students for third-grade reading achievement. Third-grade reading proficiency is an indicator for future student success in middle school, ninth grade, on-time graduation rates, and career success (Fiester, 2013, p. 3). I used a mixed-methods approach to fill in the research gaps to address how educators can potentially raise third-grade reading achievement.

The goal of my evaluation was to study whether attending a full-time virtual school in the second grade made a difference in student achievement in the area of English language Arts (ELA) in third grade. Additional goals were to build on existing research in second and third-grade online education, the impact of online education on student achievement, and fill in knowledge gaps. Finally, I wanted to document how successful second grade students were in attaining reading proficiency while attending a virtual school from the teacher's point of view.

I evaluated student success in VS and brick-and mortar-schools in reading proficiency. I analyzed and compared extant data from a state database on third-grade state achievement tests in ELA from 2015 to 2019. I surveyed 61 second and third-grade

teachers from across the United States of America. I interviewed three teachers who agreed to a follow-up interview.

I found that while third-grade virtual students outperformed face-to-face students on the State Standards Assessments (SSA) in ELA, second and third-grade teachers perceived that brick and mortar students outperformed virtual students in reading proficiency. The extant data from SSA in ELA showed virtual students passed at an average of seven percentage points higher than face-to-face students between 2015-2019. However, 85% of teachers surveyed perceived that virtual school did not prepare second-grade students to achieve grade-level reading proficiency in third grade. Additionally, 83% of teachers surveyed indicated students in a virtual second grade did not receive an equitable education in ELA compared to their peers in a traditional brick-and-mortar schools.

My change leadership plan aimed to increase student reading achievement by using Kotter's eight-step process for leading change (2012; 2014a; 2014b). This process helped guide my strategies and action plan (Appendix F) to successfully realize my goal of increasing reading proficiency in third-grade virtual school students. I encourage educational system leaders to see the importance of virtual school during the coronavirus pandemic of 2020 and use my change leadership plan to implement positive change in the way teachers are prepared to educate students online to increase student achievement in reading proficiency.

I proposed a policy that requires all preservice and in-service teachers in the state under study to have training in teaching online to ensure that all teachers have the skills to educate students effectively regardless of the teaching modality. Preservice teachers at

every level will be required to take at least three semester hours in the area of online teaching and learning. Inservice teachers will be required to have 60 professional development in-service points in the area of online teaching and learning. Online teaching and learning training for teachers can raise student achievement and impact reading achievement positively. Thus more students will read on grade level in third grade. Increased reading proficiency in third grade will impact students' future success with on-time high school graduation and career socioeconomic status (Fiester, 2013, p. 3).

I recommend this specific policy because I found in my research that teachers did not feel prepared to teach online. As a result, teachers felt virtual school students in their classrooms received a less than equitable ELA education compared to their brick and mortar peers. The teacher survey and interview data were in direct contrast to the quantitative data from the SSA in ELA in the state under study that showed third-grade virtual school students outperformed face-to-face students by an average of seven percentage points between 2015-2019. The lack of online teaching and learning training received by brick-and-mortar teachers impacted education during the coronavirus pandemic of 2020 and teachers' perceptions of student achievement in reading.

The policy will effectively address low student reading proficiency by providing students with high-quality instruction in ELA online by trained teachers. Training for teachers in online teaching and learning benefits both teachers and students. Teachers will have the knowledge and skills to use research-based methods of instruction for virtual instruction in ELA. In addition, students who are learning online will have an equitable education in ELA compared to their face-to-face peers. My objective is to

provide stakeholders with an understanding of how my policy recommendation will increase reading proficiency by creating equitable access to highly qualified teachers across the state under study.

Leadership Lessons

One leadership lesson I learned is how to use data to create an informed judgment. My data analysis taught me how to gather and analyze information from quantitative and qualitative data sources using the department of education's database, surveys, and interviews. I learned how to research with human subjects and their rights. I learned how to code open-ended responses and identify patterns and trends. I also learned how to use the 4 Cs (Wagner et al., 2006) diagnostic tools to identify and diagnose the elements that make up a school system as it currently is and how to plan for what I want the school system to be. I now understand the impact John P. Kotter's (2012) eight-step process for change leadership can have on a school system.

I have grown as a leader in using scholarly research to investigate a problem in my field and my community to create change. I have also grown in communicating my ideas in writing through the dissertation process and presentation opportunities with my classmates, university faculty, and university peers. These opportunities gave me the confidence to become an expert in the field of my research.

I learned about the power of politics in the field of education. I realize now the impact school district leaders have as they create policies. In addition, I understand the value of stakeholders and how to better include them in creating change for better communities and schools.

My biggest leadership lesson was how no matter what the research topic may be,

the focus must be on the children and their success. School leaders must put the students first because it is in the children that all our futures lie. I will never forget that.

Conclusion

As virtual education increases around the world, the physical distance between teachers and students also increases. Teacher and student success depend on making an impactful change to cross this distance barrier and change our mindset of education. Together, we will defy distance.

References

Aljaser, A. M. (2019). The effectiveness of e-learning environment in developing academic achievement and the attitude to learn English among primary students. *Turkish Online Journal of Distance Education (TOJDE)*, *20*(2), 176–194.

Brown, M., Hughes, H., Keppell, M., Hard, N., & Smith, L. (2015). Stories from students in their first semester of distance learning. *International Review of Research in Open & Distance Learning*, *16*(4), 1–17. https://doi-org.nl.idm.oclc.org/10.19173/irrodl.v16i4.1647

Burdina, G. M., Krapotkina, I. E., & Nasyrova, L. G. (2019). Distance learning in elementary school classrooms: An emerging framework for contemporary practice. *International Journal of Instruction*, *12*(1), 1–16.

Callahan, M. T., & King, K. P. (2018). *Florida Virtual School impact on the graduation rate of a higher education honors program*. Adult Higher Education Alliance.

Chatman, T., Dick, D., Ford, P., Henry, P., Hobert, K., Keller, M., Riley, K., Tidwell, C., & Wright, R. (2019). Increasing success with online degree courses and programs in the VCCS. *Inquiry*, *22*(1), 1-15.

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, 13(1), 3–21. https://doi.org/10.1007/bf00988593

Curtis, H., & Werth, L. (2015). Fostering student success and engagement in a K-12 online school. *Journal of Online Learning Research*, *1*(2), 163–190.

Dictionary.com (2021). *Virtual school.* https://www.dictionary.com

Encyclopedia.com (2021). *On-line education.* https://www.encyclopedia.com

E-student. (n.d.). *E-Student*. https://e-student.org

Fiester, L. (2010). *Early warning! Why reading by the end of third grade matters*. In Annie E. Casey Foundation (pp. 1–62). https://www.aecf.org/resources/early-warning-why-reading-by-the-end-of-third-grade-matters/

Fiester, L. (2013). *Early warning confirmed*. In Annie E. Casey Foundation (pp. 1–29), Annie E. Casey. http://gradelevelreading.net/wp-content/uploads/2013/11/EarlyWarningConfirmed.pdf

Florida Tax Watch. (2007). *Final report: A comprehensive assessment of Florida Virtual School.* https://floridataxwatch.org/Research/Full-Library/ArtMID/34407/ArticleID/16048/Final-Report-A-Comprehensive-Assessment-of-Florida-Virtual-School

Gordon, Jon. (2015). *The energy bus:10 rules to fuel your life, work, and team with positive energy*. Wiley.

Hanover Research. (2014). *Critical academic indicators: What to look for in your students to ensure future success*. www.hanoverresearch.com

Hernandez, D. J. (2012). *Double jeopardy: How third-grade reading skills and poverty influence high school graduation*. The Annie E. Casey Foundation.

Huang, X., Chandra, A., DePaolo, C., Cribbs, J., & Simmons, L. (2015). Measuring transactional distance in web-based learning environments: an initial instrument development. *Open Learning*, *30*(2), 106–126

Huang, X., Chandra, A., DePaolo, C. A., & Simmons, L. L. (2016). Understanding transactional distance in web-based learning environments: An empirical study.

British Journal of Educational Technology, 47(4), 734–747. https://doi.org/10.1111/bjet.12263

Hughes, J., Zhou, C., Petscher, Y., Regional Educational Laboratory Southeast (ED), & Florida State University, F. C. for R. R. (2015). Comparing success rates for general and credit recovery courses online and face to face: results for Florida high school courses. REL 2015-095. In *Regional Educational Laboratory Southeast*.

Kennedy, K. (2018). *Handbook of research on K-12 online and blended learning* (2nd ed.). https://doi.org/10.1184/R1/6686813.v1

Kotter, J. P. (2012). *Leading change*. Boston, MA: Harvard Business School Press.

Kotter, J. P. (2014a). *Accelerate: building strategic agility for a faster moving world*. Boston, MA: Harvard Business Review Press.

Kotter, J. P. (2014b). *The 8-step process for leading change*. www.kotterinc.com/8-steps-process-for-leading-change/.

NASSP. (2021). National Association of Secondary School Principals. www.nassp.org

McNally, S. R. (2012). *The effectiveness of Florida virtual school in terms of cost and student achievement in a selected Florida school district* [Doctoral dissertation, University of Florida]. ProQuest LLC.

Molnar, A., Miron, G., Elgeberi, N., Barbour, M. K., Huerta, L., Shafer, S. R., & Rice, J. K. (2019). *Virtual schools in the US 2019*. National Education Policy Center; NEPC. https://nepc.colorado.edu/publication/virtual-schools-annual-2019

Moore, M. (1997). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical principles of distance education* (pp. 22–38). Routledge.

Pang, V. O., Stein, R., Gomez, M., Matas, A., & Shimogori, Y. (2011). Cultural competencies: Essential elements of caring-centered multicultural education. *Action in Teacher Education*, *33*(5-6) 560–574. DOI 10.1080/01626620.2011.627050.

Patrick, S., & Powell, A. (2009). A summary of research on the effectiveness of K-12 online learning. *International Association for K-12 Online Learning* (pp. 1–11). https://eric.ed.gov/?id=ED509626

Patton, M. Q. (2008). *Utilization-focused evaluation*. Sage Publications.

Prescott, J. E., Bundschuh, K., Kazakoff, E. R., & Macaruso, P. (2018). Elementary school-wide implementation of a blended learning program for reading intervention. *Journal of Educational Research*, *111*(4), 497–506. https://doi-org.nl.idm.oclc.org/10.1080/00220671.2017.1302914

Snow, C., Burns, S., & Griffin, P. (1998). *Preventing reading difficulties in young children*. National Academy Press. https://files.eric.ed.gov/fulltext/ED416465.pdf

Spector, J. M., Merrill, M. D., van Merrienboer, J., Driscoll, M. P., Hannafin, R. D., & Young, M. F. (2014). *Handbook of research on educational communications and technology*. Springer.

Suresh, M., Vishnu Priya, V., & Gayathri, R. (2018). Effect of e-learning on academic performance of undergraduate students. *Drug Invention Today*, *10*(9), 1797–1800.

The Community Center for Education Results. (2013). *The Road Map Project 2013 results report*. The Community Center for Education Results. https://roadmapproject.org/wp-content/uploads/2018/09/2013-Results-Report_Reduced-File-Sz.pdf

Thompson, V. L., & McDowell, Y. L. (2019). A case study comparing student experiences and success in an undergraduate mathematics course offered through online, blended, and face-to-face instruction. *International Journal of Education in Mathematics, Science and Technology*, *7*(2), 116–136.

Tschinkel, W. (1999). *Grading schools on poverty*. https://www.bio.fsu.edu/~tschink/school_performance/Democrat2.html

U. S. Department of Education, Office of Planning, Evaluation, and Policy Development. (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies*. www.ed.gov/about/offices/list/opepd/ppss/reports.htm

Waddell, S. (2017). Examining the relationship between virtual school size and student achievement. *Quarterly Review of Distance Education, 18*(4), 23–35.

Wagner, T., Kegan, R., Lahey, L., Lemons, R. W., Garnier, J., Helsing, D., Howell, A., & Thurber Rasmussen, H. (2006). *Change leadership: A practical guide to transforming our schools*. Jossey-Bass.

Appendices

Appendix A
Survey Questions for Second-grade Teachers

Question #1: What is your experience with teaching virtual school in second grade?

o none o less than 5 years o more than 5 years

Question #2: What is your experience with teaching in a traditional face-to-face classroom?

o none o less than 5 years o more than 5 years

Question #3: Do you think virtual school prepares second-grade students to achieve grade-level reading proficiency for third grade?

o yes o no

Question #4: How would you compare the reading proficiency levels for virtual school students compared traditional face-to-face school students for second grade?

o same

o virtual school students performed better

o face-to-face students performed better

o I do not have experience in both virtual and face-to-face teaching environments

Question #5: What challenges do you face when teaching second-grade reading proficiency to students online? (written response)

Question #6: What benefits which effect reading proficiency do you think students have when attending a second-grade virtual school? (written response)

Question #7: Do you feel that students in a second-grade virtual school receive an equitable English Language Arts education as their peers in a traditional face-to-face school?

o yes o no

Question #8: Would you be willing to participate in a 30-minute interview?

o yes o no

Question #9: Thank you! Please provide your contact information and someone will be in contact with you soon.

Name:_____

Phone number:_____

Email:_____

Appendix B
Survey Questions for Third-grade Teachers

Question #1: How many years have you taught third- grade?

o none o less than 5 years o more than 5 years

Question #2: Have you taught third grade students who attended virtual school in second grade?

o yes o no

Question #3: How would you describe your teaching experience?

o virtual school only

o face-to-face only

o both virtual and face-to face school

Question #4: Do you think virtual school prepares second-grade students to achieve grade-level reading proficiency in third grade?

o yes o no

Question #5: How do third-grade students who were enrolled in a virtual school for second grade perform in English Language Arts assessments compared to their peers who were enrolled in a traditional face-to-face classroom for second grade?

o same

o virtual school students performed better

o face-to-face students performed better

Question #6: Do you feel that students in a second-grade virtual school receive an equitable education in English Language Arts as their peers in a traditional face-to-face school?

o yes o no

Question #7: Would you be willing to participate in a 30-minute interview?

o yes o no

Question #8: Thank you! Please provide your contact information and someone will be in contact with you soon.

Name:_____

Phone number:_____

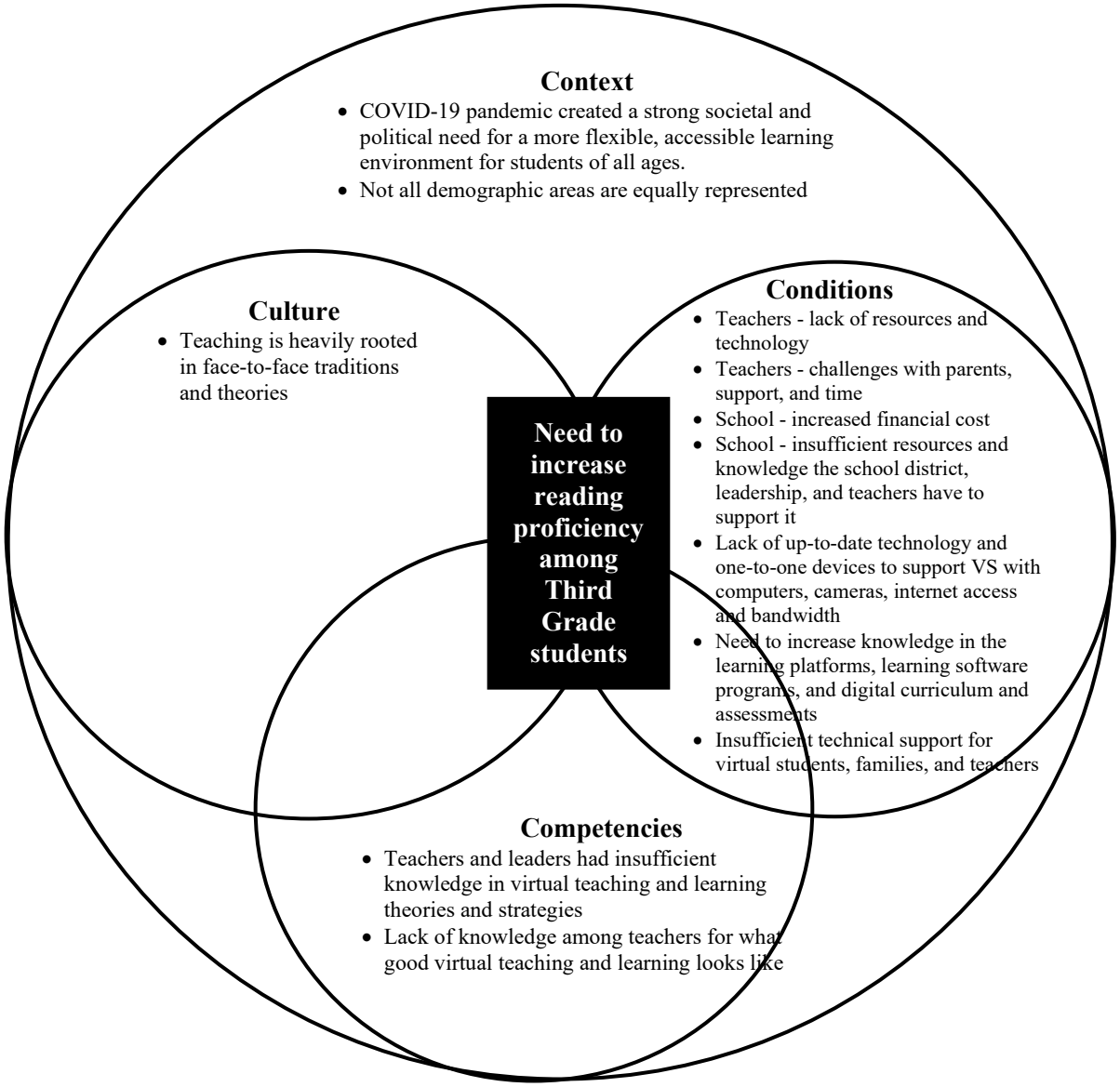
Email:_____

Appendix C
Interview Questions

1. Please briefly share with me your background as a teacher.
2. What different types of professional development have you had for virtual teaching?
3. Can you explain how satisfied you have been with the virtual teaching?
4. How would you compare your experiences for virtual and face-to-face teaching in English Language Arts for student reading proficiency?
5. How would you assess students for reading proficiency in a virtual school setting compared to a face-to-face setting?
6. What are some aspects of virtual teaching English Language Arts that you like?
7. What are some aspects of virtual teaching English Language Arts that you do not like?
8. Can you describe the structure and routines you have established in your classroom that you feel have positively impacted student achievement in reading proficiency?
9. Is there anything else that you would like to add from the teacher's point of view in regard to virtual teaching English Language Arts?

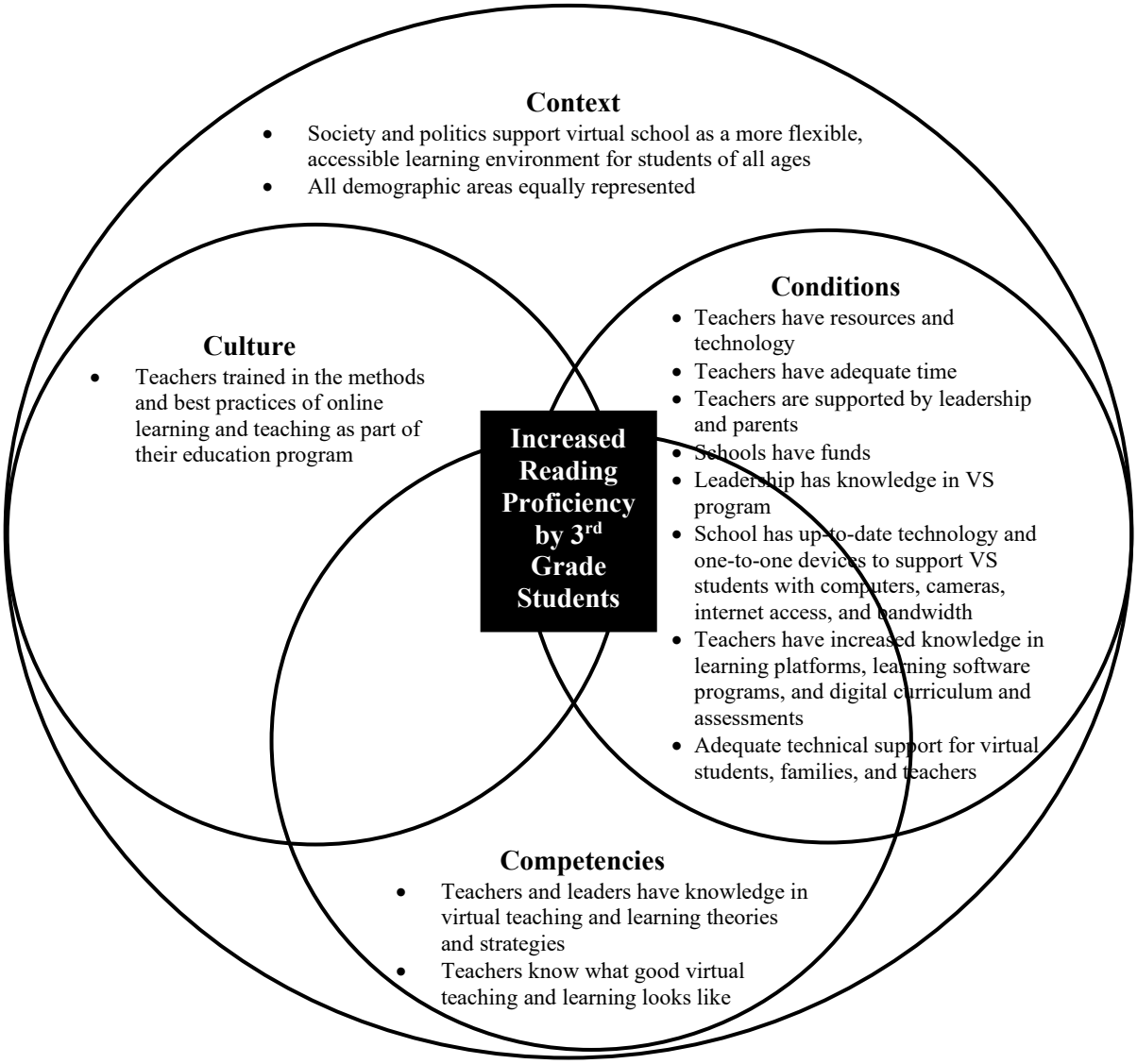
Appendix D
"As Is" 4 Cs for Analysis

"As Is" 4 Cs Analysis for VS in Second Grade for Third Grade Reading Achievement



Appendix E
"To Be" 4 Cs for Analysis

"To Be" 4 Cs Analysis for VS in Second Grade for Third Grade Reading Achievement



Appendix F
Strategies and Action Chart

Strategies	Actions
Create a sense of urgency around a Big Opportunity	• Meet with the State Board of Education members, Commissioner of Education, superintendents in the state system, and presidents of universities in the state system to share information about the disparity between teachers' perceptions and the reality of VS success based on the DOE data for third-grade SSA in ELA scores in 2015-2019 and national surveys.
Build a guiding coalition	• Assemble a guiding coalition with education leaders in the state: State Board of Education members, Commissioner of Education, superintendents in the state system, and presidents of universities in the state system.
Form a strategic vision and initiatives	• The guiding coalition will create a statement that details the skills and content areas in which teachers need to be knowledgeable to succeed in online teaching and learning to improve student achievement. This statement will include clear expectations of students and parents and student results on the state assessment tests. • The guiding coalition will develop a clear, inspiring, and attainable vision of what good online teaching and student learning looks like.
Enlist a volunteer army	• The guiding coalition will share the vision of the skills and content areas in which teachers need knowledge, the skills in which students and families need knowledge, expected student results, and defined good online teaching and learning in meetings, emails, and presentations to all stakeholders groups.

Enable action by removing barriers	• I will share with state decision-makers the importance of a budget to support VS and teacher training. I will explain that the funds will be used for resources, technology, and professional development. • I will work with school leaders to identify a lead facilitator for the VS and teacher training program. • I will meet with lead facilitators monthly to discuss successes and how to communicate those. We will also discuss the program alignment, and identify any ineffective processes, challenges, and share solutions to remove barriers as a team.
Generate short-term wins	• The guiding coalition will create short-term goals along the path to the ultimate goal vision. • The short-term goals will be communicated and celebrated each time they are met with stakeholders.
Sustain acceleration	• Monthly meetings, progress monitoring, and shared progress through stakeholder communication continue to become part of the school culture.
Institute change	• The guiding coalition will have a process established to bring on new students, families, and staff into the established culture.