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Virtual schools have gained popularity by providing students with the flexibility to learn anytime, anywhere. The appeal of virtual education lies in its capacity to enhance student choices and improve the efficiency of public education (Molnar et al., 2019). Online learning, with its adaptable and personalized approach, proves more effective than traditional schools, potentially leading to greater student achievement (Molnar et al., 2019). The COVID-19 pandemic presented an unprecedented crisis that caught many school districts off guard (Francom et al., 2021). Globally, the pandemic forced the closure of primary, secondary, collegiate, public, and private educational institutions, leaving billions of students without in-person schooling to curb the spread of the Coronavirus. In response, school districts had to swiftly establish virtual schools and distance education mechanisms to ensure uninterrupted learning.

In this qualitative study, I capture the experiences of principals who were tasked with launching a virtual school during the pandemic. I sought to answer the following research question: *What were the experiences of principals who led the opening of new virtual schools during the COVID-19 pandemic?* The theoretical framework for the study was built on the foundation of the International Society of Technology Education (ISTE) Standards for Administrators (Esplin et al., 2018), which present indicators of effective leadership for educational technology.

In conducting this study, I relied on in-depth interviews as my primary data collection method. The reader is afforded the opportunity to view launching a virtual school during the pandemic through the lens of my study participants, all of whom were virtual school principals in

North Carolina. My study findings reveal that the principals described their journeys as arduous but ultimately rewarding. They expressed that, upon entering the position, they were unprepared and lacked formal training for the role of a virtual school principal. Importantly, I also discovered that the participants encountered numerous challenges, including logistical issues, lack of support systems, and uneven resource allocations. Additionally, the principals reported disparities in student technology access. Lastly, most of the participants had difficulties describing their efforts in serving underserved minoritized populations. I concluded that although "making a real school out of the air" proved to be a laborious endeavor for the principals, it was undoubtedly fulfilling. In the end, school districts should devote ample strategic planning and relevant professional development training prior to program implementation.

“MAKE A REAL SCHOOL OUT OF THE AIR”: THE EXPERIENCES OF PRINCIPALS WHO WERE TASKED WITH LAUNCHING A VIRTUAL SCHOOL DURING THE PANDEMIC

by

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Dr. Craig Peck
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DEDICATION

In loving dedication to my mother, Joyce McKinnon-Winters, and my father, the late Willie "Joe" McKinnon.

APPROVAL PAGE

This dissertation, written by Tanicka LaShawn Robeson, has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

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CHAPTER I: INTRODUCTION

As a result of the COVID-19 pandemic that began in March of 2020, the traditional in-person educational system was abruptly disrupted. What principals, educators, and students had previously experienced prior to the pandemic was no longer the norm. School districts were forced to shut down school buildings, while educators scrambled to transform their living rooms, bedrooms, and garages into virtual classrooms. Consequently, years of teaching and learning instructional strategies within a traditional in-person setting immediately became obsolete (Arnett, 2021). Overnight, educators across the world had to learn a new way of teaching and engaging students within a virtual classroom setting (Francom et al., 2021).

Principals, who were accustomed to providing educators with coaching and feedback for in-person teaching, had to learn to lead and support virtually (DeMartino & Weiser, 2021). The principals went from being a supervisor to hundreds of educators, to include the additional responsibilities of being a counselor and a confidant to educators who were inexperienced with the virtual delivery of instruction. Furthermore, principals had to engage in crisis management as panic and anxiety became more rampant among the educators because of the rapid spread of the Coronavirus. Principals had to remain professional and be courageous for the educators, as the death toll steadily increased.

During the COVID-19 Pandemic, there were a lot of discussions regarding its impact on education. Consequently, the nation focused on educator and student safety, as well as their teaching and learning considerations (DeMartino & Weiser, 2021). However, there was little attention given to the logistics necessary to accommodate the change from a traditional to a new virtual school. As a result, many principals, including myself, were placed in a position where

there were few supports, limited financial resources, and negligible existing literature that we could access to adequately make the transition into virtual learning seamless (Bagwell, 2020).

Unlike the more notable crises such as natural disasters, weather, and school violence, where policies, procedures, and systems had been established for school leaders to follow, the COVID-19 pandemic brought in an unprecedented crisis that most school districts across the world was not prepared for (Francom et al., 2021). The pandemic caused primary, secondary, collegiate, public, and private educational institutions to close globally, leaving billions of students out of school to prevent the spread of the Coronavirus. As a response to the pandemic, school districts found themselves having to activate and launch virtual schools and distance education to ensure learning continued. The North Carolina Department of Public Instruction (2022) released a study on virtual schools indicating in 2018–2019 there were only five full-time virtual schools in the state, whereas during the 2021–2022 school year, there were 65 full-time virtual schools, with four more pending registrations.

Statement of the Problem

Virtual schools have grown in popularity by offering students with opportunities to learn any place, any time, and anywhere. Virtual education also attracted much attention due to its ability to increase student choices and improve the efficiency of public education (Molnar et al., 2019). Moreover, online learning offer students with a flexible and personalized learning experience more effectively than traditional brick-and-mortar schools, thus giving virtual schools the potential to promote greater student achievement (Molnar et al., 2019). However, the problem that remains is the lack of research surrounding virtual schools. In 2019, the National Education Policy Center released a study *Virtual Schools in the US* that reviewed research relevant to K-12 virtual and blended learning schools. They concluded,

> the experience of students enrolled in virtual or blended learning schools is sparse; therefore, relatively little is known about the instructional models, the nature of the curriculum, and the type and amount of programmatic support provided by these schools. Much of the research that is available is a-theoretical, methodologically questionable, contextually limited, and overgeneralized. As a result, despite the growth of virtual schools, the available research is of little value in guiding policy. (Molnar et al., 2019, p. 4)

With the increasing popularity of virtual schools, what constitutes competency in virtual school leadership has also become a topic of discussion, especially since the onset of the COVID-19 Pandemic. As previously stated, many principals, including myself, were tasked with launching a virtual school amid the pandemic. One would think being appointed to launch a new virtual school would be exciting and rewarding; the principal would have the opportunity to lead innovation and reimagine education for their school district and could essentially be the school district's expert on virtual learning, which has the potential to bring about many opportunities and expansion for the district. McLeod and Richardson (2011) concluded that virtual school principals must be agents of change and evolution in school technology and be prepared to take on the responsibility of preparing students to become technology savvy, globally competitive citizens who are prepared to succeed in the 21st century. However, Esplin et al. (2018) concluded that many principals lack preparation for their roles as technology leaders. Consequently, principals who lack pedagogical knowledge have limited skills in using computers in meaningful ways with students and have difficulty developing various policies and planning to support teachers in using technology effectively. Therefore, they ultimately fail in technology

implementation and integration in their schools (Esplin et al., 2018). These findings suggest the even greater issues that principals who launched virtual schools had to face.

Purpose of the Study

The purpose of my study was to understand the experiences and challenges of principals who were tasked with launching a virtual school during the pandemic. Through my study, I hoped to understand virtual school principals' experiences and their courses of actions during the pandemic crisis. My study will inform stakeholders regarding how principals managed the transition of traditional brick-and-mortar learning environments to virtual learning environments and the challenges they faced during implementation.

My primary objective was to capture experiences from the principals whom I interviewed and determined whether there are common themes in the stories that they shared. I expected that the ultimate findings would reveal practical information that could benefit other principals who are or will be transitioning from leading a traditional school to a virtual school. In addition, I hope my study will provide insights that prove useful to other school districts that are developing plans to launch a new virtual school. Finally, I expect my study will contribute to existing research in the field that sheds light on how principals establish effective virtual teaching and learning environments for educators and students.

Research Question

Through my study, I answered the following research question: **What were the experiences of principals who led the opening of new virtual schools during the COVID-19 pandemic?**

Background Context

The first provision of online education dates to 1960 at the University of Illinois; they created an intranet system of computer terminals where students could access course materials and listen to recorded lectures (Dung, 2020). In K-12 public education, the Virtual High School (VHS) and the Florida Virtual School (FLVS) were established in the United States in 1997. VHS was granted $7.4 million in federal funding, while FLVS received state funding allocation of $200,000 (Barbour & Reeves, 2009). By 2001, the United States had at least fourteen state-operated virtual schools and over 50 charter and public schools running online programs in at least 30 states with approximately 40,000 and 50,000 students enrolled in courses (Clark, 2001; Barbour & Reeves, 2009). Many of the earliest virtual schools in the United States were systems run independently by a state government, or they were charter schools run by independent organizations under special charter law. States and school districts utilized the virtual platform to improve education and provide greater opportunities for students (Barbour & Reeves, 2009).

The National Education Policy Center released a report on *Full-Time Virtual and Blended Schools: Enrollment, Student Characteristics, and Performance* in 2019. The report indicated that

> in 2016-17, 429 full-time virtual schools enrolled 295,518 students, and with enrollments in virtual schools increasing by 17,000 students between 2015-16 and 2016-17. Thirty-four states had full-time virtual schools, four states had blended but no full-time virtual schools (Connecticut, Hawaii, New Jersey, and Rhode Island). Nine states had virtual schools but no full-time blended learning schools. The number of states with virtual schools in 2016-17 is the same as in 2015-16, although there was an increase of eight

states with fulltime blended learning schools over the past two years. (Molnar et al., 2019)

The data suggest virtual schools have grown exponentially since their inception and the trend will continue to persist.

Virtual schools grew in popularity by offering students opportunities to learn any place, any time, and anywhere. At the core of online learning is personalized learning (LaFrance & Beck, 2014). States have adopted laws to include language to allow, and in some cases mandate, online courses as a requirement for graduation (LaFrance & Beck, 2014). For example, some school districts adopted online programs to remediate students and recover credits, accelerate academically gifted students, and provide flexibility for students who have travel or medical needs (Bennett & Bennett, 2019). The growth of enrollment in online learning was largely due to students wanting to avoid social anxieties, such as bullying, safety concerns, dropout rates, and other forms of peer pressure students faced while attending traditional in person schools. Furthermore, virtual schools have provided convenient options for families whose occupations require them to be highly mobile; or for students who live in rural areas, where transportation is a challenge; and for those who need to take classes that are not locally accessible (Toppin & Toppin, 2016).

According to research in 2019, approximately one million students from across 34 states were enrolled in online learning, and the numbers are expected to increase. Also, statistics showed 59% of school districts have students enrolled in courses that incorporate virtual learning as asynchronous versus synchronous (Bennett & Bennett, 2019). In late March 2020, during the COVID-19 pandemic, every state had to close some or all traditional brick-and-mortar K-12 schools for at least two weeks, where approximately 55 million students had to depend and rely

on online learning (Butcher, 2020). Overall, virtual education experienced explosive growth across the globe, offering an array of online courses ranging from K-12, colleges, universities, and continuing education institutions. This growth has prompted Forbes to forecast the online education industry may reach $350 billion by 2025 rising from $107 billion in 2015 (Dung, 2020).

Since the onset of the COVID-19 pandemic, schools across the globe have had to make the shift between traditional learning to virtual learning. Some researchers suggest that many parents discovered that virtual learning better met the needs of their child and will continue to enroll in virtual schools regardless of the state of public health (Kingsbury, 2021). Moreover, a survey conducted in May 2020 found that 73% of parents would be willing to have their children take at least some high school courses online, a 17 percentage point increase from 2009 (Kingsbury, 2021).

Despite the rapid growth in enrollment and enormous financial investment in virtual learning, Molnar et al. (2019) found that school performance measures for both virtual and blended schools indicate that they perform poorly. According to Molnar et al. (2019),

> Overall, a surprisingly low proportion of virtual and blended schools had school performance ratings available: In the states with available school performance ratings, 56% of the virtual schools and 50% of the blended schools had no ratings assigned to them. Of the virtual schools with ratings, 48.5% received acceptable performance ratings. Among the blended schools with ratings, 44.6% received acceptable performance ratings. Furthermore, the graduation rates of 50.1% in virtual schools and 61.5% in blended schools fell far short of the national average of 84%. (p. 9)

Miron and Urschel (2012) suggested that before districts decide to expand full-time virtual schools, more research should be conducted to address why the performance of full-time virtual schools suffers, and how that performance can be improved. Critics of online learning reported that virtual schools have 2.7 times as many students per teacher compared to the national average, and blended schools reported a little more than twice as many (Molnar et al., 2019). Miron and Urschel (2012) also highlighted additional challenges associated with virtual schools such as funding formulas, dropout rates, and the overall effectiveness of online learning on students.

Overall, there are pros and cons that school districts and states must weigh in opening virtual schools. While virtual education offers students flexibility, expanded course opportunities, and personalized learning experiences, school districts must be strategic in developing and implementing curriculum suitable for online learning and allocate necessary financial and human resources that will increase and sustain student success.

Description of Methods

In this study, I used a basic qualitative research design. Merriam and Tisdell (2016) described qualitative research as "understanding how people make sense of and interpret what they experience" (p. 24). For instance, Merriam and Tisdell (2016) suggested that "qualitative researchers conducting a basic qualitative study would be interested in (1) how people interpret their experiences, (2) how they construct their worlds, and (3) what meaning they attribute to their experiences" (p. 24).

This study included two rounds of virtual interviews with five principals who were charged with launching a new virtual school during the 2020-2021 school year in North Carolina. I used a semi-structured interview guide to conduct the interviews, then coded the data

to identify recurring themes and patterns that existed across the data. In Chapter III, I present the findings as the themes that emerged from data analysis.

Sample Population

The sample population was five principals in North Carolina who opened a new virtual school during the 2020-2021 school year. The principals were selected from various school districts throughout the state. I interviewed a demographically and geographically diverse group of principals to include male, female, minority, and non-minority people that were from urban, suburban, and rural areas across North Carolina.

Data Collection Method

I used interviews to collect data. As Patton (2015) explains,

> We interview people to find out from them those things we cannot directly observe … We cannot observe feelings, thoughts, and intentions. We cannot observe behaviors that took place at some previous point in time. We cannot observe situations that preclude the presence of an observer. We cannot observe how people have organized the world and the meanings they attach to what goes on in the world. We have to ask people questions about those things. The purpose of interviewing, then, is to allow us to enter into the other person's perspective. (as cited in Merriam & Tisdell, 2016, p. 426)

The interviews were semi-structured in that there were specific questions prepared, however, wording or order was flexible. Merriam and Tisdell (2016) suggested that "this format [semi structured] allows the researcher to respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic" (p. 111). The purpose of the interview was to find out what was "in and on someone else's mind" (Patton, 2015, as cited in Merriam & Tisdell, 2016, p. 426).

Due to the continued Covid crisis and the wide geographic area, the two rounds of interviews were conducted online via Zoom. Utilizing the Zoom platform provided the benefit of receiving transcripts of the interviews.

Data Analysis

Qualitative data analysis is a search for meaning and a way to process data to take what has been discovered and share it with others (Merriam & Tisdell, 2016). Flick (2014) describes the process of data analysis as "the classification and interpretation of linguistic (or visual) material to make statements about implicit and explicit dimensions and structures of meaning-making in the material and what is represented in it" (p. 5). However, in short, the goal of qualitative data analysis is to interpret the data, with the intent of answering the research questions (Savin-Baden & Major, 2013). According to Hatch (2002), "data analysis means organizing and interrogating data in ways that allow researchers to see patterns, identify themes, discover relationships, develop explanations, make interpretations, mount critiques, or generate theories. It often involves synthesis, evaluation, interpretation, categorization, hypothesizing, comparison, and pattern finding" (as cited in Merriam & Tisdell, 2016, p. 148).

Merriam and Tisdell (2016) suggest analyzing qualitative data concurrently with data collection, at the beginning of a qualitative study, since the researcher knows what the problem is and was intentional on the sample selection and data collection to address the problem. For my study, I utilized several of Merriam and Tisdell's strategies for analyzing data from my interviews. I coded my data, categorized it, then identified common themes and trends from the interview data. Merriam and Tisdell describe coding as "nothing more than assigning some sort of shorthand designation to various aspects of your data so that you can easily retrieve specific pieces of the data" (p. 199). Furthermore, Merriam and Tisdell (2016) believe that qualitative

data analysis is primarily inductive and comparative, therefore relying on the constant comparative method of data analysis.

Trustworthiness

Reflexivity and member checking were the two strategies used to ensure and develop trustworthiness during the study. Since this research study is directly related to my current line of work, I revealed my positionality and used a conversational dialogue format during the interview process. Merriam and Tisdell (2016) suggest that "investigators need to explain their biases, dispositions, and assumptions regarding the research to be undertaken" (p. 249). I worked with the research participants, developed a mutual time for the interviews, and respected their time limitations. I asked follow-up questions and probing follow-up questions to ensure responses were sufficient to produce the data needed to validate the research.

I maintained a reflexivity journal to write my personal responses and opinions related to the study. Engaging in reflexivity helps the researcher identify barriers, imbalances of power, and ethical questions, as well as develop new perspectives and questions to promote further research (Underwood et al., 2010). The reflexivity journal helped me to process my role as researcher as it relates to my role as a virtual school principal. It also served as an audit trail that described how data was collected, which included my reflections, questions, and decisions regarding problems, issues, or ideas I encountered. I approached the study by suspending my expectations and preconceptions about the phenomenon to the greatest degree possible.

The second strategy I used to ensure trustworthiness of the data was through the process of member checking. Merriam and Tisdell (2016) state that "the process involved in member checks is to take your preliminary analysis back to some of the participants and ask whether your interpretation 'rings true'" (p. 246). I provided participants with their interview transcripts, as

well as a detailed description of themes that emerged during my data analysis. I asked the participants to review the transcribed interviews to provide clarification, additions, or deletions to the information shared during their interview sessions. I solicited feedback to ensure that their interviews were accurately transcribed and interpreted.

Limitations

There were several limitations to the study. First, the participants are geographically limited to North Carolina. Also, the study solely focused on virtual school principals and their personal experiences. Additionally, the participants are principals that launched their virtual school in 2020. The virtual school is part of a public-school system, which excludes private and charter schools. Lastly, I was unable to generalize my findings based on a sample size of five people.

Theoretical Framework

The theoretical framework I used for my study was the International Society of Technology Education (ISTE) Standards for Administrators (Esplin et al., 2018), which were known as the indicators of effective leadership for technology. The theoretical framework helped me structure and examine my study and understand my findings.

The ISTE Standards for Administrators consist of five main concepts, including: Visionary leadership, Digital-age culture, Excellence in professional practice, Systematic improvement, and Digital citizenship (Esplin et al., 2018). The standards provide an evaluation tool that school leaders can use as an accountability instrument to ensure effective school technology implementation. These standards were originally developed and released in 2001 and called the Technology Standards for School Administrators (TSSA). They were later revised in 2014 and renamed the ISTE Standards for Administrators.

The ISTE Standard “Visionary Leadership” outlines how technology leaders can engage others in creating a shared vision and involvement in the development of the strategic plan and continuous school improvement process for transforming learning with technology (Crompton, 2017). Moreover, researchers stress the importance of civic involvement of stakeholders during the development and implementation of the technology vision and plan to foster community, commitment, and support among all stakeholders (Anderson & Dexter, 2005). Another expectation for administrators is the school leader’s ability to support what happens in the classrooms and the use of technology to support students’ learning and teachers’ instructional delivery (Anderson & Dexter, 2005). The ISTE Standard “Digital-age Culture” makes this action item explicit in which the school leaders are to establish teams and build systems to support learning (Crompton, 2017).

The ISTE Standard “Excellence in Professional Practice” speaks to a school leader’s capacity to model and promote professional learning not only for themselves, but for others as well. Principals have the responsibility to develop themselves on various educational technology tools, but also to ensure other school staff receive adequate professional development opportunities (Anderson & Dexter, 2005). Included in the ISTE Standard “Systematic Improvement” is a process in which the leader evaluates and monitor processes to continually improve the use of technology and using data to make technology decisions (Crompton, 2017). Lastly, the ISTE Standard “Digital Citizenship” highlights school leaders’ capacity to ensure equity, inclusion, safety of users, and compliance with social, legal, and ethical practices related to the use of technology (Crompton, 2017). I drew upon the five elements of the ISTE Standards to organize my study and help me make sense of my findings.

Researcher Experience

Merriam and Tisdell (2016) explain "qualitative research is concerned with understanding how a particular researcher's values and expectations influenced the conduct and conclusions of the study" (p. 249). As the researcher, it was important for me to share my position or reflexivity, which means how I affected the research and how the research process affected me. Also, it was important for me to be aware of my positions, attitudes, perspectives, and incidences during the study.

My experience with virtual schools began in July 2020, when I was appointed the principal of the new virtual school for my school district. I have firsthand knowledge of the celebrations and challenges of opening a new virtual school during a pandemic. I share many of the same sentiments as my colleagues that were tasked to do the same. Before becoming a virtual school principal, I had very little knowledge of instructional technology pedagogy and had not received any formal training in operating or leading a virtual school. During year one of opening the virtual school, there were many instances where I felt unequipped, unprepared, and sometimes defeated. However, I had the determination and tenacity to keep the school moving forward. This study not only captured the experiences of other principals who were tasked to open a new virtual school during a pandemic, but it reflected my experiences as well.

For the study, I drew upon my experiences in conducting the research, but I guarded against confirmation bias. Confirmation bias "occurs when a researcher forms a hypothesis or belief and uses respondents' information to confirm that belief" (Sarniak, 2015, p 1). Instead, through means such as maintaining a reflexivity journal, I sought to ensure that I brought my personal experiences to the study in ways that contributed to a broader understanding of an under-researched topic as I develop into a technology education leader/scholar.

Significance

This study highlighted the untold stories and the unique experiences of principals that were charged to open a new virtual school during the pandemic. Unfortunately, there is a minimal amount of research contributing to the literature of school technology leadership nor the establishment of virtual schools. Scott McLeod (2021), an internationally known expert in the field, wrote a commentary called, “Why aren’t more educational leadership scholars researching technology?” In the commentary McLeod posed a question that helps suggest the significance of my study. He asked, “would more schools have been better positioned to respond to the pandemic if we previously had made greater investments in school technology leadership research and practice?” (McLeod, 2021, p. 392).

My study answered McLeod’s (2021) question and provided more insight on the necessity of proper preparation and investment in school technology leadership. It also provides insight into the challenges faced by virtual school principals, which would allow school districts to make informed decisions as they consider opening a new virtual school or to adjust one currently in operation. Additionally, my research highlighted how virtual school principals responded to the needs of underserved minorities of students during the pandemic. Lastly, I fulfilled McLeod’s (2021) suggestion that doctoral students consider conducting new research on technology leadership in schools.

Overview of Chapters

In Chapter II of my study, I review research that pertains to principals of virtual schools. Specifically, I provide an overview of principals and technology leadership, education technology, and principals and schools adapting to crisis situations. I discuss the findings of my

research in Chapter III. In Chapter IV, I analyze the findings of my study as they relate to existing literature and demonstrate how my findings contributed to the education field.

CHAPTER II: LITERATURE REVIEW

The purpose of my research study was to explore how principals managed all the dynamics of transitioning in-person school operations to launching a virtual school which delivered instruction during the pandemic. Over the past decade, educational institutions have been making the shift from traditional learning environments to virtual settings, where technology has mandated institutional advancement and unique learning opportunities for students. Due to technology, students globally can learn virtually anywhere, any time, and any place. As it relates to the COVID-19 Pandemic, some principals were suddenly forced to transition schools from brick-and-mortar operations to virtual teaching and learning environments and tasked with opening a new virtual school during the pandemic. In this review of the literature, I discuss educational technology, principals and technology leadership (including in virtual schools), and principals and schools adapting to crisis situations.

Educational Technology and Access

Digital Resources and Tools

The use of digital resources and tools enhances learning content and facilitates understanding. While the Internet enables students' access to educational resources and services, anywhere in the world. It makes learning imaginable in virtually any setting, whether the school, university, home, workplace, or leisure spaces (Careaga-Butter et al., 2020).

The estimated value of the global education technology industry is $252 billion. The United States spends about $21 billion each year on education technology resources and tools, and more specifically over $8 billion is spent in PreK-12 software and will continue to increase over the next several years (Dexter & Barton, 2021; Escueta et al., 2017; Sterrett & Richardson, 2020).

Digital tools integrated in schools offer students at various levels access to an open portal of knowledge and connections with peers across the world. Additionally, online programs transform how teachers engage students with the content and how students take ownership in their learning experiences (McGrath & Åkerfeldt, 2019).

Curriculum

Despite the exploding popularity of virtual schools, there is still little research surrounding appropriate curriculum for online learning. However, there are numerous education technology curricula and resources designed to increase student achievement (Bettinger et al., 2020). These education technology-based programs enable students to have consistent access to grade level appropriate standards, empower students to master the content prior to moving to more rigorous concepts, and provide remediation in areas where students are struggling (Escueta et al., 2017). Furthermore, the programs offer direct and personalized learning by providing timely feedback to students and daily reports for teachers to adjust their instruction accordingly (Escueta et al., 2017; Bettinger et al., 2020). Bettinger et al. (2020) conducted a study that explored the educational production function by using a large randomized controlled trial that varied dosage of computer-assisted learning (CAL) as a substitute for traditional learning. The researchers suggested that the increased demand for education technology curriculum as a substitution for traditional teaching and learning can offset and bring balance to the deficiencies that are commonly known in schools, such as teacher retention, low quality teachers, students performing below grade level, and lack of student motivation; the explosion of the tools became more apparent recently due to the COVID-19 pandemic.

Researchers Oliver et al. (2010) conducted a qualitative case study involving eight teams of elementary and middle school teachers that developed pilot online courses for the North

Carolina Virtual Public School (NCVPS). The study included focus groups and a follow-up survey that helped to identify common needs of these non-traditional course designers during course development efforts. Oliver et al. (2010) suggested that teachers are in fact subject matter experts for content development, however they "may face challenges in designing appropriate content, implementing appropriate activities, and utilizing emerging and ever-changing tools, most of which were not developed with pre-secondary learners in mind" (p. 58). In the early 2000s, online education companies such as Option 6, K12 Inc., and Apex Learning spent approximately $500,000 to design, develop, and test one course, which included the cost to employ an extensive team of instructional designers, content experts, visual and graphic designers, multimedia designers, language editors, and analysts (Oliver et al., 2010). Despite the time and cost it takes in course development, over 80% of virtual schools developed or co-developed their own courses instead of purchasing from commercial providers largely due to the need for a customized curriculum to meet state standards (Oliver et al., 2010). In a 2007 survey, it was reported that out of 60 K-12 virtual programs, only 14 of them licensed all course development to outside providers (Oliver et al., 2010). Although most virtual schools create and develop their own courses utilizing teachers as the designers, more research is needed to determine the effectiveness of these courses.

Instructional Practices

Quality online education hinges on the online teacher's ability to connect with and engage students, present content, and organize the virtual learning classroom with effective use of instructional strategies, technology, and content knowledge (Dipietro, 2010). There is a strong body of research supporting instructional practices for traditional teaching and learning. In contrast, K-12 virtual schooling is still in its infancy stages as a field of study, strategy and

instructional practices used by virtual school teachers (Black et al., 2009). Understanding that online education requires skills that are unique from those in brick-and-mortar schools, it is imperative for more research to be developed in this area. Due to the astronomical growth of virtual learning and the millions of students enrolled in these schools, the successes of the virtual schools and students hinge upon effective virtual schoolteacher practices deployed in the virtual classroom. One example of a popular research-based teacher strategy used in the face-to-face setting is differentiation. It is known to be an effective strategy to help meet the individual needs of students. However, little research has been conducted on differentiation strategies that are conducive for online learning (Beck & Beasley, 2021).

Dipietro (2010) conducted a study on how effective virtual teacher's pedagogic beliefs translate into instructional practices. Sixteen teachers were recruited from a K-12 virtual school in the Midwest portion of the United States to participate in the qualitative research study. At the conclusion of the interviews, five overarching themes emerged that represented the pedagogical beliefs of the teachers. These beliefs include connecting with students, fluid practice, engaging students with content, managing the course, and supporting student success.

Teachers play a crucial role in the online courses offered so it is imperative for virtual schoolteachers to understand the pedagogy underlying K-12 online teaching. Also, the teacher's effective use of digital tools and resources is imperative in the design of the virtual course. Crawford-Ferrer and Wiest (2012) performed a review of literature to address the need of more information on effective practices in online pedagogy. During the review, they found the most highly effective online learning experience includes both synchronous and asynchronous learning activities, videos, interactive presentations, coupled with various methods of communication such as discussion board, webcam conversations, and website viewing

(Crawford-Ferre & Wiest, 2012). Furthermore, Dipiertro (2010) concluded that "the practices online teachers use to communicate and engage students, present content, and organize the learning environment reflect the coordination of pedagogical, technological, and content knowledge to provide students with quality online learning opportunities" (p. 328).

Student Technology Access Inequities

School districts across the United States are challenged with meeting the technology demands of its students. As the demand for technology integration in schools increases, the digital divide between students who have access to technology connectivity at home versus those who do not have access at home is also increasing. Unfortunately, students who live in difficult socioeconomic conditions suffer the most. Escueta et al. (2017) completed a literature review on the experimental evidence on the effectiveness of technology-based approaches in education. The review found that in the United States:

> 98% of the 12 million school-age children living in households with $100,000 or more in income have access to a computer at home, but only 67% of the 12 million school-age children living in households with less than $25,000 in income have access. Also, underrepresented minority students disproportionately lack access: only 78% of African American and Hispanic school-age children have computers at home, in contrast to 92% of white school-age children. (Escueta et al., 2017, p. 3)

This data suggests that students in the lower socioeconomic status have more technology accessibility disparities than those in the higher socioeconomic class. Therefore, school districts will have to be more intentional about ensuring adequate technology access is provided to those who are most vulnerable.

Gonzales et al. (2020) surveyed and used focus groups of 748 US college students and found that nearly every one of them either own or use a cellphone. Unfortunately, about 20% of the students had difficulty sustaining access to the technology due to damaged hardware, connectivity issues, or data limitations. Furthermore, students of color and those who were of lower socioeconomic status experienced hardships and lower grade point averages due to inadequate technology. Additionally, Gonzales et al. (2020) discovered that "less-privileged internet users are more likely to rely on lower quality technology (e.g., dial-up vs broadband; computer age; mobile vs. large screen; location of access)" (p. 2). Finally, the survey found that low-income families are often "under-connected" due to intermittent connectivity disconnections and common access, and slow or mobile-only in-home service (Gonzales et al., 2020).

As social and cultural influences facilitate greater technology use, the "digital divide" also widens. This term refers to the gap between the fortunate and the unfortunate in terms of ability to access digital tools and the internet; and consequently, the unfortunate could be left behind (Chen, 2015). The digital divide and the lack of access to technology at home is linked with the socioeconomic status of the family. Chen's (2015) study on the digital divide surveyed 1,349 Ontario, Canada school principals (1,311 elementary and 297 secondary). The results indicated that "the use of computer and the internet is higher among Whites than among Blacks and Hispanics; students living with more highly educated parents or living in households with higher family incomes are more likely to be able to use computer and the internet at home" (p. 3).

School districts have become strategic in their development and launching of educational technology initiatives in hopes of closing the digital divide for students. For example, some school districts have adopted "one to one" educational technology programs to provide each

student across all grade levels and schools with access to a personal computer throughout the school day, and in some cases, at home. This strategy enhances student engagement, creates innovative learning experiences, and ultimately increases student achievement (Lamb & Weiner, 2021; Escueta et al., 2017). There are also initiatives that provide schools with funding to purchase computers and software, and to upgrade their technology infrastructure. In 1997, the Federal government launched "E-Rate," which was the most extensive education technology program developed; connected 97% of the classrooms to internet in the United States. Private and public companies invested more than $260 billion to increase broadband access in the country covering more than 115,000 miles of network infrastructure (Escueta et al., 2017).

Principals and Technology Leadership

Principals and technology leadership is a necessary topic to explore since it is a foundational premise for a principal to have the requisite skills to effectively launch and operate a virtual school setting. One of the essential requirements of an effective principal is to have a strong technological leadership skillset. Furthermore, principals must be knowledgeable about how technology enhances learning, be well-versed in and a support to teaching and learning, and promote school improvement (Esplin et al., 2018).

Technology Competency

Principals and teachers have been tasked with reinventing education in a society that has been transformed by digital technology. Many educators have been overwhelmed by the demand to integrate educational technology into every subject and grade. Consequently, school principals are required to undertake leadership responsibilities in areas with which they are inexperienced, and for which they have received minimum training (Flanagan & Jacobsen, 2003).

Raman and Thannimalai (2019) conducted a study on the importance of technological leadership for technology integration based on gender and professional development. This quantitative study selected 90 random participants from a sample of 190 national secondary schools in Kedah, Malaysia. The study concluded that training and professional development for teachers was an important variable in the prediction of teachers' ability for effective technology integration. Technology trends are evolving as learners' needs and skillsets are changing because of globalization. Therefore, the principal's ability to understand the fluctuating processes of computerization and the evolving use of technology is becoming a mandatory leadership practical competency (Raman & Thannimalai, 2019).

According to scholars, principals often lack the necessary technology training and competencies (Uğur & Koç, 2019; Raman & Thannimalai, 2019; Esplin et al., 2018). Uğur and Koç (2019) conducted a qualitative research study that consisted of interviews and observations of high school principals from Sakarya, İzmit and İstanbul, Turkey schools. They discovered principals were apprehensive about the use of social media in the classroom and lacked comfort with effective technology implementation in the classroom (Uğur & Koç, 2019). Esplin et al. (2018) conducted a survey of a random sample of 129 Utah elementary principals to measure the effectiveness of the system-wide technology integration. They concluded that despite principals' hesitation with technology integration, technology competencies are necessary if principals are tasked with the responsibility with launching a virtual school. Consequently, since virtual schools are technology-rich environments, many school principals lack the confidence with technology, as well as the knowledge to successfully launch and manage a virtual school and support teachers (Esplin et al., 2018).

Principals' lack of technology competencies is attributed to the absence of instructional technology courses within higher education principal preparation programs. Resultantly, this leaves principals deficient in the skills and dispositions necessary to be technology leaders (Esplin et al., 2018). A cross-sectional survey was conducted by Testerman et al. (2001), to evaluate basic technology competencies of educational leadership personnel. Eighty-two educational leadership personnel were surveyed, including practicing administrators (59%) and students (41%) that were enrolled in advanced graduate courses in educational leadership programs. They argued that if school leaders want to increase student achievement in virtual schools, principals should consider reeducating themselves to gain a better understanding of the benefit and use of technology (Testerman et al., 2001). Anderson and Dexter (2005) surveyed 800 principals, technology coordinators and teachers from a national sample of public, private, and parochial schools across the United States. The researchers asserted that "school leaders should learn how to operate technology and use it whenever possible for carrying out their own duties, especially to communicate with others" (Anderson & Dexter, 2005, p. 51). This is an important practice for principals to model effective use of technology.

Despite the lack of technology competencies in principals, there is a conceptual framework available for principals to evaluate their own effectiveness in technology leadership called the ISTE Standards for Administrators (Esplin et al., 2018). These benchmark standards were developed to assist principals in developing their knowledge and effectiveness in the use of technology in teaching and learning. Furthermore, the standards are used to evaluate skills necessary for technology implementation, support digital learning, and help facilitate the transformation of the instructional environment (Uğur & Koç, 2019). As I explained in Chapter I, the ISTE Standards for Administrators (which is the core element of the theoretical framework

for my research) consists of five main concepts, including: Visionary leadership, Digital-age culture, Excellence in professional practice, Systematic improvement, Digital citizenship (Esplin et al., 2018).

Technology Leadership

Dexter and Richardson (2020) reviewed current research on technology leadership and found that most studies primarily focused on how teachers integrate technology into classrooms to increase student achievement, or on the challenges they face in trying to do so. Similarly, while Dexter and Barton (2021) were testing the efficacy of a team-based instructional leadership intervention using a quasi-experimental design that included 48 leadership team members and 100 middle school teachers and their students in a southeaster mid-Atlantic state in the United States, they found that "there were no studies showing evidence of the impact technology leadership on student outcomes, and few were designed to even examine correlations between technology leadership practices and teacher outcomes" (Dexter & Barton, 2021, p. 368). Additionally, McLeod and Richardson (2011) conducted a study to gain insight on the extent to which technology leadership issues have been discussed in the field of educational leadership. The study combined meta-analytic and content analysis techniques using two sources: conference programs and professional journals. They also concluded that there was a lack of coverage surrounding technology leadership (McLeod & Richardson, 2011).

Despite the gap in research, principals must still be prepared to take on the responsibility of preparing students to become technology savvy, globally competitive citizens who are prepared to succeed in the 21st century. Principals must also be agents of change and revolutionaries in school technology, especially within a virtual school (McLeod & Richardson, 2011). Leithwood et al. (2004) conducted a review of literature and summarized their findings on

the influence of leadership on student learning. They concluded that effective principal leadership has the second greatest impact, next to classroom instruction, on student academic success (Leithwood et al., 2004). By extension, effective school technology leaders demonstrate characteristics such as having a clear vision, utilizing distributed leadership, serving as a change agent, prioritizing funding, implementing systems of support, providing professional development, fostering a positive culture and climate, overseeing relevant instructional practices, and partnering with the school community (Sauers et al., 2014). These characteristics are like the *Unified Model of Effective Leader Practices*, where its five domains are establishing vision, facilitating student learning, building professional capacity, supporting the organization, and partnering with external stakeholders (Dexter & Richardson, 2020).

Principals should also be able to meet the needs of a technology rich economy that places demands on technology integration in schools, which requires a solid digital knowledge base and understanding (McLeod & Richardson, 2011). Richardson et al. (2021) studied four frames for organizational change that were common among effective technology school leaders. These four frames are structural, political, human resource, and symbolic. The structural frame stresses the importance of the technology leader's ability to focus on task-oriented responsibilities, whereas the political frame emphasis establishing partnerships, resolving conflict, and building influence. In the human resource and symbolic frameworks, the school leader meets the needs of people while motivating, inspiring, and celebrating them accordingly (Richardson et al., 2021).

As a technology leader, a principal must be able to advocate and develop for oneself, staff, and students, a keen skillset and competencies that transcend the traditional principal role. A principal's understanding of technology will also aid in properly evaluating the use of technology by teachers for instruction and students for achievement (Uğur & Koç, 2019). School

leaders influence the culture and the environment for innovation and change. Hero (2020) conducted a study using a descriptive-correlation design of 105 public elementary school teachers in the Philippines to determine the influence of the principal's technology leadership on teachers' technological proficiency. The research concluded that principals have the responsibility to foster a culture where teachers embrace technology and weave it into the learning process as well as build their skillset in using technology in teaching in reaching the demand of the digital world (Hero, 2020). Dexter and Barton (2020) suggest that "principals also indirectly influence teachers' instruction through peer influence by fostering the environment where teachers work together via the development of mission and goals, an environment of collaboration and trust, and a focus on instructional improvement" (p. 369). Moreover, a key factor of technology leadership is how school leaders will encourage their teachers to learn, apply, and integrate technology into their lessons (Hero, 2020).

Unfortunately, many principals are not prepared for their role as a technology leader or a virtual school leader. Consequently, student academic performance from the use of technology in schools has suffered. Principals that lack pedagogical knowledge, have limited skills in using computers in meaningful ways with students, and have difficulty developing various policies and planning to support teachers in using technology effectively ultimately fail in technology implementation and integration in their schools (Esplin et al., 2018).

Technology-Focused Professional Development for and by Principals

Principals

Howell et al. (2014) conducted a survey of 39 educational leadership faculty from universities across the southeastern United States to study the relationship between educational leadership faculty's beliefs about the importance of technology integration and the degree they

felt equipped to model best technology practices in their preparation of future school administrators. The researchers concluded that Educational Leadership programs are tasked with the responsibility to prepare K-12 administrators to serve as technologically savvy leaders for both teachers and students (Howell et al., 2014). Since school administrators are charged to serve in this capacity, it is essential for school leaders to have ongoing professional development and support to deliver quality leadership, develop 21st century skills, and effectively implement technology initiatives in their schools (Howell et al., 2014).

LaFrance and Beck (2014) conducted a study by surveying 43 certified NCATE educational leadership preparation programs, in the United States, regarding the extent that preservice administrations are exposed to K12 online learning environments. The research indicated that very few principal preparation programs provide preparation for leading a K-12 virtual school (LaFrance & Beck, 2014). Due to the lack of appropriate technology leadership courses that meet the standards for successful technology integration in principal preparation programs, principals have been forced to acquire the latest technological knowledge by themselves (Esplin et al., 2018; Raman & Thannimalai, 2019; Uğur & Koç, 2019).

Since principals have not received the proper training in graduate studies, it is important for them to refocus and customize their professional development to help use technology and navigate effective technology implementation and integration (Uğur & Koç, 2019). Although the educational environment is rapidly evolving, school leadership preparation programs are not changing as fast. However, the U.S. Department of Education released the National Technology Plan in 2010 that emphasized reforming American education that included the need for "strengthened leadership, innovation in colleges of education, and engaging and empowering personalized experiences" (LaFrance & Beck, 2014, p. 164). Metcalf and LaFrance (2013)

conducted a quasi-experimental quantitative study of 102 school principals in a large metropolitan public school district in the southeastern United States to examine school leaders' perceptions of technology leadership preparedness and analyze the impact of the Quality-Plus Leader Academy (QPLA) on leaders' perceptions. The research uncovered that school districts are beginning to respond to the demand by developing their own programs to fill the void in professional development (Metcalf & LaFrance, 2013). Research suggested principal programs should consider facilitating field experiences by placing administrative interns in virtual and blended schools (Richardson et al., 2015). Also, the professional development should prepare principals to meet the demands of technology innovation in the 21st century and incorporate technology leadership because strong principal leadership is crucial to the success of a technology initiative (Esplin et al., 2018).

Teachers

With the rise in K-12 online enrollments and the increased demand for online teachers, the need for professional development is overwhelming. Roy and Boboc (2016) conducted a basic interpretive qualitative study on the professional development needs of 98 K-12 online teachers in Ohio, and the design of professional development program based on their recommendations. Their research concluded that there is a lack of teacher preparation programs that offer courses for teachers to be virtual teachers, thus leaving school districts and virtual schools to develop their own professional development programs for virtual teachers (Roy & Boboc, 2016). Teacher professional learning has a significant impact on student achievement and school improvement, even in online education. Sterrett and Richardson (2020) conducted a qualitative case study by surveying 12 award winning "digital principals" recognized by the National Association of Secondary School Principals (NASSP) to better understand how

principals foster professional learning among teachers and students in an age of innovation. They asserted that it is essential for principals to foster an environment of collaboration, coaching relationships, curriculum alignment, and growth (Sterrett & Richardson, 2020). Furthermore, principals who develop a school vision for effective technology integration and provide teacher supports with ongoing professional development have been viewed as most effective increasing technology integration in the classroom (Thannimalai & Raman, 2018).

Baran and Correia (2014) proposed a professional development framework for online teaching that was conceptualized with research conducted in higher education settings. The proposed framework recognized successful online teaching as an outcome of the interaction of support activities at teaching, community, and organizational levels. Baran and Correia (2014) suggested that principals must be strategic during the hiring process to ensure they recruit effective teachers that can teach online. It is critical for virtual principals to provide the necessary supports and onboarding experiences for online teachers to ensure a quality online learning experience for students, especially for new virtual teachers. Many new virtual teachers feel unequipped and unprepared for the challenges of teaching online and lack the skills and knowledge of the latest educational technology resource (Baran & Correia, 2014).

Teachers can learn to successfully integrate technology through various forms of formal, informal, and independent professional development opportunities (Dexter & Barton, 2021). Researchers suggest effective professional development for online teachers should incorporate seven key strategies which include: immediate use, fit into their schedule, includes follow-up, aligned with their current teaching schedule, curriculum focused, support provided, and facilitated by their content leader (Baran & Correia, 2014). Additional opportunities for teachers professional learning comes through peer observations, feedback, and constructively critiquing

other online teachers, which promotes collaborative conversations about effective online teaching and helps develop their own instructional practices and strategies (Baran & Correia, 2014).

Principal Leadership in Virtual Schools

Leadership Characteristics of Virtual School Principals

Virtual schools bring a unique set of challenges that require principals to have a unique set of leadership skills. Virtual education leadership is not a one size fit all. Bennett and Bennett (2019) conducted a study on effective leadership traits among virtual school leaders. Using a mixed methods design, 41 virtual school administrators and staff members combined from eight different virtual schools in the United States completed a self-assessment to evaluate the ideal characteristics of a virtual school leader. Their research suggested virtual school principals must "inspire innovation, engagement, motivation, and initiative among their faculty" (Bennett & Bennett, 2019, p. 11). These principals must be able to accommodate the various needs of students, support teachers, be accountable to skeptics and critics of virtual schools, while facilitating the rapidly changing online learning platform (Bennett & Bennett, 2019). When comparing characteristics to brick-and-mortar school leadership with virtual school leadership, there are similarities. Like traditional principals, virtual school principals must also be good communicators and establish and build trust among stakeholders. Richardson et al. (2015) concluded that "there is no one road map for success, but success hinges on good leaders who have a vision, identify improvement needs and student outcomes, and set appropriate curricula to meet the needs of the students" (p. 27).

Leadership Challenges

The body of research on virtual learning is increasing, however minimal research exists on virtual school leaders. Researchers have found virtual school principals face incomparable challenges as they transition from the traditional brick-and-mortar leadership into a virtual environment (Richardson et al., 2015). Richardson et al. (2015) conducted a qualitative study on the challenges of virtual school leadership. Eighteen virtual school leaders, whose schools were accredited by AdvancEd, were interviewed. AdvancEd is an educational accrediting organization with more than 30,000 public and private schools and districts across the United States and in over seventy countries. The research revealed six challenges that are unique to virtual school principals. These six areas were funding, staffing, accountability, time, parents, and professional development.

Virtual school principals may have difficulty building a sense of community among staff who are located outside the school district's community. Also, virtual principals may find it difficult to promote student achievement and evaluate teacher performance with the vast needs of students, virtual school principals may struggle to find digital tools, resources, and curriculum that is suitable for online learning. Virtual schools may also undergo a lack of funding if school districts use the same formulas that are used for traditional schools, which would be unproductive for virtual schools (Richardson et al., 2015). Furthermore, principals of virtual schools may face staffing challenge as teachers transition from the traditional settings to the online environment and may lack the skills to teach virtually, which will require technical and pedagogical assistance (Richardson et al., 2015). K-12 online learning suffers much criticism in its quality of lesson design, accountability, and pedagogy. Richardson et al. (2015) suggested

that these reproaches confirmed the need for additional research to address the uniqueness and multifaceted components of virtual learning and leadership.

Principals and Schools Adapting to Crisis Situations

Schools are the epicenters of communities, small or large, and a crisis affecting the neighborhood will impact the school. Unfortunately, schools have also become the target of tragedy, and in these unforeseen circumstances, students depend on guidance and support from principals and teachers (Mutch, 2015). Mutch (2015) conducted a naturalistic, participatory qualitative analysis of 25 school leaders in the United States who had undergone a disaster experience. Through this research Mutch (2015) defines disaster as

> the consequences of events triggered by natural hazards or human interventions that overwhelm the ability of local response services to manage or contain the impacts. They are usually large-scale events, which seriously affect the physical, social, and economic context of the region. They are characterized by suddenness or lack of preparedness, unexpectedness of the size of the event and ensuing damage, and the inability of existing systems to cope. There is often large-scale death or dislocation, and a lack of immediate access to food, water, shelter, and medical aid. (p. 187)

Liou (2015) conducted a case study of a Midwestern PK-12 school staff who were present during a crisis at the school to understand a school's crisis management and response, as well as theorize the proposed dynamic crisis life cycle model. Liou (2015) defines school crisis "as a traumatic event associated with a school—whether occurring inside or outside it—and is characterized by uncertainty, complexity, urgency, and ambiguity in cause" (p. 250). In short, crisis is defined as any situation that disrupts the educational environment and makes it inoperable (Brion, 2021).

There are a wide range of crises and/or disasters that will affect a school such as hurricanes, earthquakes, tornados, wildfires, accidents resulting in tragedy, school shootings, terrorist attacks, social unrest, and more recently a national pandemic. Smith and Riley's (2012) review of literature on the leadership necessary for a school to successfully deal with and learn from the crises, suggested that

> there are five types of crisis: (1) a short-term crises has an unexpected onset and is resolved quickly; (2) cathartic crises has a gradual build-up, reach a climax, and then resolved quickly; (c) long-term crises which develops gradually and then simmers for a very long time without any clear resolution; (d) one-off crises are one time occurrences and are unlikely to reoccur; and (e) infectious crises are resolved quickly, but leaves lingering issues to be addressed, some of which could develop into another crisis. (p. 60)

The role of the principal has evolved over time, however what remains consistent is the principal's responsibility of being the instructional leader, teacher supporter, and manager of a complex organization (Richardson et al., 2021). In addition, principals must now be able to recognize potential threats, proactively mitigate them and navigate the consequences, and once the crisis has ceased, rebuild a sense of normalcy (Mutch, 2015). Considering the recent events surrounding schools, principals must now react with agility and spontaneous actions to adapt to unexpected changes or even an unprecedented crisis (Richardson et al., 2021). For example, principals that can lead during a crisis are able to immediately deal with the crisis, manage their schools' post-crisis community hubs, and reestablish the culture of their school community, all while being physically, emotionally, socially, and psychologically sensitive to the needs of their staff, students, and families (Mutch, 2015). Also, principals now must be "crisis ready" by proactively developing policies and procedures and be able to effectively respond to a crisis in a

manner that will minimize its affect to the organization and its constituents (Grissom & Condon, 2021). Harris' (2020) review of literature explores how school leaders responded during the COVID-19 pandemic and describes crisis management as "leading through a crisis is inherently imperfect, mistakes will be made, but it is the forward momentum that is critically important and the key to getting through the most challenging of times" (p. 322).

School Violence

Columbine High School, April 20, 1999, two high school students entered the school armed with guns and knives killed 12 students and one teacher; Virginia Tech, April 16, 2007, a student armed with two guns killed 32 students and five professors; and Sandy Hook Elementary School, December 14, 2012, a young man entered the school armed with guns killed 20 children and six adults (Jonson, 2017). These are all unfortunate crisis situations that claimed the lives of 71 people in a school environment launched a national discussion on student safety. An advocacy group conducted research and reported there have been at least 94 school shootings including fatal and nonfatal assaults, suicides, and unintentional shootings; an average of nearly one a week since the attack in 2014 at Sandy Hook Elementary (Elsass et al., 2016). A national crime and safety report in public schools indicated an increasing number of secondary schools experienced violent crime and roughly 90% of public schools recorded at least one violent incident, and as a result, schools must be ready and equipped to handle the unexpected as many schools have continually displayed susceptibility to violent crisis (Liou, 2015).

Legislators, policymakers, and activist groups participated in national debates on best strategies for maintaining a safe school environment. One of the recommended security measures by the National Rifle Association to the National School Shield Program was placing armed administrators and/or teachers in every school and eight states across the country have passed

laws to arm school personnel, and other states have recommended similar legislation (Chrusciel et al., 2015). Chrusciel et al. (2015) conducted a qualitative study by surveying 228 law enforcement executives and 1086 school principals in South Carolina and concluded that law enforcement and school principals do not believe arming school staff is an effective strategy to increase school safety. Although state governments do not require a law for school personnel to be armed, some states give school districts the autonomy to decide whether school staff can carry guns; and schools that allow staff to carry firearms are not required to notify parents, students, or other teachers (Chrusciel et al., 2015).

School districts have responded to these shootings by increasing security measures and surveillance to prevent intruders and weapons from entering the school building, also including armed school resource officers, limited access points, and scanning devices (Jonson, 2017). Jonson et al. (2020) performed a study using active simulations that emulated a school shooting with 326 participants that were enrolled in the ALICE Training Institute certification program across 13 sites across the United States and found that on a national level, federal and state agencies, as well as the private sector analyzed various school shootings and lockdown responses to provide recommendations on the most effective way to respond when confronted with an active shooter. Overwhelmingly the most appropriate response is the use of multi-option responses versus the traditional single-option lockdown response. The use of the multi-option approach has been marketed across schools utilizing three steps: (1) fleeing the scene, if possible; (2) if unable to flee, barricade the room with objects (i.e., table, chair) to prevent the intruder from entering; and (3) as last resort, distracting or actively resisting the shooter (Jonson et al., 2020). Here are more commonly known lockdown phrases studied by Jonson et al. (2020):

"Evacuate, Hide Out and Take Action," "RUN. HIDE. FIGHT." "Avoid, Deny, and Defend," and "Evacuate," "Lockdown," and "Counter" (p. 3).

Weather

In late August 2005, the worst natural disaster in United States history, Hurricane Katrina, claimed the lives of about 1,900 people from central Florida to Louisiana; created over $80 billion of damages to homes and infrastructure; displaced nearly 1 million people from their homes and 760,000 public school students from their school, missing at least 5 weeks of school; and forced the temporary closing of one of the worst performing urban school districts in the nation in New Orleans, Louisiana (Sacerdote, 2012). Hurricane Katrina left New Orleans in great despair and due to the city's demographics, the hurricane disproportionately affected low-income African Americans. Barrett et al. (2012) conducted a study of 28 middle and high school students who were impacted by Hurricane Katrina in Dallas, Texas, and found that

> at the time Hurricane Katrina struck, 28% of the population of New Orleans was living below the poverty line, 67% of the residents were African American, and 84% of the poor residents were African American. Although the hurricane made no discrimination in its destruction, among those least capable of exiting beforehand were the poor; hence, the poor, largely African American residents of New Orleans were those most likely to have experienced the worst of the storm. (p. 9)

Hurricane Katrina left cities and communities in complete despair and leaving victims with psychological disorders, not only from the devastation from the storm, but also due to the pre-existing situations families faced prior to Katrina. According to the Children's Health Fund and the National Center for Disaster Preparedness, in April 2006 and January 2007 they revealed

> these children and families were in the midst of a public health and mental health crisis—chronic diseases were going untreated, clinical-level anxiety, depression and post-traumatic stress disorder were on the rise, and the fragile safety nets that had protected these vulnerable populations in the past had been badly shredded by the hurricanes and their aftermath. (Clettenburg et al., 2011, p. 554)

School districts, eventually, were able to recover from Hurricane Katrina and weeks later Hurricane Rita. What was necessary for the recovery after the crisis for the schools was their ability to meet the needs of the students and families that experienced a loss with adequate resources and capacity (Clettenberg et al., 2011). Schools partnered with social services and community agencies and organizations to provide food, shelter, clothing, mental and physical health needs. Mental health professionals and counselors who specialized in trauma were most needed during the aftermath.

Many suggested that students of New Orleans, who were displaced from their low performing school benefited from the natural disaster, such as the former US Secretary of Education, Arne Duncan, who said, “I think the best thing that happened to the education system in New Orleans was Hurricane Katrina” (Sarcerdote, 2012, p. 109). Sarcerdote (2012) conducted a study on the long-term academic performance and college-going for students affected by Hurricanes Katrina and Rita in New Orleans by analyzing student level test scores, demographics, and college-going outcomes for Louisiana public school students. The research concluded that Hurricane Katrina had a significant impact on the academic performance of New Orleans evacuees. This is largely due to New Orleans schools being so deficient; and over time the student evacuees saw gains in their academic performance; by 2009 the students were performing ahead of their baseline position by attending higher performing schools surrounding

the New Orleans area (Sarcerdote, 2012). Barrett et al. (2012) suggested evacuated students attending more racially mixed schools experienced less economic distress and greatest improvement in academics, when enrolled in schools where principals and teachers fostered a welcoming and inclusive school environment; and as a result, students felt empowered and more at ease seeking the academic, social, or emotional assistance they needed.

National Pandemic

As a result of the COVID-19 pandemic, in March of 2020, the traditional in-person global educational system was abruptly disrupted with 1.6 billion students out of school; every country in the world experienced a hiatus in education (Harris, 2020). What principals, educators, and students had previously experienced prior to the pandemic was no longer the norm. School districts were forced to shut down school buildings, while educators scrambled to transform their living rooms, bedrooms, and garages into virtual classrooms. Consequently, years of teaching and learning instructional strategies within a traditional in-person setting immediately became obsolete (Reyes-Guerra et al., 2021). Overnight, educators across the world had to learn a new way of teaching and engaging students within a virtual classroom setting. Principals, who were accustomed to providing educators with coaching and feedback for in-person teaching, had to learn to lead and support virtually. Principals went from being a supervisor to hundreds of educators, to include the additional responsibilities of being a counselor and a confidant to educators who were inexperienced with the virtual delivery of instruction. Furthermore, principals had to engage in crisis management as panic and anxiety became more rampant among the educators because of the rapid spread of the Coronavirus (Reyes-Guerra et al., 2021). During the crisis, the mental, social, and emotional well-being of students where on the hearts and minds of principals and teachers, working diligently and

unyielding to remain connected with learners and families. Typically test scores and student achievement would be the topic of discussion during professional learning communities among teachers, however, school leaders were more concerned with what was best for students in the crisis (Harris, 2020).

Moving forward, there are optimistic voices ready for the possibilities of a new normal to reimagine education but in contrast there are also voices who desire for education to revert to pre-COVID (Harris, 2020). Student learning loss from the school closures have been the focus of many school districts. Statistics show students entering the 2021-2022 school year, with only 50% of their typical learning gains in math in some grades, and only 70% in reading (Grissom & Condon, 2021). Unlike the other national crisis situations, schools were able to pick up the pieces and resume education as usual. However, the national pandemic catapulted virtual schools to be a well sought-after educational experience for many students.

Although school districts are attempting to regain a sense of normalcy post-pandemic, virtual schools have become a permanent footprint in the educational industry. Just in North Carolina, there has been a 1200% increase in the number of virtual school applications from 2018-2019 to 2021-2022 (North Carolina Department of Public Instruction, 2022). During the pandemic teachers were forced to relinquish many traditional classroom routines and strategies and rely solely on technology during remote instruction. Consequently, the use of technology during remote learning increased engaged and excitement for students. Learning became more personalized and tailored to the student's needs. The technology also provided flexibility for students and teachers, where teachers were able to assess students simultaneously and provide immediate feedback. These virtual technologies opened creative pathways for students to learn in diverse ways and transformed teachers into more of a facilitator role. Although in person

learning is still the preferred method by most, school districts have adopted and revised instructional practices to incorporate virtual or blended learning into the classroom (Beck & Beasley, 2021).

Conclusion

In this review of the literature, I discussed principals and technology leadership, education technology, and principals and schools adapting to crisis situations. As it relates to principals and technology leadership, research shows that principals' knowledge, competencies, and understanding of how to integrate technology and digital tools into schools is the most important factor for the school's success. The literature concluded that most principals are not properly trained or prepared to take on the demands of transitioning from a traditional operation to a virtual teaching and learning environment. Consequently, principals must be proactive in refocusing their professional development efforts towards effective use of technology in schools. Furthermore, school districts have invested millions into education technology and technology infrastructure to provide new and improved learning opportunities for students, while closing the digital divide gap by providing access to technology and internet for all students. Lastly, school leaders today have become more than instructional leaders and teacher supports, they also must be able to recognize and mitigate potential threats, and then reestablish the school culture pre-crisis. It is essential for principals to react with dexterity and spontaneity to adapt to unexpected deviations from educational norms, or even an unparalleled crisis.

CHAPTER III: FINDINGS

The purpose of my study was to understand the experiences, challenges, and actions of principals who were tasked with launching a virtual school during the pandemic. By capturing the experiences of the principals, I hoped to identify common themes and reveal practical information that could benefit other principals transitioning from leading a traditional school to a virtual school. I also aimed to provide insights useful to school districts developing plans to launch a new virtual school.

In my study, I addressed the following research question: **What were the experiences of principals who led the opening of new virtual schools during the COVID-19 pandemic?** My data collection method involved semi-structured interviews, allowing principals to elaborate on the questions listed in my interview protocols and provide more details about their experiences. I conducted two rounds of interviews with each principal. During the interview process, I sought to understand the unique experiences of each principal who launched their virtual school, while also identifying similar challenges among them.

In this chapter, I present my findings, which are organized into two sections. First, I provide profiles of each participant developed after analyzing the interview data. In the second section, I describe five main themes that emerged across the participant profiles.

Participant Profiles

To conduct this study, I interviewed five virtual school principals from North Carolina public school districts who launched their virtual school during the COVID-19 pandemic. All participants were at least 18 years old. They were each racially categorized and identified as White, except for one Black female. At the time of the interview, they were serving as full-time

principals responsible for opening and establishing their virtual school from the ground up. The activities they engaged in ranged from staffing to developing policies and procedures.

To protect the identity of the interviewees, I removed any identifying information, edited their names out of their interviews, and used pseudonyms to safeguard participants' identities. Table 1 provides an overview of the participants.

Table 1. Participant Pseudonyms, Gender, and Race

Principal Name	Gender	Race	District Size
Alice	Female	White	Rural about 8,800 students
Brenda	Female	White	Rural about 7,300 students
Catherine	Female	Asian/Indian	Rural about 15,500 students
David	Male	White	Rural about 12,500 students
Elizabeth	Female	Black	Urban about 55,000 students

I now present profiles of each of my five participants.

Profile of Alice

Setting

Alice, a white female, is a current principal of a rural public school district in North Carolina. It is a small district that serves less than 9,000 students in pre-kindergarten through 12th grade. The student demographics consists of majority White with a significant population of students who identify as Hispanic/Latino and a small population of students who identify as Black. Approximately one fourth of their students is eligible for free and reduced meals.

Educational Background

Alice's educational journey started with her bachelor's degree in political science, which led her to become a high school social studies teacher. She has taught civics, economics, Advanced Placement (AP) government and AP Politics. Alice recalled great memories of being a

classroom teacher. Later, she received her master's degree in executive leadership and doctorate in educational leadership, then became an assistant principal and now principal.

When I asked Alice why she became an educator, she said that her desire was to become a principal from the beginning. She further noted,

> I went to school to be a principal. I know that's weird, but I didn't go to school to be a teacher. I went to school to be a principal. I just had to be a teacher for a little while to figure out the classroom piece before I could do it. But being a principal to me means that I get to touch more kids and impact more lives and have more influence over the direction of a school and the direction that kids take. So, to me this is why I wanted to be a principal.

Alice has been a principal for five years, and in education for 15 years.

Preparation for the Role

Alice was a traditional brick-and-mortar K-8 school principal in her district, when appointed principal of the kindergarten through eighth grade virtual school in June 2021, with the expectation that the school would be up and running by the first day of school in August 2021. What is unique about Alice's appointment was that she had to continue to serve as the principal of the traditional school, in addition to being principal of the virtual K-8 school of her district. Prior to her appointment at the virtual school, Alice shared that her school district was already a one-to-one school, where every student had their own device. This allowed her to eventually feel "pretty comfortable" with her new role. Alice further discussed,

> Oddly enough, I'm not that great at technology things myself, but I'm pretty good at supporting it and that's a thing. As a leader, I'm really good at finding people who have these skill sets, and so that's always worked well for me. Our school is already one to one

> prior to the Virtual Academy starting. We had that year of virtual learning and my school killed it. My teachers did a great job. Our scores were pretty darn comparable to what we were doing pre-pandemic anyway through virtual learning. So, I already had that pretty good experience going into this. I know for a lot of people it was really hard and I'm not saying it was easy by any means, but I had such an OK experience leading through the pandemic and virtual learning that for me it was a pretty easy transition to take on the virtual Academy.

Overall, Alice said she had an "OK" experience as a virtual school leader and wondered if her experience would have been better with formal technology leadership professional development or training. Alice explained her unpreparedness for the role of virtual principal as, "How did I feel? I felt very unqualified. Prior to that June, I thought this is going to be rough. But now I love it and I feel pretty confident in the role. So, it's been a definite transition over time." Alice felt this way in part because of her lack of formal training in technology leadership or integration, she had to rely on the support of the district's technology director for support.

Virtual School Launch

The virtual school opened in response to the COVID-19 Pandemic, though, the district already had a virtual learning component in the high schools prior to the pandemic. High school students could learn from home and take courses through the state virtual public school. However, during the pandemic the school district decided to open the virtual school to serve kindergarten through eighth-grade students . Initially, any student in the county could enroll and be automatically accepted into the school. Alice started her school year with about 135 students. Many parents registered for the virtual school primarily for health and safety reasons. Alice recalled,

> I remember one student whose dad had a chronic lung disease and it's not that the child was afraid of getting it. They were afraid of going to school and bringing something home. So initially there was very much that response.

As the school year progressed, the virtual school began to increase in student enrollment. This time it was primarily due to issues such as student mental health, parent distrust in traditional schools, and students who were victims of bullying. Alice explained that the virtual environment provided students and parents with peace of mind and comfort. Lastly, there were parents who just wanted the flexibility due to travel and extracurricular activities.

Once the district announced the opening of the virtual school and registrations started pouring in, Alice had to start the recruiting process for teachers and staff within 2 months. The school district allowed her to interview and hire her staff, which was the least of her challenges. She stated,

> So, I had no problem with people who wanted to apply to work for Virtual Academy. A lot of teachers saw that, while we were kind of plunged into it during virtual learning, some people said, like, hey, this kind of works for me. So, I was allowed to hire a staff. I have a wonderful staff. They're so, so good.

During that initial year, Alice was allocated core and EC teachers, as well as a curriculum coach. She focused her efforts on hiring teachers that were dually certified because they would be required to teach more than one grade level and/or content area. Alice concluded by sharing, "as far as staffing went, I didn't really have any problem filling the roles. It was a blessing. Honestly, I have very, very good teachers."

Virtual School Structure

During the inaugural year of the virtual school, Alice also had to develop policies, procedures, practices, expectations, as well as the school's vision from conception. The attendance policy that was originally implemented was quickly adjusted once school began. Alice said, "we had student expectations that were very similar to during the pandemic, and we realized very quickly that those lines got very blurry." The staff had to reconvene in October of that year to revamp their practices and policies. Alice asked the staff key questions, which aided them in the redevelopment. For example, she asked, "what do we want this program to be like? What do we want students to gain from it?" The student and whole staff community worked together to collaboratively to restructure the school, then communicated with parents.

When it came to teacher accountability, virtual school teachers were evaluated with the same evaluation tool that is required by the state evaluation system. Teachers accepted this as the standard because they were used to being rated with the instrument. The overall staff morale at Alice's virtual school was one that fosters support and collaboration, after the initial transition had settled. However, in the beginning, Alice asserted,

> It was very challenging. Everything was very challenging, but we had a great and we still have a great relationship. Those teachers, myself, and our curriculum coach. We support each other. Beautifully. I mean so when I say morale was tough, I don't mean the relationships that sometimes can get in the way within the school building. That wasn't it at all. The frustrations we had were with, you know, starting a new program. So, while it was hard they were fully committed to us and I'm fully committed to them.

In virtual schools, it is even more important for teacher-student, teacher-parent, and school-community relationships to be established and cultivated. Virtual schools must be creative and maximize their digital presence through email, websites, and social media. Alice connects with her virtual school community though the use of newsletters, parent nights via zoom, texting, Twitter, and digital tech tools such as Talking Points and Remind. Of these strategies, the virtual school's best method to communicate with students and parents "it's truly talking points and then just direct emails."

Challenges of Start Up

Opening a new school comes with its own set of problems, but opening a new virtual school, during a pandemic, brings on another layer of challenges that were unique. Alice stated most of her issues were surrounding technology.

> So, every issue we had was an issue for the very first time and that's why there were such obstacles. It's not that they were impossible situations to figure out, it's just that it had never happened before, so things like, well, how do I fix the technology issue when they're at home? Well, it's not that that's impossible to do. It was just brand new for the first time. So, the major obstacles I would say were learning how to navigate technology because at that point we didn't realize that some programs work best on our schools' devices versus others. So, technology was definitely a major obstacle in making sure that, which the district ultimately supported us. But again, just like them, they didn't realize, and we didn't either. You have to prioritize our virtual academy kids over others because that's their only method of learning. So, getting the district to say, you know, yeah, we're going to treat this as a priority anytime there's a teacher or a student issue that was an

> obstacle and then like I mentioned last time, how to count attendance and participation and things like that. That was another big obstacle for us.

In addition to the technology challenges around technical support, there were also inequities in access to technology and connectivity. Some of Alice's students live over an hour from her location, therefore providing loaner devices and hotspots became a challenge. The school district offered hotspots for any student that needed one at no cost. If a student had an issue with their device, they were able to swap out devices quickly. However, the issue came with students who lived more than an hour away from their office location. Alice explained,

> Some of our kids live an hour or more away from our location because I'm like, in the western corner of the county, and the bulk of my population is in the central part of the county, and that's a good hour away. So, to overcome the issue of how to swap out devices, I leaned on the relationships I have with other principals and so very often I'll call, especially my central schools. We were able to provide that flexibility. Either you know I have some staff members here that live in that area, so they might take it home and even drop it at their house or drop it at another school so. They can swap it out and that really helped a lot too.

Positive Developments

Despite the technological challenges, Alice's unique position of being a principal of a brick-and-mortar school, in addition to the virtual one, provided some advantages. For example, her teachers from both schools come together for professional learning communities (PLCs). Her teachers do not feel like they are on an island alone, like other virtual teachers. Alice shared,

> Since we PLC together, which I mentioned earlier, it just became reasonable for that to kind of be the bar that we would set, we could compare our virtual classes to our in-

> person because we had the ability to see both sets of scores in some areas where there was a bigger discrepancy than others, but overall, pretty comparable. And if you look at other schools within the district, we outperformed some of the other schools.

Furthermore, teachers have a designated office space for teaching and meetings, while students have a designated location for testing. Alice stated,

> I have a designated building that's on our campus that we turned into the Virtual Academy and in that building, that's where teachers have their designated office spaces. So, they're not competing for space with our teachers here for PLCs. It made a big difference. To have a designated spot for things like where kids can come to the test.

Supporting Underserved, Minoritized Populations

In Alice's school district, 50% of their students are students of color. With a high population of minority students, it is important for districts and schools to prioritize supports to engage students of underserved minoritized populations in terms of access to technology, attendance, achievement gaps, and specialized supports. Alice noted,

> we have a pretty diverse population of students that we serve, so the ways that, like I said, we were able to engage with parents was providing whatever they need, whether it's a hot spot at home or a specific schedule so they know how to follow it.

During the interview Alice couldn't specifically address data as it related to minority subgroups, however, she plans to investigate further and take a closer look at the data. When I asked about minority student's attendance data, Alice admitted that the questions were "kind of opening my eyes." Furthermore, Alice contended that most times it was not a race issue as much as it was a socioeconomic issue, where students often had technology barriers due to economic barriers. Alice explained,

> One family, in particular, stick out to me, but I think of it as more, and I know they can, sometimes this can go hand in hand, and sometimes not: it's more of an economic issue. The students had more of the access to technology barriers were the same families who had economic barriers. But sometimes that was a minority family and sometimes it wasn't. I'd have to really look at, you know, who we had to lend those extra hands to, to see if it was the same or different. But I would say that it extended to different racial groups for sure. Now, recently I will say I gained six new students who are long term and of the six, I think four of the six are Black or Brown students. They're all boys. So, you know, we're following right along those predictable things that we're all working on.

It was mid-year when the district provided the virtual school with a social worker due to the student needs that had to be addressed, such as mental health, basic food insecurities, and housing situations. The social worker was able to focus solely on meeting the needs of students, versus the teachers, who were initially tasked with that role.

Closing Thoughts

Overall, Alice described her experience as a principal who launched a virtual school "positive experience." She went on to express,

> Having a virtual school was something I never asked for and I never would have thought to ask for, but in the course of two years I've realized that I'm so passionate about it and meeting the needs of students has always been very near and dear to my heart and I just didn't realize what a window of an opportunity virtual learning. For families, whether it's for health needs or students who don't feel safe or secure in schools, or parents who need to have that more personalized relationship that we've been able to provide for them.

Despite all the remarkable things Alice accomplished over the past 2 years, her school district decided to close the K-8 virtual school at the conclusion of the 22-23 school year to due budget constraints. Teachers have the option of returning to traditional brick-and-mortar or seeking employment opportunities outside the district.

Profile of Brenda

Setting

Brenda, a white female, is a current principal in a relatively small rural public school district in North Carolina that is surrounded by mountains. The district serves over 7,000 students in pre-Kindergarten through 12th grades. The student demographics consist of majority White, moderately Hispanic/Latino and a small group of Black students. Also, a third of the students are eligible for free and reduced meals.

Educational Background

Brenda's journey started with her bachelor's degree in elementary education, which led her to become a Kindergarten teacher. After she received her master's degree in school administration, she became a school administrator of elementary, middle, high, and alternative schools. Brenda has been in education for over 21 years, five of those years as principal.

When I asked Brenda why she became an educator, she indicated that almost everyone in her family were educators, including both of her parents, grandmother, aunts, and uncles; she "couldn't get away from it." She explained she became a principal because,

> … it was the only way that you would get respect, and the only way that you would actually make any money … was to be a principal. And so that's when I got my administration degree. I did not plan to switch that fast into being administrator, but once I sat there at my school and heard all the things you were supposed to do, it made me not

> be OK with what was being done in the school I was in. So, I had to reach out further. So, I kind of walked into that role quicker than I meant to.

Brenda, unlike her family, took a step further and became a school principal.

Preparation for the Role

Brenda admitted that she did not feel prepared for the role of virtual school principal. For instance, she expressed,

> I did not feel prepared, not one little bit. I felt like I had a very small amount of time to figure it out and I had a very small amount of information given to me to even figure It out with … I knew more about technology than most because that was what my momma taught me because she was my technology teacher. But I did apparently know, in my opinion, I was good at the basics of technology, but I would definitely not say I was very strong outside of the basics of technology.

Prior to the launching of the virtual school, neither Brenda nor any of her teachers had any prior professional development or training in online learning. Once the school opened, later in the year, the staff was able to take a course in online learning. However, they still found themselves doing "a lot of digging in and figuring it out."

Virtual School Launch

Brenda was a traditional brick-and-mortar K-5 school principal for two years in her district when she was appointed principal of the third through twelve grade virtual school in May 2020. The expectation was that the school would be up and running by the first day of school in August 2020. The virtual school was previously in the district's strategic plan, however, due to CVOID-19, the launching process was accelerated. Initially, any student in the county could enroll and be automatically accepted into the school. Brenda started her school year with about

106 students. Many parents registered for the virtual school primarily for health and safety reasons. Like Alice, Brenda also had an additional role to fill, while being the principal of the virtual school. Brenda was also the Academically and Gifted teacher, where she had to oversee testing at another school. During year two of Brenda's appointment, she was put in charge of the virtual academy of her school district. The virtual academy, which was in place prior to the virtual school, served 11th- and 12th-grade students who enrolled in online classes offered by the state's public virtual school. Brenda's district also appointed her to lead the alternative learning placement and day treatment programs for the upcoming school year; this is in addition to her current role as virtual school principal.

Unfortunately, Brenda was not given the option to hire her initial staff. The school district's human resource department was charged with the advertising, interviewing, and selection process. Brenda started out with what she calls, the "Mighty 8." These eight teachers were placed at her school from within the district. Brenda was initially nervous about her staff because, "I thought I was going to get the ones that had the health problems and that it was going to be a dumping ground for staff and instead I did get what I thought was a pretty good bunch to start with." Although Brenda was pleased with her teachers, the school district did not allocate any support staff to the virtual school. Brenda said, "… I had no counselor, no administrative assistant, no data manager. I was the office staff, me, myself, and I, up until I cried enough that I got an administrative assistant, and that was about April of that year."

Virtual School Structure

Like Alice, Brenda had to develop the school's policies, procedures, practices, expectations, and the school's vision without a template. Being a novice in virtual learning, Brenda and her team had to make many revisions and adjustments along the way. Brenda

admitted there were times where expectations to staff were communicated on one day, then the next day it changed. Unfortunately, according to Brenda, "… and that was kind of how we went for the whole year, this is what I think is going to happen, but I can't be for sure till later." It was the school's main goal to be completely asynchronous and provide support as needed. However, they found that too did not work out well and had to revise the requirements for the remainder of the year.

They did find common ground with the attendance and work submission policies by offering their students flexibility. Students are allowed to work at their own pace and have the entire year to complete the entire course. Students are not required to "log on" every day, their classes are primarily asynchronous. The attendance is based on work submission. If they are assigned 5 assignments for a week, and complete all 5 assignments, they are marked present for 5 days. In contrast, if they complete four assignments, they are marked present for 4 days, and so on. Also, Brenda engaged parents by establishing open lines of communication with students and parents by email, weekly ConnectED phone messages, and newsletters.

Challenges of Start Up

Launching the virtual school during the pandemic for Brenda brought many challenges and unforeseen situations. One challenge Brenda faced was being sent students that were struggling academically and behaviorally in traditional schools. Brenda said, "it became, I would say, it became a dumping ground. Originally it was students hiding but thank goodness it's not that anymore. But still, three years into it, we're still trying to get people to know we exist and what our goals are."

Another major obstacle Brenda had to endure was the ability to manage everything with limited support staff. She recalled,

> One of the biggest things I think was balancing everything because I had a small staff of eight teachers and then only me to do anything else; answer the phones, do power school, do everything, and I couldn't figure out how to get it all done?

There were many days where she found herself working until 9 PM. In addition to those challenges, she added that she "knew nothing about high school." Brenda had never worked in a high school prior to being the principal of the third to 12th grades virtual school.

Also, Brenda felt like she had to constantly defend the virtual school's position to the community as a "real school" just like traditional schools. She stated,

> I'd say another big obstacle we're still probably overcoming that is that people still think online virtual learning is the same as remote learning and that we are so not the same. Remote was just an emergency quick short set up to fulfill requirements and this is a real true home school.

Technology access was also a challenge for the virtual school. Not so much in terms of access since the district provided Chromebooks to all students and hotspots for those who may have needed one. However, she had several teachers and students who were not familiar with various digital platforms such as Google classroom; that was a large learning curve for everyone.

Positive Developments

Brenda believed her greatest success was simply the fact that they survived that initial year. She proclaimed,

> I'm gonna be honest and tell you one of the biggest areas of success is we survived. Because I honestly, truly can tell you that the first year was the biggest blur. I don't remember so much of that year and it is because I was doing everything I could do to put

> one foot in front of the other and get to the very next day. So just the fact that we survived was important.

Also, Brenda was proud that they were able to graduate 9 students that year. She felt a sense of accomplishment that they were able to have a graduation. Brenda noted,

> I would say that our staff was the most closest staff I've ever had, I felt like I was constantly in contact with them, and I felt like I knew them more so now than probably before because we have less students. I can sit there and look at every kid and tell you their story and that's not something that a lot of people in a traditional building can do; but the first year was not about academics, it was more about survival and making sure that we had to help them actually get their stuff completed.

Although Brenda and her staff were all stressed, overworked, and completely at their limits, she believed it was the relationships they built with each other that kept the school morale in a positive state.

Supporting Underserved, Minoritized Populations

In Brenda's school district, more than half of their students are students of color. According to Brenda, however, students who enroll with the virtual school are not minority students. When speaking of supports to engage students of underserved minoritized populations in terms of access to technology, attendance, achievement gaps, and specialized supports, Brenda associated these supports with students who are socioeconomically disadvantaged rather than students who are of color. She answered,

> I would say our low socioeconomic ones did struggle more than our higher socioeconomic ones. I would have to send more of those students back to the traditional schools because they may not have had the support at home. Also, they didn't have the

> transportation, maybe, to come into the building to work (for one-on-one support) and those kinds of things, but that would be who I would say struggled the most.

Brenda's virtual school has a policy that allows the school to send students back to the traditional school if they are struggling academically.

Closing Thoughts

Overall, Brenda feelings towards being a principal of a virtual school that launched during the pandemic was filled with joy. She is very proud of being one of the virtual schools that is still open post pandemic and even more proud that she was able to build the virtual school from the ground up. Brenda recalled,

> I realized that I could do it, and I could do it from the ground up. I could do anything that I put my mind to. I also will say that I have a big heart when it comes to my school. I've once said that I didn't have any kids, but this was my kid. This school is basically a child of mine because I had to put it together, create it, and it was my thoughts that have made it to where it is with support and help from my staff.

Brenda and her staff are looking forward to the virtual school's growth and continued success.

Profile of Catherine

Setting

Catherine, a White female, is a current principal in a rural public school district in North Carolina. It is a mid-sized district that serves over 15,000 students in pre-kindergarten through 12th grades. The student demographics consists of mostly White with a significant percentage of students who identify as Hispanic/Latino and a small percentage who identifies as Black. Approximately one third of the students are eligible for free and reduced meals.

Educational Background

Catherine began her education career with a bachelor's degree in English, which led her to become a high school English teacher for over 15 years. Catherine also served as a literacy coach before becoming an Assistant Principal of the same school where she taught for 4 years, which she described as "interesting." She has been a principal for the past two years at the virtual school for her current school district. Catherine has been in education for over 20 years.

Catherine indicated,

> I think it was at that moment where I was like, man, I was like my words and my passion was able to like, overturn or change something, like I wasn't just impacting my ninety kids that, that I see. Through my voice and my research and the things I could do, I impacted our whole school system inadvertently. And so, I kind of said, what if I want to impact more than just 90 people a year? And so, that's when I started to go back to school to be an administrator.

From an early age, Catherine knew she wanted to be a teacher, however, "not little kids." But what made her decide to be a principal was the opportunity she was given to serve on a committee to present its literary merit to the schoolboard on why the district should reinstate a book that had been previously banned (the book was reinstated partly due to her argument).

Preparation for the Role

Before Catherine's role as virtual school principal, she had no formal training in technology leadership or integration. When discussing her technology background, she described her experience of utilizing technology from when she was an English teacher. She shared a humorous experience about being a virtual school principal:

> A lot of my friends laugh that I'm the virtual principal because I'm like an old soul, like I don't have social media, I don't have like a bunch of mobile apps, like I'm like, technology is just hard. And they're like, they going to let you be in charge of a virtual school? I'm like, yeah, and I'm actually pretty good at it too.

Like the other participants, Catherine did not feel prepared to be a principal of a virtual school. She told her superintendent that she did not know why he asked her to be the principal. Catherine expressed her preparedness as,

> If I'm going to be honest, like not at all. I remember telling my Superintendent, like, I don't really know why they asked me if this is something that I really want to do. And I told them I really don't think I will be a good fit for this. I was like, I honestly don't really feel like I have a skill set for this.

Despite Catherine's lack of confidence, her superintendent was confident that she would be a good fit for the job.

Virtual School Launch

Catherine was appointed kindergarten through eighth grades virtual school principal on July 1, 2021, and school was to begin at the end of August. The school opened because of the COVID-19 pandemic. During the initial 2021-2022 academic year, they enrolled 189 students into the virtual school. Students had to commit to the virtual school for the entire school year. Students enrolled due to various reasons, mainly due to underlying medical issues, but also students with anxiety and bullying concerns. Catherine's hiring process was "horrible."

> The last day you can transfer within the school system and in our partnering school district is like July 15th. We want to play nice with them, so we have a cut off on when you can transfer within the county and when you can steal from (the neighboring district).

> So, my first group of hires, you know, came from within the county. And then I hit that brick wall, and they were not trying to give me, like, any extensions or wiggle room. They were like, that's it. I had to get to work as fast as I can. You know, during COVID, I don't know if you tried to hire anybody, but background checks took 5,000 years. You were backed up and you can't do anything unless your background check clears. So that's how I started every day, calling to see if all the background checks cleared.

The transfer deadline had already passed and the process to hire was long and cumbersome. She ended up having to hire out of desperation, forsaking quality. Catherine stated,

> I learned the lesson that it is it is better to keep that vacancy than fill it out of desperation. Better for all people, you know, and sometimes I don't think you learn that lesson until you live your own choices and consequences. But I definitely learned that lesson. The hard way.

Catherine ended up regretting some hiring decisions.

Virtual School Structure

Catherine's school district had "invented, established, and vetted" the standard operating policies for its schools. However, due to the unique nature of the virtual school, many of those policies had to be adjusted. She explained that during the first year, many of the procedures and expectations for operating her school were adopted through trial-and-error.

> As I would get into classrooms and I would pick up on things, I'd be like gosh, I should have said this or that, So I was very reactive in that first year. It was almost like trying to play Whack-A-Mole with all the needs and all the changes.

In year two, Catherine shared they were better prepared and able to ensure all the staff expectations were clearly laid out in the staff handbook, including daily and weekly teaching expectations.

The virtual school offers daily synchronous instruction, just like the traditional schools. Students are expected to attend all classes daily. For attendance, students had to be in at least half the class to be counted present for that class. The attendance policy was created by the school district, however, Catherine had to add to it. Originally, they did not have a tardy policy, but later had to adopt one due to students consistently logging into class late.

In a virtual school, parent engagement plays a significant role in the success of the students, particularly at the elementary level. Catherine's school engages parents through various platforms such as email, class dojo, school website, and social media platforms, including Tik Tok.

Teachers were evaluated using the same evaluation tool used in all public schools across the state. Catherine explained,

> In the midst of doing my summatives, I have this whole binder that I use when I do them because I put in specific pieces of feedback. So, I know I'm harder on them and for a lot of them, it took them a minute to realize, she legitimately put stuff on there, like what we do or what we don't do … I just think that the teachers are figuring out what is important to me in the classroom that I see. Again, I'm like, you can't just say the directions, you need to say the directions, you need to have a visual, there is a lot of extra steps we have to do because we're virtual, so maybe I think that impacts how you should finish stronger in this evaluation, because of the things you have to do to be an effective virtual teacher.

Interestingly, Catherine shared that although her teachers were used to being evaluated with this system, her feedback was more rigorous than what they were normally used to receiving.

Challenges of Start Up

Launching a virtual school during the pandemic for Catherine brought many challenges and obstacles. Catherine explained,

> I would say the biggest obstacle came down to just having 30 days to do everything. And living my whole life in high school, high school English teacher, high school literacy coach, high school lead teacher, high school assistant principal; and here I have an elementary and a middle school. There's no schedule. Like if I take over your school, there's a schedule. I can leave it. I can tweak. I don't have to invent it. Everything had to be invented. And for a first-year principal, with 30 days, that was tough. I think that led to all other obstacles along the way. But if I had to say the major one, was just 30 days to put it together.

As a first-year principal, and given her previous experience limited to high school, Catherine had difficulty transitioning to elementary and middle school in such a brief time.

Another challenge Catherine faced was inequities in the access to technology. Her school district did not offer hotspots for students who did not have Internet access during year one. Therefore, if a student did not have internet at home, they could not enroll in the virtual school. However, in year two, the State Board of Education required all school districts operating a virtual school to apply, outlining its policies and procedures. When the State Board of Education reviewed this district's application, it required the school district to provide hotspots for students that needed one for next school year, thus eliminating the access inequities. Catherine shared the virtual school did see a slight increase in enrollment due to hotspot distribution.

Initially, staff morale was a challenge for Catherine as well. As stated previously, Catherine hired teachers out of desperation, which caused rifts in the culture and climate among the staff. Catherine recalled,

> I remember having the conversation, guys in a brick-and-mortar school, where there's 50 or more staff members, you put toxic drops in the water, it's like going into the ocean. It's not good, but it's not damaging. You put toxicity into our water here, it's damaging, it's like putting it into a cup of water, we don't have time for it. So, we weeded out two of those right off the bat. This isn't going to work. It's poison in our water. So, we took the vacancies versus the toxicity. We just had very real conversations. You knew, from day one, this is a new thing. That we're going to ebb and flow as we need to. I tell at every staff meeting, the one thing you need to know about me, I will always do what's right for students. I don't care how bad it upsets the apple card for the adults in the building. Your adults, ebb, and flow. I will always do what is best for students. I will build a schedule that's better for students than it is for your planning needs. So, once we unearthed and release that, we had that I can help you out, or I can help you out, that was good.

Eventually, once Catherine had those hard conversations, although she was left with vacancies in the middle of the school year, she was left with a skilled staff.

Positive Developments

Like the other virtual principals, Catherine was proud that her virtual school was still standing after year one. They took the lessons learned from the first year and strategized for the next year. Catherine said, "through all those failures, we were able to build a stronger second year." It was difficult for them to focus on academics in year one. Instead, Catherine focused on

getting established as a new virtual school and supporting students through the transition from in person to virtual learning.

After some staffing readjustments, Catherine is pleased with her staff. They have built solid relationships with each other, to the point, "where they could lift each other up when they needed to lift each other up." With the small staff, they make sure they protect one another and foster a positive culture. Also, Catherine has established an expectation where decisions are made for the best interest of students versus the staff and the staff is supportive of that mind set.

Since she had the support of her district, Catherine and her staff were provided with a building that they could work out of and where students could come to test. Teachers were able to meet for professional learning communities and meet with students, to provide additional supports.

Supporting Underserved, Minoritized Populations

In Catherine's school district, approximately 2% of their students are students of color. Like Brenda, Catherine equated supports to engage students of underserved minoritized populations in terms of access to technology, attendance, achievement gaps, and specialized supports to students who are socioeconomically disadvantage versus minority students, largely due to the small number of minority students. Students who needed hotspots were students whose families could not afford Internet at home. Catherine stated that their biggest attendance issues are "not from minority students." The virtual school does provide specialized supports for Exceptional Children (EC) and English as a Second Language (ESL) students by qualified EC and ESL teachers. When discussing the achievement gap, Catherine referenced that all the school's data is low. However, she did highlight the gap between economically disadvantaged students versus non-economically disadvantaged students.

Closing Thoughts

Overall, Catherine is glad that she had the experience of launching a virtual school. She, like other participants, was proud to have built the school from the start. She shared, "I had that experience of building everything from scratch, your handbook, your standard operating procedures, your schedule, like there was nothing anybody gave me to piggyback off of." One thing Catherine said that she would do differently, is to ask for help early on. This is one area that she believed caused her the most stress. As a new principal, she initially felt she had to prove her ability to run a school by not asking for help. It was not until Catherine was almost at her mental breaking point that she decided to solicit help from her superintendent. Catherine shared,

> I didn't wave my white flag until I was already six feet under. I like literally was breaking down on the phone with my Superintendent and he was like, I had no idea. He was like it's my fault I had no idea. Because when I come and I check on you, I just ask are you OK? Well, when you're a first-year principal, you're not going to be like, no, I'm not failing miserably at all. You wanna be like, yeah, this is easy. This ship runs itself; you know. So, once I had that moment, they were quick to send my elementary director. She began coming to see me every Friday, to just say, Hey, what's on the agenda for next week? What can I help you plan? What can I help you troubleshoot? But I think for me, I didn't ask for help until I was already way behind the 8 ball.

Catherine is grateful for the district support she received once she asked for it. She admitted that it took her some time to be open and honest with the district about needed help, but once she reached out, they embraced her and gave her and the staff what they needed to be successful.

Profile of David

Setting

David, a white male, is a current principal in a rural public school district in North Carolina. This mid-sized district serves over 12,000 students in pre-kindergarten through twelfth grade. The school district demographics consists of majority White students with a nominal population of Black and Hispanic students. Also, a small portion of students are eligible for free and reduced meals.

Educational Background

David began his education journey with both a bachelor's and master's degree in social studies education. He later received a master's in school administration and is currently pursuing his doctoral degree in educational leadership. He has served the education community for over 20 years, all within the same school district. He was a classroom teacher for 14 years, then transitioned to an assistant principal and principal. His first principalship was with the virtual school in his school district. David explained,

> Initially, I was very immature, and I looked at it and viewed it as a job that would give me my summers off. My mom was a teacher and I thought it was something I would enjoy. However, as I went back and got my first master's and then second masters, it became more about expanding my influence when it came to students, initially. And then as I moved into administration, it became about expanding my influence over teachers and students, and how I can best support them to help students become the best they can be. It was something I grew into.

Regardless of the school David was assigned to, he reported that he always sets the goal for the school to be the best school, with the best teachers and makes sure he provides the necessary supports to help the school community achieve that goal.

Preparation for the Role

Prior to David becoming the principal of the virtual school, he was an assistant principal of a traditional school. While an assistant principal, he was selected to also oversee the virtual program at his school, which at the time, was part of a district-wide program. He worked both jobs for 2 years. In year three, the school district decided to turn the program into a full-time virtual school, where he later became the principal.

David did not have any formal training or professional development in technology leadership. However, he had a good understanding of utilizing technology and various digital platforms in the classroom. His experience stemmed from when all schools had transitioned to remote learning during the initial phase of the COVID-19 Pandemic. David described his lack of preparedness in being a principal of a virtual school as, “I was not prepared at all. I described the first year as the Wild West of learning how to do it, and then we just got better every year afterwards.” Despite David’s comfort level, he was fortunate to have had the experience with various technology platforms that the school found helpful along the way.

Virtual School Launch

Unlike the other principals, David’s virtual school was initially a virtual program that launched in August 2020. The virtual program served students kindergarten through twelfth grades. Then two years later, the virtual program transitioned into a full-time virtual school serving students kindergarten through twelfth grades. The school started with over 300 full-time virtual students, whereas the program had over 4000 students. David described the launching as,

> It was August 2020 that the school district had the program up and running across many schools. However, in December 2020 the school district decided to put one person over the program. Because they realized that having multiple schools doing their own thing created massive chaos during the time of COVID. They decided to move towards a centrally located individual who could make decisions and coordinate teachers and coordinate the number of students we had. Then it officially became a school in the start of 2022-2023 school year.

The school district initially had various schools throughout the district running their own virtual programs, which created major challenges for the district. However, appointing David as the leader over the program and combining it into one, brought continuity across the school district. The school district was in the planning stages for three years prior to the pandemic in response to the decline of enrollment due to the opening of charter and home school populations. However, the pandemic caused the district to accelerate the opening of the virtual program in response to families desiring a virtual option.

Hiring teachers and staff for the virtual program was based on student numbers from each in-person school. David clarified it as,

> When it was a program, staffing was just based on student numbers, and we used in-person teachers. We didn't hire extra people. So, if the school lost 30 students, they would lose a teacher. They would have to basically pick a teacher to go virtual. So, the additional hiring practices was all based on in-person needs versus virtual needs. Our county did a hybrid approach. They had people going in-person for some of the week and then going home the other parts of the week. There was no hiring side of this, just using

> teachers that were available. And there was also no training for these teachers, they just were told they were going virtual.

David was unable to begin hiring teachers and staff until it became an official virtual school 2 years later.

Virtual School Structure

Originally, the district's virtual program was run by each individual school, therefore the policies, procedures and expectations were "all over the place." When David was appointed to manage the program, he was tasked with reorganizing it into one cohesive school unit; he had to recreate everything and get all 4000 students and 200 or more staff members in alignment. David expressed,

> Initially, it was all over the place. Each school was doing its own thing and making its own expectations. Initially, there were some requirements that they just gave packets of paper and that was it, and they didn't do live meetings. Some schools did live meetings all the time. So, expectations were very unorganized because there were too many hands in the pot. And then that's when they made the decision to move to a central person. And that's when all the stuff started to coalesce into one policy. But with 4000 kids, it was very difficult initially. So initially, it was all over the place. One school did things differently than others, but when you talk about when I took over staff expectations, we finally did create a singular virtual handbook that was centered around virtual learning.

While realigning school wide expectations, a major component of that was the attendance policy, which was a big problem during the first year. Student attendance was based on student work completion. If a student completed the assignment for the day, they were marked present.

Teachers offered occasional live classes through Google Meet. If students showed up for the live classes, they would also be marked present for the day.

Teachers were evaluated using the same evaluation tool that is used across the state for all teachers, whether virtual or in person. His teachers responded positively to the evaluation process largely because they were experienced and familiar with the tool. However, David created an internal walkthrough form that was centered around virtual learning. David shared,

> I mean we made our own internal walk-through form that was centered around virtual learning. However, when you talk about teacher evaluation, we used the state walk through form. I think you can adapt it to virtual and in person learning you know; I think it's OK for what it is. I won't go into too much depth about my personal thoughts on the state evaluation. However, we were able to make it work. I don't think the teachers had any necessary issues with it. They were all experienced teachers, and they were good teachers, so they were going to score well on that anyway.

When it came to engaging parents, David felt his school was limited in connecting with parents the way they would have liked due to COVID-19. However, the staff did facilitate virtual parent meetings and curriculum nights, where there was a greater turn out from his elementary families versus his high school families. They had a goal to have a virtual parent engagement activity each month during the school year. The teachers also utilized Class Dojo, Google Classroom, Remind, Canvas, and social media platforms to connect with students and parents.

Challenges of Start Up

Although David's initial startup experience was with a virtual program that later transitioned into a school, he still experienced many challenges and barriers during the launch. Like the other virtual schools, one major barrier was technology inequities, not with the devices

themselves (since the district was one-to-one), but with access to internet. In David's county there is a clear digital divide between the wealthy and the poor. Students who were socioeconomically disadvantaged or lived in the rural portion of the county did not have access to internet. Fortunately, the virtual program partnered with Verizon and T-Mobile to provide hotspots for families who needed them.

In addition to the technological inequities, another key challenge David faced was the staffing issue. David recalled,

> The challenge was basically moving 4000 kids into virtual learning. We were already one-to-one, so that wasn't an issue. However, teachers and staff were not necessarily trained to handle virtual learning, and we had to basically move 100 teachers from the building into virtual learning at a rapid pace. So, having to adapt quickly, basically do all of this as we were, with no set structure. So, establishing the processes and procedures as we moved quickly into virtual learning, in order to be successful, it took a lot of time and effort on everybody's part.

Unfortunately, staffing and technology issues were not the only challenges David faced. As the virtual program transitioned into a virtual school, it was and still currently is housed inside a traditional school that operates with a student body and staff who meet face-to-face. Therefore, David did not have a dedicated location to test or conduct events and activities for his virtual students. David explained,

> I would say it's one of the biggest barriers and obstacles I have to overcome, the sharing of space. I don't have a location to do testing. I don't have a location to pull kids in. No storage of anything. I don't have any space to do what needs to be done. Like a normal school would have space. If we have to do a graduation ceremony, I don't have that

> space, so I have to find that space. Testing is my biggest headache. Just to find enough room to bring in 300 kids and test them. It creates a lot of logistical issues that I spend a lot of time on. So, I would say sharing the space is a very big limitation. We're able to overcome them. However, I don't feel we cannot overcome them adequately because kids will always feel that this isn't their normal location. I would love a building that was ours. Let's just put it that way.

The virtual school used three traditional schools throughout the county for testing. David had to manipulate the testing schedule to refrain from interrupting that school's testing schedule, which caused a logistical nightmare for David. Furthermore, he had to rely on assistant principals from these schools to assist him on test days. David believed this situation was not optimal for his students, having to test in three separate locations over multiple days. He explained that it created chaos and ultimately affected test scores.

Lastly, since David was considered a program manager versus a school principal during that initial year, he did not have the necessary support staff in place to assist him, such as a data manager and a school counselor. These positions are valuable in a school. Unfortunately, during the first two years David had to serve as the data manager and school counselor.

Positive Developments

David was proud of the fact that after all the staff, students, and himself had to face during that initial year, they all survived it. David said,

> That first year was just being able to move that many kids. Due to COVID, this was a choice, it was a desire for the families that didn't want to be in the building because of COVID, but we created a successful environment so students could still learn. We integrated all of these teachers very quickly and seamlessly into an environment that

> wasn't easy to teach from. So, I feel like doing it on the fly like we did, the amount of students we moved, and teachers we moved, I feel like that was the success in and of itself.

David also reflected on student performance. In year one, there were no test scores due to the pandemic. However, in the second year, the virtual school was successful with test scores. David expressed that "we kind of proved that virtual learning can be successful, if done right."

Supporting Underserved, Minoritized Populations

In David's school district, a small population of their students are students of color. Like the previous virtual principals, David equated the idea of supports to engage students of underserved minoritized populations in terms of access to technology, attendance, achievement gaps, and specialized supports with those used to support students who are socioeconomically disadvantaged. For example, David revisited the partnership that was created with Verizon and T-Mobile that addressed the inequities with technology. He shared that most of the students who needed hotspots were students whose families could not afford internet at home, who were also minority students that lived in both the rural and urban areas of their school district.

When I asked about the achievement gap data, David referred specifically to students who were economically disadvantaged as opposed to referring to students who were members of minority groups. David shared,

> There were socioeconomic large achievement gaps, even though they had access to technology, it really does come down to parents being in the household with them. We call them learning partners now, but back in the day, we didn't have that grasp for that situation as we do now. So yes, especially socioeconomic.

He explained that the virtual school was fortunate to have social workers to assist students and families that were in need. Aside from hotspots, David shared that the social workers would work to assist with attendance issues.

Closing Thoughts

Overall, David's experiences in launching a virtual school were "extremely difficult." However, he elaborated on his experiences as,

> I'm the type who likes the challenge. I like long hours. I'm a workaholic. So, the challenge in and of itself, creating something new was fun. That's what I always tell my boss. That's what I like to do. We all joked originally; we called it building the plane as we're flying it. That was the difficult part. You have no clue where it's going, because you're basically in survival mode, you know, and you're just trying to react to situations and trying to help kids as best you can and help teachers as best you can.

If David had the option of doing this all over again, he suggested one major issue he would change is the district's attendance policy. The district promoted the virtual school as flexible learning, where students have the option to come to live class. Although now, he does strongly suggest to his elementary and middle school students attend class daily and the school is seeing positive academic achievement because of that. David expressed,

> I learned very quickly that if a kid doesn't come to class, they don't learn and they don't do the work. So, if I know now, what I had to do then, I would have fought tooth and nail to make it a requirement that you had to be in class, because it's just not effective. I mean, it is effective for some kids, but most of the kids need that face-to-face time. And if I had to do all over again, I would make an ultimatum to be honest, because it's setting the kids up for failure to put that option out there for them. And I know a lot of counties

did it another way but that's the way my county did it and it's one thing I wish we had changed.

As David reflected on the flexible learning policy that was created by his school district, he is still pondering over his high school students. The high school students, unfortunately, are the lowest performing group he has due to their flexible options. David concluded by stating that "I just haven't figured out the high school group. And a lot of it I really strongly feel comes from that they just don't go to class."

Profile of Elizabeth

Setting

Elizabeth, a Black female, is a current principal in an urban public-school district in North Carolina. This large district serves about 55,000 students in pre-kindergarten through 12th grades. The student demographics consists of a generally equal distribution of White, Black, and Hispanic/Latino students. Also, a large portion of students are eligible for free and reduced meals.

Educational Background

Elizabeth began her educational career with a bachelor's degree in English, a master's degree in education, and later pursued her Doctor of Philosophy degree in Teacher Education. Growing up, Elizabeth desired to be a college professor, but changed her mind to become a teacher in public education. In Elizabeth's 22 years in education, she served as a middle school English Language Arts teacher, an instructional facilitator, and an assistant principal at an elementary school. She transitioned to a district level position in 2017, as a Program Manager of Title One Federal Programs, for 3 years. She was then given the opportunity to serve as the principal of the virtual school within the same district in May 2020. Elizabeth served as the

virtual school principal for two years. She was later appointed as principal of a traditional elementary school within the district in 2022.

Elizabeth went into the field of education because she always enjoyed working with children, with a special bond for middle school aged children. During college, she worked at a law firm, but would also volunteer her time at a local elementary school.

When Elizabeth was an assistant principal, she was inspired by her principal to pursue the principalship, so she began researching the role of principal. Elizabeth described her process into the principalship as,

> Honestly, I never wanted to be a principal. I was really good with my role as an assistant principal. I just fell into it. My principal said to me, "You really need to start looking for a principalship." And I was like, what? You don't want me to be your AP anymore (jokingly)? She was like, "I just really think that you have what it takes to be a principal." And I said, well, I'll think about it.

Elizabeth found herself applying to her district's principal hiring pool. Although she did not receive the position she originally interviewed for, she was selected as the principal of the district's newly created virtual school.

Preparation for the Role

Elizabeth was fortunate to have had experience with technology prior to becoming the virtual school principal. As an assistant principal and instructional facilitator, she completed classes and trainings in technology integration, which allowed her to support and coach teachers in integrating technology into their classrooms. She explained,

> So yes, so in in my role as the AP and really and when I was an instructional facilitator, I did a lot of technology integration workshops, and I also would help teachers as well. I

> would teach lessons with them and help them with technology implementation in their lessons. And that kind of thing. So it was more of instructional technology that I was doing. I mean I honestly was prepared, I think, to lead a school, a brick-and-mortar school, but not a virtual school.

Elizabeth admitted that although she was comfortable with technology and felt prepared to be a principal, however, not a virtual school principal.

Virtual School Launch

Elizabeth was appointed principal in May 2020 and the virtual school opened in August 2020, which gave her three months to get the virtual school up and running. Originally, the virtual school was not a standalone school, it was a program. Her district had been in the planning phases of a virtual school, but as elsewhere, the pandemic forced the school to open sooner rather than later. Originally, the district planned for the school to be kindergarten through twelfth grades; that would have put the school's initial enrollment at over 6,000 students. So, the district decided to scale the enrollments back to serve grades kindergarten through eighth. The virtual program started out with over 3,200 students in August 2020. Students who enrolled at the virtual school were also still enrolled under their residence school, therefore students were dually enrolled.

Enrollment was open to all who completed an application. Most of the students enrolled due to the pandemic; however, they had many students who attended due to school safety concerns and mental health issues. Elizabeth shared,

> In year one, staffing was huge. I know that I hired 400 people and I'm telling you it was crazy. The kids that came from their residential schools, they were still enrolled there, they were still connected. When they came to my school, they were a virtual student, but

> they were still also a student at their other school. They were dually enrolled and with that, though, if I had 50 kids from a school, a teacher came from that school as well. So that's kind of how initially we were pulling teachers, is from the actual schools where the kids came from, and for those additional students, I ended up having to hire for those positions, but originally that's how it started.

Within the same three-month span, Elizabeth also had to hire enough staff to accommodate the large enrollment demand.

Virtual School Structure

During the inaugural year, hiring was one of the many tasks Elizabeth had to establish from conception. She also had to create student policies and procedures. Elizabeth and her assistant principals connected with established virtual schools within the state to help them develop student and staff expectations. Prior to school starting in August 2020 and into the school year, Elizabeth and her staff hosted multiple virtual parent meetings to share the virtual school's expectations. The attendance policy required students to have their cameras turned on to be marked present for the day. Elizabeth shared,

> So, that first year attendance was so spotty, and it was such a mess. It was just getting kids to log on at first. We were just saying log on, just log on, even if we're looking at the ceiling fan or even if we just see your name, you know somebody's logged on. And then we had to progress to, you have to log on and have your camera turned on because we had folks logging on and then walking off, and not being there. So, the attendance kind of went through some iterations before it kind of got to a manageable task.

Elizabeth had to communicate with parents about the school's expectations often and throughout the year to constantly remind them. The virtual school utilized weekly newsletters, parent

meetings, curriculum nights, and the use of the school website and social media platforms to keep parents engaged and informed. During year one, Elizabeth had over 25 teachers per grade level, kindergarten through eighth grades, which was larger than most traditional high schools. It was an adjustment for most teachers because many were placed at the virtual school to teach. Teachers were evaluated with the same evaluation tool that is used across the state in traditional schools. Elizabeth received minimum resistance for using the tool from staff, largely due to their unfamiliarity with the process.

Challenges of Start Up

Launching a virtual school during the pandemic brought on many challenges that Elizabeth and her administrative team had to endure. One of the major challenges she had to overcome was the unknown. Elizabeth shared,

> I think the first thing is that this whole phenomenon was so new. Nobody knew what to expect of it. Nobody knew what it looked like, sound like, felt like. Nobody knew anything. And we were to get started in August; it was May, and I was just appointed. And so, there was no staff, there was no one. I mean it was just so new that nobody really knew what to do. So, I think some of the major pieces was building a foundation. What is this going to look like? What's the schedule? Who was going to do what? Hiring in and of itself was such an undertaking because we had 3,200 students, so that's over 200 staff members and we had myself and two APs and that's all we had.

Overall, Elizabeth felt her biggest hurdle was just pulling everything together within a three-month time span to "make a real school out of the air." In addition to facing the challenges of the unknown, Elizabeth's next greatest obstacle was receiving the necessary resources and supports

from the school district to ensure the school would be successful from its inception. Elizabeth expressed,

> After just the concept of the school itself, then it was helping everybody else to understand what it was and what it was not. And helping folks to see that we still needed resources, although students might have been at home and not in a school building, but we still needed professional development. We still, you know, need all of the things that we would get otherwise if we were in a brick-and-mortar school. We still needed those things, but just helping everybody understand.

Elizabeth believed that some of the challenges she faced stemmed from the lack of communication and connection with students and parents, because students were not in the school building. The virtual school staff had to rely on everything electronic to connect with students and parents, whereas traditional schools had their students right in front of them. Connecting with students was much easier. However, Elizabeth struggled to develop processes for all the "things" that schools would normally do for in-person school, but virtually.

Technology was a challenge but was quickly alleviated due to the school district being a one-to-one district. They also provided hot spots to families who needed internet connectivity. However, the issue with technology came primarily among lower grades students who needed a lot of support to help them connect to class and access their assignments online. Therefore, the students in kindergarten through fifth grade were required to have a learning coach at home. Unfortunately, not all students had an adult that could stay at home with them because some parents had to go back to work. Elizabeth recalled,

> So, the inequities you could see is on the screen. We saw the kids who had their parents, particularly in the lower grades, that were just sitting there with them right in the class.

> And then those that were not really around. Those were some of the things that we tried to work with. And for those students who parents had to work and didn't quite have someone to stay at home, the district had what they called, learning centers, that they partnered with the community to open. Parents were able to take their kids to the learning centers and they could stay there until the end of the school day and then the parents would go and pick them up.

Setting staff expectations presented some challenges for Elizabeth because the teachers worked from home. However, Elizabeth eventually was able to establish boundaries and raise the bar for staff, which affected staff morale. Unfortunately, Elizabeth had to have hard conversations with some staff members surrounding professionalism, punctuality, and overall pedagogy.

Positive Developments

Despite the chaos in the beginning, one of the biggest highlights for Elizabeth was being able to firmly establish the school, once things calmed down towards the end of September 2020. By then, the school had a School Improvement Team, a shared vision statement, and established grade level content professional learning communities. Elizabeth stated,

> We hit our stride like at the end of September and everything was kind of going from there. I feel like we created something that nobody else had done. We tried to make our students feel as comfortable as possible without being in a brick-and-mortar school, without being able to see each other out and play. So they had some time where they could socialize and do some other things rather than be completely focus on work. We added in a lot of little social pieces, because at that time, that's what they were missing. That was a huge piece we tried to add in. So, we had those types of successes. We did

everything that we could to keep it as normal, just at home, you know, school as usual, but at home.

Elizabeth and her team worked hard to ensure the virtual school had the look and feel of a traditional school, but from home. She was really pleased with her direct supervisor's support in helping her make this all happen. Her supervisor rolled up his sleeves and worked with her and the team on scheduling students, ensuring students with special needs were receiving appropriate services, and worked with district content specialists to provide curriculum materials that was conducive for virtual learning.

Supporting Underserved, Minoritized Populations

In Elizabeth's school district a significant percentage of their students are students of color. Elizabeth highlighted some areas of support that engaged students of underserved minoritized populations in terms of access to technology, attendance, achievement gaps, and specialized supports. Since the school district was one-to-one, students who represented minoritized populations received the same supports as all students who were in need of technology, whether a device or internet connectivity. Elizabeth reported that there were no attendance gaps among minority students. The attendance rate was "pretty much even across ethnicities and races."

When asked to discuss the achievement gap, Elizabeth shared, there were "definitely achievement gaps." To address this, Elizabeth explained,

> We also had a support block, which was just a time during the day where students got extra support and academics, or some of them needed social skills and social things. Particularly since they had already had some struggles with that in school brick-and-

> mortar. But once they went virtual, you know the anxiety pieces and all of that seem to increase. So, we did a lot of that during the support block.

She found that many of the minoritized students were also identified as exceptional children. Therefore, they were supported based on their Individualized Education Plans.

Closing Thoughts

Overall, Elizabeth felt that the experience of launching a virtual school was worth it, despite all the challenges she faced. This was her first principal experience, and she did not have anything to compare it to. There were many lessons she learned in leadership and technology, through launching the virtual school, that she was able to use at her current school. Elizabeth shared,

> I learned a lot about being a principal and then doing it at a virtual school was a whole set of learnings. You know, it's a whole different situation, but I'm thankful for the opportunity because as I moved through year one, I was able to really hone in and focus on some of my gaps as a leader and really, technology gaps too. Honestly, I feel like it was a worthwhile experience. If I had to redo it again, would I want to get my first year of principalship to be in a virtual school? Probably not, because you don't know what you don't know until you step. But I will say I did learn a lot from that experience and so it was definitely worth it.

Although Elizabeth would consider doing this all over again, she would like to make sure she had sufficient planning time to think about the logistics and not walk into the unknown. She would also ask more questions in the beginning, such as, what would testing look like? How would we create report cards for students who are dually enrolled? However, of all the important items Elizabeth could have considered, the most important to her was the gift of time.

Themes

In this section I present the five primary themes that emerged from my analysis of the data I gathered and the profiles I presented. The themes I identified are:

- Theme 1: Principals Described their Experiences of Opening a Virtual School During the Pandemic as Overall a Burden, but Worth It in the End
- Theme 2: Principals Felt Unprepared and Lacked Formal Training to be a Virtual School Principal
- Theme 3: Principals Experienced Many Problems with Logistics, Support, and Resources
- Theme 4: Principals Faced Student Technology Access Inequities
- Theme 5: Principals Had Difficulties Describing their Efforts in Serving Underserved Minoritized Populations

Chapter Summary

In this chapter, I presented the results of the principal interviews that I conducted for my study by creating profiles of each of the administrators. Several themes emerged across the profiles. Principals described their experiences as a burden, but felt it was worth it in the end. They also felt unprepared and lacked the formal training to be a virtual school principal. The principals faced many problems with logistics, support, resources, and student technology access inequities. Also, most of the participants had difficulties describing their efforts in serving underserved minoritized populations.

In Chapter IV, I take the findings and analyze them further by connecting them to the original research question of this study. I present how the findings relate to the established

literature in Chapter II, and provide implications and recommendations based on the findings of my study. I conclude with a reflection on what I learned by doing this dissertation.

CHAPTER IV: ANALYSIS AND RECOMMENDATIONS

I designed this study to take an in-depth look at the experiences of principals tasked with launching a virtual school during the pandemic. As part of the study, I aimed to answer the research question: **What were the experiences of principals who led the opening of new virtual schools during the COVID-19 pandemic?** To address this question, I employed a qualitative research approach to investigate the experiences of five virtual school principals from various school districts across North Carolina. All the principal participants were tasked by a district with launching a virtual school during the COVID-19 pandemic. I conducted two rounds of semi-structured interviews held via Zoom with each participant.

In this chapter, I begin by answering the research question with my findings. For analysis, I connect my findings to the literature that I reviewed earlier in the dissertation. Next, I revisit and apply my conceptual framework of the ISTE Standards for Administrators as an interpretive lens to understand the meanings of my findings more deeply. I then share insights for professional practice based on my research. In particular, I provide guidance that may be helpful for principals tasked with launching a virtual school. Additionally, I offer recommendations for future research that may emerge from my study. Lastly, I conclude the chapter with my personal reflections on the study.

Analysis

In my interviews with the virtual school principals, I discovered how their experiences were similar in terms of a lack of preparation, timing of appointment, and the necessity to create policies and procedures from conception. These themes represented my findings.

Finding 1

Principals Described their Experiences of Opening a Virtual School During the Pandemic as Overall a Burden, but Worth It in the End

Each principal's overall experience left them feeling weighed down and burdened during that initial year. Alice expressed her experience as "rough," Brenda shared, "it was a lot of digging in and figuring it out," and Catherine described it as "playing Whack-A-Mole with all the needs and all the changes." David referred to his experience as "the Wild West of learning," and Elizabeth described her experience as "having three months to make a real school out of the air."

All five principals were appointed to their roles less than four months before the beginning of the upcoming school year, which started mid- to late August. Brenda and Elizabeth were both appointed principals of the virtual school in May with three months to plan, Alice was appointed in June with 2 months to plan, and Catherine was appointed in July with one month to plan. David's appointment was unique; he was appointed Program Manager of his district's combined virtual school program in August, with an anticipated start date of December, giving him four months to plan. With the condensed timelines, principals had to make hasty hiring decisions, produce impromptu policies and procedures, and work long, countless hours.

Each principal had to build their school from the ground up, leaving minimal time to plan, organize, and strategize. None of the principals had the opportunity to conduct research on best practices for virtual schools, nor was there a template they could model from that currently existed in their school districts. This is a concern because existing research concludes that the success of a virtual school hinges upon deploying effective instructional practices in the classroom (Black et al., 2009). However, time played against each principal, and they were

unable to take the time to become knowledgeable about effective virtual practices before opening the school. Consequently, the lack of proper planning could potentially affect overall student achievement, correlating with the findings from Howell et al. (2014), who found that not having adequate time to plan and develop various structures to support teachers exposed each virtual school to the risk of failing student academic performance.

Despite the overall burden, all the principals reported that their experience was worth it. They were able to separate their emotional and mental exhaustion from what really mattered the most—the virtual students who benefited from the virtual learning environment. Alice said overall, it was a "positive experience" and stated:

> Having a virtual school was something I never asked for and I never would have thought to ask for, but in the course of two years, I've realized that I'm so passionate about it and meeting the needs of students has always been very near and dear to my heart, and I just didn't realize what a window of an opportunity virtual learning. For families, whether it's for health needs or students who don't feel safe or secure in schools, or parents who need to have that more personalized relationship that we've been able to provide for them.

Although Brenda was stressed, overworked, and stretched to her limit at times, she felt her experience was worth it because her virtual school was able to graduate nine students in that inaugural year. Brenda described:

> I can sit there and look at every kid and tell you their story, and that's not something that a lot of people in a traditional building can do; but the first year was not about academics, it was more about survival and making sure that we had to help them actually get their stuff completed.

Catherine also expressed gratitude for her experience, as it gave her a sense of pride and accomplishment. She replied:

> I had that experience of building everything from scratch, your handbook, your standard operating procedures, your schedule, like there was nothing anybody gave me to piggyback off of.

Despite David's challenges, he noted:

> I'm the type who likes the challenge. I like long hours. I'm a workaholic. So, the challenge in and of itself, creating something new was fun. That's what I always tell my boss. That's what I like to do.

Elizabeth also found the experience to be rewarding. She conveyed:

> I learned a lot about being a principal, and then doing it at a virtual school was a whole set of learnings. You know, it's a whole different situation, but I'm thankful for the opportunity because as I moved through year one, I was able to really hone in and focus on some of my gaps as a leader and really, technology gaps too. Honestly, I feel like it was a worthwhile experience.

All the principals reported that if given the opportunity, they would do it all over again. But they all agreed that having sufficient time to plan and prepare would be crucial.

Finding 2

Principals Felt Unprepared and Lacked Formal Training to be a Virtual School Principal

The interviews revealed that all the principals that were tasked with launching the virtual school during the pandemic felt that they were ill-prepared professionally, thrown into the position with minimum time to plan, and lacking the skill set necessary to lead a successful

virtual school. One vital role of principals in technology integration is to provide support to teachers, which is aligned to Esplin et al. (2018). Their research concluded that principals must be knowledgeable about how technology enhances learning, be well-versed in and support effective teaching and learning, and promote school improvement. Unfortunately, none of the principals had any formal training in technology leadership nor technology-focused professional development. This is a concern, and, as Anderson and Dexter (2005) found, could be attributed to the absence of instructional technology courses within higher education principal preparation programs. Notably, Alice, David and Elizabeth's school districts were previously one-to-one districts, where all students had an electronic device before the pandemic. These leaders were comfortable with the use of technology in classrooms and were able to transfer that skill set to the virtual school. Nonetheless, despite their comfort level with technology, they described their experiences leading a virtual school as uncertain.

Lack of principal experience was another concern expressed by the participants. Fortunately, Alice and Brenda were principals prior to becoming a virtual school principal, but both had the virtual school added to their current assignment as a traditional school principal. For Catherine, David, and Elizabeth, this was their first principalship although they had been assistant principals. Whether the principals were experienced or not, they all were candid about their lack of experience and preparedness for the virtual school principal role.

As school districts look to hire principals for virtual schools, they should consider the experience level of candidates to ensure the unique needs of the virtual school community are met as indicated by researchers McLeod and Richardson (2011). They suggest that principals should be able to meet the needs of a technology rich economy that places demands on

technology integration in schools, which requires a solid digital knowledge base and understanding. Toward this point, during her interview Catherine explained,

> A lot of my friends laugh that I'm the virtual principal because I'm like an old soul, like I don't have social media, I don't have like a bunch of mobile apps, like I'm like, technology is just hard. And they're like, they going to let you be in charge of a virtual school? I'm like, yeah, and I'm actually pretty good at it too.

Furthermore, Catherine had an honest conversation with her superintendent during the appointment process. She noted,

> I remember telling my Superintendent, like, I don't really know why they asked me if this is something that I really want to do. And I told them I really don't think I will be a good fit for this. I was like, I honestly don't really feel like I have a skill set for this.

Although Elizabeth was familiar with technology integration prior to her role as virtual principal, she said, "I mean I honestly was prepared, I think, to lead a school, a brick-and-mortar school, but not a virtual school."

Interestingly, Alice and Brenda were both experienced principals yet shared the same sentiments as the other participants on their lack of preparedness for the virtual principalship. Brenda described her preparation, or the lack thereof, as,

> I did not feel prepared, not one little bit. I felt like I had a very small amount of time to figure it out and I had a very small amount of information given to me to even figure it out with … I knew more about technology than most because that was what my momma taught me because she was my technology teacher. But I did apparently know, in my opinion, I was good at the basics of technology, but I would definitely not say I was very strong outside of the basics of technology.

Alice felt “pretty comfortable” with her new role as virtual school principal. However, she also stated, “oddly enough, I’m not that great at technology things myself … I felt very unqualified” and she wondered if her experience would have been better with formal technology leadership professional development or training. In the end, the experiences of my study’s participants help confirm recommendations from Howell et at. (2014), who asserted that it is essential for school leaders to have ongoing professional development and support to deliver quality leadership, develop 21st century skills, and effectively implement technology initiatives in their schools.

Finding 3

Principals Experienced Many Problems with Logistics, Support, and Resources

During the launching of the virtual schools, each principal experienced many challenges, from logistics to not receiving the supports and resources to effectively operate a school. Virtual schools have their own unique set of obstacles, as confirmed by researchers Richardson et al. (2015) who found virtual school principals face incomparable challenges as they transition from the traditional brick-and-mortar leadership into a virtual environment. Most times when principals are appointed to lead a traditional brick-and-mortar school, it is already established with staff, supports, and applicable resources. The school administrator has a working template to govern and operate the school effectively from the onset of their tenure.

However, the principals that I interviewed for this study were given a task that had never been done within their school districts. The brief time in which the principals were given to get the virtual schools established and operable presented greater challenges. For example, three principals from the study had to find, create, and move into their own office spaces for not only for themselves to work, but also for the teaching staff. Catherine reported having to find office furniture from a vacant building the school district was not using. Catherine elaborated,

> There was nothing and no one. It was just like, here's the keys … our teachers come into a building. And the building was just a bunch of leftover furniture pushed into the center of the room. And so I was like, what? I'm not an interior design! I wore a lot of roles. Like I had to be an interior designer. Like I had to figure out who goes where.

Two principals reported having to use empty rooms at a traditional school. For instance, David, who had to share a space inside a traditional school, did not have space for his students to test. Therefore, he had to use three brick-and-mortar schools in three distinct parts of the county to test his students. This became a logistical nightmare for David. He stated,

> I would say it's one of the biggest barriers and obstacles I have to overcome, the sharing of space. I don't have a location to do testing. I don't have a location to pull kids in. No storage of anything. I don't have any space to do what needs to be done. Like a normal school would have space.

Consequently, David believed the chaos surrounding testing his virtual school student negatively affected the test scores. Alice, Brenda, and Elizabeth were in the same situation, where the virtual students had to test at a traditional school which also caused strains on the principals of the brick-and-mortar schools, who had to host virtual students for testing.

As I shared previously, the virtual schools did not have a prototype to glean from inside of their school districts. Elizabeth reached out to a pre-pandemic virtual school within the state for start-up support. However, since her newly established virtual school was structured differently, the advice from the existing virtual school was not useful. The principals struggled to strategize, develop, and execute the staffing plan, enrollment procedures, and student and staff expectations as well as finding appropriate curriculum and instructional materials for virtual learning. This unfavorable situation from my study was affirmed by researchers like Richardson

et al. (2015), who found that virtual school principals may struggle to find digital tools, resources, and curriculum that are suitable for online learning. Furthermore, the virtual schools were allocated minimal financial resources during the initial launch, which constrained the principals from purchasing viable curriculum and digital tools for virtual teaching and learning. This finding from my research also corresponds to Richardson et al. (2015), who determined that virtual schools may experience a lack of funding if school districts use the same formulas for virtual institutions that they use for traditional schools. Elizabeth noted,

> After just the concept of the school itself, then it was helping everybody else to understand what it was and what it was not. And helping folks to see that we still needed resources, although students might have been at home and not in a school building, but we still needed professional development. We still, you know, need all of the things that we would get otherwise if we were in a brick-and-mortar school. We still needed those things, but just helping everybody understand.

Another obstacle that Elizabeth encountered was getting the school district to realize the virtual school needed the same supports and resources as the traditional schools such as professional development. Her experience corresponds with research by Roy and Boboc (2016), who asserted that there is an overwhelming need for professional development for online teachers due to the increased demand of K-12 online enrollment. Similarly, Baran and Correia (2014) concluded that many new virtual teachers believe they lack the skills and knowledge of the latest education technology resources, leaving them feeling unprepared and unequip to teach online.

Finding 4

Principals Faced Student Technology Access Inequities

The principals agreed that the greatest challenge they faced was student technology inequities, specifically high-speed Internet access. Their conclusion aligned with research conducted by Escueta et al. (2017) that concluded schools across the United States are challenged with meeting the technology demands of their students. Unfortunately, students who live in difficult socioeconomic conditions suffer the most. Students enrolled in a virtual school rely 100% on technology and the Internet to be successful. Consequently, for many virtual schools, lack of student technology access became a barrier to their education. Fortunately, three principals reported being a one-to-one district prior to the pandemic, therefore all their students already had access to an electronic device. The other two principals' districts were able to provide devices during that initial year.

Most of the principals were also able to provide high speed Internet via hotspots for students that did not have Internet at home, whether it was due to a lack of connectivity in a rural area or that parents lacked the necessary financial resources. This issue is supported by the study by Escueta et al. (2017), which suggests that socioeconomically disadvantaged students are often "under-connected." They noted that, as a response to this disparity, the Federal government developed a program "E-Rate," which provided schools across the United States with funding to upgrade their technology infrastructure, spending over $260 billion.

Regrettably, Catherine's district initially did not provide hotspots for students. Catherine placed a stipulation in their school-student contract that the virtual school would provide the student with a device, but that the student must have their own reliable internet access to enroll. Therefore, if a student did not have internet access at home, they could not enroll at the virtual

school which caused student technology access inequities. There were many parents outraged by this decision. The state education department was also notified of the situation. Catherine explained,

> This year, all virtual schools had to submit an application to DPI. DPI looked over your application before the virtual school became approved or not approved. And that is something that they said. You can't have that in your contract. Basically, saying [lack of access to] internet can't be the reason that somebody gets or doesn't get a virtual option. Like you would have to be able to provide them the hotspot at least.

The following school year, the state required the school district to provide internet for any student who needed one, thus allowing more students to enroll during the second year.

Finding 5

Principals Had Difficulties Describing their Efforts in Serving Underserved Minoritized Populations

During the interview, each principal was asked to describe how their virtual school engaged students of underserved minorized populations in terms of access to technology, discuss any gaps in attendance or achievement, and to detail any specialized supports or resources for minoritized students. Most of the principals were not able to address my questions specifically as they related to minority students; instead, they equated minority students with students who are socioeconomically disadvantaged. For instance, Alice responded,

> The students had more of the access to technology barriers were the same families who had economic barriers. But sometimes that was a minority family and sometimes it wasn't. I'd have to really look at, you know, who we had to lend those extra hands to, to

> see if it was the same or different. But I would say that it extended to different racial groups for sure.

Brenda stated,

> I would say our low socioeconomic ones did struggle more than our higher socioeconomic ones. I would have to send more of those students back to the traditional schools because they may not have had the support at home … but that would be who I would say struggled the most.

Catherine answered, "their biggest attendance issues are not from minority students." David replied, "There were socioeconomic large achievement gaps, even though they had access to technology, it really does come down to parents being in the household with them."

Interestingly, one principal, Elizabeth, was able to give specific feedback about how her minority students performed and what supports the school put in place to support minority students. Elizabeth explained,

> Yes! There were definitely achievement gaps. Many of the minority students were also EC students. And so, we had to support them with EC services. But we also had a support block. It was just a time during the school day where students got extra support in academics or some of them needed social skills and social things. Particularly since they had already had some struggles with that in brick-and-mortar school. But once they were virtual, you know the anxiety piece and all of that seem to increase, so we had to do a lot of that during the support block.

Elizabeth's statement aligns with the research study conducted by Gonzales et al. (2020), who observed that students of color and those who were of lower socioeconomic status experienced hardships and lower grade point averages due to inadequate technology.

Nonetheless, Elizabeth was the sole participant who specifically discussed enacting a plan to address such issues.

Discussion

In Chapter I, I explained how my study was built on the foundation of the International Society of Technology Education (ISTE) Standards for Administrators (Esplin et al., 2018). These standards are known as the indicators of effective leadership for technology implementation. In this section, I reconnect my findings as they relate to the ISTE standards. The ISTE Standards for Administrators consist of five main concepts, including: Visionary leadership, Digital-age culture, Excellence in professional practice, Systematic improvement, and Digital citizenship (Esplin et al., 2018). First, the ISTE Standard "**Visionary leadership**" outlines how technology leaders can engage others in creating a shared vision and involvement in the development of the strategic plan and continuous school improvement process for transforming learning with technology (Crompton, 2017). As I discussed in Finding 1, each principal demonstrated extreme visionary leadership that they executed without real assistance. They had to build their school from the ground up in less than four months, which left them little time to plan, organize, and strategize. None of the principals had an opportunity to conduct research on best practices for virtual schools, nor was there a template they could model from that currently existed in their school district.

The second ISTE Standard "**Excellence in Professional Practice**" speaks to a school leader's capacity to model and promote professional learning not only for themselves, but for others as well. Principals have the responsibility to develop themselves on various educational technology tools, but also to ensure other school staff receive adequate professional development opportunities (Anderson & Dexter, 2005). This standard suggests there is a real concern with my

Finding 2, since all five principals that were tasked with launching a virtual school during the pandemic felt unprepared professionally to do so. None of the five principals nor their teachers or staff had any formal training in technology leadership or technology-focused professional development.

The third ISTE Standard "**Digital-age Culture**" asserts that school leaders are to establish teams and build systems to support learning (Crompton, 2017). Unfortunately, in my Finding 3, I discovered that, due to the brief time in which they were given to get the virtual schools up and running, all five principals experienced many challenges regarding the overall logistics, necessary supports, and lack of resources to effectively launch and operate the new virtual school. The principals had to devise systems, processes, and procedures from conception and on the fly. Moreover, most of the procedures they created had to be adjusted as the school year went on.

The fourth ISTE Standard "**Systematic Improvement**" describes a process in which the leader evaluates and monitors processes to continually improve the use of educational technology and using data to make technology decisions (Crompton, 2017). All five principals unanimously agreed that their greatest challenge they faced was student technology inequities. Students who are enrolled in a virtual school rely 100% on technology and the Internet to be successful. However, for many virtual schools, it became a barrier to some students' education.

The fifth ISTE Standard "**Digital Citizenship**" highlights school leaders' capacity to ensure equity, inclusion, safety of users, and compliance with social, legal, and ethical practices related to the use of technology (Crompton, 2017). Though the participants recognized the importance of being digital leaders, it was unclear if they were aware of all students' needs. During the interview, I asked each principal to describe how the virtual school engaged students

of underserved minorized populations in terms of access to technology, discuss any gaps in attendance or achievement, and to describe any specialized supports or resources for minority students. Four out of five principals were not able to address the questions specifically as they related to minoritized students; instead, they equated minoritized students with students who are socioeconomically disadvantaged.

Contrary to established research delineating best approaches and industry standards for administrators overseeing technology integration in schools (Crompton, 2017; Esplin et al., 2018), none of the principals in this study had the opportunity to implement these standards in practice. Instead, they had to work against the standards as much as work toward them. The principals found themselves tasked with the formidable challenge of constructing a virtual educational environment without clear guidelines or support. As the principals endeavored to, as Elizabeth noted, “make a real school out of the air,” they grappled with various issues and challenges inherent to the establishment of a virtual school, navigating this charge largely on their own.

Recommendations

In this section, I make recommendations based on my study for educational practice and educator preparation and research.

Recommendations for Practice

The COVID-19 pandemic has brought about significant changes in the education system, with virtual learning becoming the norm for many students. As schools navigate this new landscape, it is crucial to establish effective practices to ensure the success of virtual schools. In the following section, I outline recommendations for practice for school districts who are considering opening a virtual school and for districts that have a virtual school but are looking to

improve its current operations. These recommendations focus on selecting the principal, establishing district policies, providing professional development for staff, establishing technology infrastructure, and offering appropriate resources for the virtual school.

Principal Selection

Districts should select an experienced principal that understands and knows overall school policies and structure. A principal who is comfortable with technology and technology integration is also essential for the success of a virtual school. They should have a deep understanding of the educational landscape and possess strong leadership skills to guide teachers, students, and parents through the virtual learning experience. This recommendation parallels Sauers et al. (2014), who established that effective school technology leaders demonstrate characteristics such as having a clear vision, utilizing distributed leadership, serving as a change agent, prioritizing funding, implementing systems of support, providing professional development, fostering a positive culture and climate, overseeing relevant instructional practices, and partnering with the school community. These qualities can often be found in experienced principals.

Adequate Preparation Time

Districts ought to allow the principal to be in position 6 months or more prior to school opening to plan operations, funding, logistics, and staffing. This extended period will enable the principal to establish a solid foundation for the virtual school, including developing comprehensive plans for operations, securing necessary funding, organizing logistics, and hiring qualified staff. By having ample time to prepare, the principal can ensure a smooth transition into the virtual learning environment. Additionally, adequate preparation time will address the

concerns of Richardson et al. (2015), who asserted that virtual school principals may struggle to find digital tools, resources, and curriculum that are suitable for online learning.

District Policies and Technology Infrastructure

Districts must establish clear policies related to student technology access and student attendance in virtual schools. These policies should address issues such as device distribution, internet connectivity, and continual technology help desk support. The federal government recognized the importance of technology infrastructure being in place for school communities as they, as well as other private and public businesses, invested over $260 billion dollars to expand broadband access (Escueta et al., 2017). Additionally, districts should develop a robust technology infrastructure and support system to ensure the smooth operation of the virtual school. Also, the district should have a clear supported enrollment procedure and attendance policy for the virtual school where students and parents understand the expectations before enrollment.

Professional Development

Districts should identify and create professional development for teachers and staff new to online instruction for onboarding and ongoing support. Also, they should provide advanced level trainings throughout the year for experienced teachers to enhance and accelerate their professional growth in the virtual environment. Teacher professional learning has a significant impact on student achievement and school improvement, even in online education (Roy & Boboc, 2016).

Appropriate Resources and Support for the Virtual School

Districts need to provide relevant digital resources and tools for teachers, students, and parents to navigate and succeed in the virtual learning environment. Also, districts should

continuously evaluate and update curriculum and instructional materials to meet the needs of virtual learners. The quality of online curriculum and digital technology tools play a crucial role in the success of online courses (Crawford-Ferrer & Wiest, 2012). Furthermore, districts should foster and encourage collaboration with other virtual schools and organizations to share best practices and resources.

Recommendations for Educator Preparation and Research

Virtual learning has become an integral component of contemporary education, however there is a limited body of literature in three subjects, necessitating ongoing research to enhance its efficacy. This section focuses on those critical areas for educator preparation and research: the integration of leadership technology courses into principal preparation programs, the development of teacher professional development in virtual learning, and the examination of potential inequities in technology access compounded by the lack of parental involvement.

The Need for More Leadership Technology Courses in Principal Preparation Programs

According to LaFrance and Beck (2014), very few principal preparation programs provide preparation for leading a K-12 virtual school. Therefore, universities should delve into the integration of leadership technology courses within principal preparation programs, as educational leaders play a pivotal role in shaping the virtual learning landscape. Investigating the effectiveness of such courses in equipping school administrators with the skills to navigate and implement technology-driven educational strategies is vital. This research should assess the impact of these courses on the ability of school leaders to foster a technologically adept virtual learning environment.

Identifying Teacher Professional Development in Virtual Learning

The dynamic nature of virtual learning demands continuous teacher professional development to ensure educators are equipped with the necessary skills and pedagogical approaches. Roy and Boboc's (2016) research concluded that there is a lack of teacher preparation programs that offer courses for teachers to be virtual teachers, thus leaving school districts and virtual schools to develop their own professional development programs for virtual teachers. Future research should focus on identifying the most effective professional development models for virtual learning. Additionally, exploring the long-term impact of such training on online teaching practices, student engagement, and academic outcomes is crucial for refining professional development programs for virtual learning.

Examining Possible Inequities in Technology Access and Lack of Parental Involvement

Addressing potential inequities in technology access and the role of parental involvement is imperative for creating an inclusive virtual learning environment. Since the data suggest that students in the lower socioeconomic status have more technology accessibility disparities than those in the higher socioeconomic class, school districts will have to be more intentional about ensuring adequate technology access is provided to those who are most vulnerable (Escueta et al., 2017). Research should investigate the disparities in technology access among students, considering socioeconomic factors, geographic location, and infrastructure. Moreover, understanding the influence of parental involvement – or lack thereof – in supporting students during virtual learning is essential for developing strategies to bridge the digital divide.

Final Thoughts

Launching and leading a virtual school during the pandemic was an unprecedented challenge. The experiences of the principal participants, as well as my own, revealed a profound

journey of resilience, shared struggles, the benefits of virtual learning, and a call for proactive educational innovation. Reflecting on the experiences, I have come to understand that my struggles were not unique. Many dedicated virtual principals faced similar challenges, sharing a collective excursion of adapting to the demands of virtual education. The realization that I was part of a broader community navigating uncharted territories brought a sense of solidarity and resilience.

Despite the challenges the principals and I faced building a virtual school with limited time during the pandemic, it became evident to us that virtual learning is an asset for students who thrive in this environment. Our virtual schools were able to provide students flexibility, personalized pacing, and accessibility while catering to diverse learning styles. Enabling students to excel, where they may not have otherwise, made the journey for the principals meaningful.

Personally, the magnitude of launching and managing a virtual school during the pandemic did not just feel like a burden, it was a burden. Like the participants in my study, I too felt unprepared and lacked the proper training to lead a virtual school. Prior to becoming the virtual school principal, I had been a principal of a traditional school for one year, which I am grateful for the exposure. Regardless of the previous experience, I recall many days and nights where I wanted to give up and quit. The long hours, sleepless nights, and gallons of tears shed due to the countless staff, student, and parent needs that had to be addressed, ongoing last-minute pivots and adjustments made that stemmed from the district office, the ridicule from community members, all while being held to the same standards and expectations as brick-and-mortar schools who had been established for years. I endured numerous trials, like my fellow virtual principals. To begin, I was appointed 45 days before the first day of school. From hiring over 100 staff members, enrolling students, establishing expectations, finding an office space, and

acquiring a testing location for students, I was unable to properly plan and apply research based best practices. I believed I had been tasked with performing a miracle without any supernatural power; what Elizabeth described as “making a real school out of the air.”

Looking back in hindsight, I concur with my participants that, although launching a virtual school during the pandemic was exceptionally difficult, the effort was unquestionably worthwhile. I was able to witness students thrive in this alternative educational setting, overcoming obstacles and excelling academically. These results underscore the positive impact virtual learning can have. The investment in time, resources, and energy manifests as a contribution to the academic success and well-being of students.

The experience of establishing a virtual school during unforeseen circumstances emphasizes the need for districts to adopt a proactive approach to educational innovation. Waiting to act on new ideas until compelled by crises to do so may limit the effectiveness of implementing innovative programs. Districts should invest in strategic planning and foresight to anticipate the evolving needs of education, embracing innovation before external forces necessitate hasty adaptation.

In conclusion, my reflection as a virtual school principal captures a transformative journey marked by commonality, the appreciation of virtual learning, the fulfillment derived from overcoming challenges, and a call for districts to proactively embrace educational progression. Like the participants in my study, I not only navigated uncharted waters but also contributed to shaping the future of education in an ever-evolving landscape.

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APPENDIX A: INTERVIEW PROTOCOLS

Principal Interviewee Requirements

- A principal who opened a virtual school during the 2020-2021 school year.
- Their virtual school is a part of a public-school system in North Carolina.
- Their virtual school must have students enrolled that are full time.

Research Questions

What were the experiences of principals who led the opening of new virtual schools during the COVID-19 Pandemic?

Round One Interview Questions

Background Information

1. How do you identify yourself (gender, ethnicity, and race)?
2. What is your educational background?
3. What are your educational experiences?
4. How many years have you been a school principal? Where?
5. Why did you decide to get into the education field?
6. Why did you decide to become a principal?
7. When were you first appointed principal of the virtual school?
8. Is your current position solely principal of the virtual school or do you have another role?
9. Did you have experience as a school technology leader?
10. Did you have any experience opening and leading a virtual school?
11. Have you had any professional development in school technology leadership or technology integration?
12. How prepared did you feel prior to being a virtual school principal?

Round Two Interview Questions

What are some practices and policies the principals had to develop and implement?

13. What was the process for student enrollment?
14. How were staffing needs addressed, such as hiring and recruitment?
15. How did you develop student expectations?
16. How did you develop staff expectations?
17. What was the attendance policy? Was it developed by the district or school?

What were the challenges principals faced while opening a new virtual school?

18. What were the major obstacles you had to overcome?
19. How did you overcome any equity issues with technology?
20. Did you have your own school building or was it a shared space? If you had to share a building, where there any limitations or barriers you had to overcome?
21. What type of coaching or mentoring did you receive?
22. How did the district support you through those challenges?
23. What were some areas of success for the school?
24. How did you establish your performance goals?

How did principals describe establishing relationships and trust among stakeholders (e.g., staff, students, families, and the community) virtually?

25. How was the evaluation process for teachers?
26. What was the staff morale like?
27. Was the teacher evaluation process similar to the traditional process? Did you have to use the same teacher evaluation tool?
28. How did you engage parents?

29. What means of communication did you find more effective in connecting with your students, families, and community?

How did principals describe their efforts to serve students from underserved, minoritized populations?

30. How were you able to engage with students of underserved minoritized populations in terms of access to technology?
31. Did you find any gaps in the attendance rate for minority students versus their non-minority peers?
32. Did you find any achievement gaps?
33. Did you have to provide any specialized supports or resources for minority students?

Final Thoughts

34. What are some lessons learned from year 1 that you adjusted for year 2?
35. Do you have anything else you want to add?