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Shift in Education: The Impact of COVID-19 on Face-to-Face and Virtual Learning

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SHIFT IN EDUCATION: THE IMPACT OF COVID-19 ON FACE-TO-FACE AND VIRTUAL LEARNING

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Approval Page

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Abstract

SHIFT IN EDUCATION: THE IMPACT OF COVID-19 ON FACE-TO-FACE AND VIRTUAL LEARNING. Jones, Donya C., 2022: Dissertation, Gardner-Webb University. This qualitative study was conducted to investigate the impact COVID-19 had on teachers' instructional practices, technology preparedness, and social and emotional well-being. The results of this study can be used to inform school leaders, administrators, and teachers about methods to support teachers who teach during a worldwide crisis. The study was conducted utilizing a survey instrument and interviews. The survey and interviews indicated that COVID-19 affected teachers who taught virtually during the COVID-19 pandemic. The survey and interview participants identified supports that teachers needed to have in order to successfully teach virtually during a pandemic, such as technology, professional development to support technology integration, and mental health support. The survey and interview responses showed that teachers relied on professional development to help with teaching strategies and strategies to integrate technology during COVID-19. Teachers also struggled mentally while teaching virtually due to isolation and believed support from a mental health professional was needed in the schools while teaching during the COVID-19 pandemic.

Keywords: COVID-19, instructional practices, technology, technology preparedness, social emotional well-being

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Chapter 1: Introduction

The world as everyone knew it changed drastically in February 2020 with the announcement of the coronavirus disease or COVID-19. Since the announcement of COVID-19, the coronavirus rushed in leaving a path of destruction, and the lives of people across the world have not been the same. This terrible virus exposed the sudden disruption of life and forced the school community to revisit ways of delivering and receiving instruction, assuming different leadership styles and roles, recognizing and supporting trauma, and focusing on ways to build strength within communities. Schools across the nation provided grab-and-go meals for students and served as emergency childcare centers (Richmond, 2020). Many children lost family members; students' family members lost the stability of employment; some families were displaced; many students participated in remote learning; and some students and families struggled with food and the sudden onset of unfamiliar routines. It seems clear that there was no administrative manual to provide advice on coping with the pandemic. In March 2020, a global pandemic was declared, and schools closed or shut down. In the days following March 11, 2020, many states' governors' decisions to close schools were marked by quarantining from the outside (The Lancet Child & Adolescent Health, 2020). Safeguarding children required state officials and families to curb the spread of infection and minimize the effects of the virus by practicing social distancing (The Lancet Child & Adolescent Health, 2020). To practice social distancing, one must remain 6 feet apart or two arm lengths from other people who are not immediate members of the same household (Centers for Disease Control and Prevention [CDC], n.d.). Everyone was encouraged to wear a mask, wash their hands, cover coughs and sneezes, clean and

disinfect, and monitor their own health daily (CDC, n.d.). Teachers and students adapted to new online learning platforms and distance learning, which offer new learning opportunities and challenges (Hippel, 2020). The pandemic brought about some academic challenges for students, teachers, administrators, parents, and school districts (World Health Organization, 2020). COVID-19 had an immediate impact worldwide, and the effects will most likely be felt for years to come (Richmond, 2020).

Statement of the Problem

The effects of the COVID-19 pandemic impacted education. The pandemic required the cancellation of traditional learning practices in the school setting (García & Weiss, 2021). More than 1.6 billion learners in over 190 countries were affected by the pandemic (United Nations, 2020). Over a billion students across the nation were not able to attend school or a university due to preventive precautions to stop the spread of COVID-19 (McCarthy, 2020).

Remote Learning

School closures, along with the joint public health and economic crises, presented challenges for students and teachers (García & Weiss, 2021). Some schools still operated during the pandemic either hybrid or remotely (Olneck-Brown, 2021). The Center for Reinventing Public Education reported that almost half of the nation's school districts would reopen for in-person learning in the fall of 2020 (Gross et al., 2020). Distance learning was challenging for students, educators, and families (Guisinger, 2020). Some of the challenges included the equity gap with access to digital devices and internet services (Davis, 2020). The U.S. Census Bureau (2020) reported that 14% of households earning less than $25,000 a year did not have internet access. Other challenges families faced

were financial security, the health and safety of children, and supporting children's educational success (Davis, 2020).

Achievement Gap

Not having internet access could mean not having access to remote instruction, which is a disadvantage (Guisinger, 2020). Almost one quarter of large school districts, in comparison to 10% of small school districts, participated in remote instruction; and half of small school districts and 25% of large school districts participated in in-person learning (Olneck-Brown, 2021).

These data brought attention to the achievement gap increasing as it relates to income and race (Olneck-Brown, 2021). A survey conducted by the National Center for Educational Statistics reported half of all White students attended school in-person full-time in January, while 28% of Black students and 33% of Hispanic students attended in-person full time (Meckler, 2021). The changes resulting from the impact of the COVID-19 pandemic, combined with the challenges due to the district size, resources, and the economy, changed the way schooling looked with no time to prepare for the changes.

Purpose of the Study

The COVID-19 pandemic closed many school districts to face-to-face learning and transitioned schools to remote learning (Olneck-Brown, 2021). The purpose of this study was to investigate the impact COVID-19 had on K-5 elementary school teachers working in a north central North Carolina school district.

On March 14, 2020, North Carolina Governor Roy Cooper announced public school closures for 2 weeks; and on March 23, 2020, Governor Roy Cooper announced that the state-wide school closures which were scheduled to end on March 30, 2020,

would extend to May 15, 2020 (Robertson, 2020). On April 24, 2020, Governor Roy Cooper announced that schools would not reopen for in-person learning for the remainder of the academic school year (Robertson, 2020). At this time, North Carolina counted 33 people who tested positive for the COVID-19 virus, according to the state Department of Health and Human Services (Robertson, 2020). People contracting the virus reported mild symptoms, but the virus could be deadly for some, including the elderly and those with underlying health conditions (Robertson, 2020). All North Carolina university campuses and private colleges suspended classes and transitioned to online learning as well (Robertson, 2020). With extending the school closures, Governor Roy Cooper asked educational leaders and state lawmakers to work on a plan to educate students for the remainder of the school year (Hui, 2020). These closures meant K-12 public school students in North Carolina would be home for 2 months. Since the announcement of school closures, there was more of a focus on how schools will provide remote learning to students while learning at home (Hui, 2020). Governor Roy Cooper stated, "I am committed to ensuring that our students get an education as much of education as they can this year" (Hui, 2020, p. 4). School districts across North Carolina were faced with using online learning, but not all families had access to the Internet at home (Hui, 2020). Wake County, North Carolina's largest school system created a remote learning resources website for families, which was designed to keep students engaged in learning, and the assignments would not be graded since they were for review and practice (Hui, 2020). Charlotte-Mecklenburg Schools, like Wake County, did not introduce new learning material to students but planned to begin teaching new content remotely on March 30, 2020, pending approval from the state (Ma, 2020). With almost 150,000 students, many

of whom were thought to be low-poverty and who might not have access to technology or WiFi, Charlotte-Mecklenburg faced some difficulties with remote learning along with others to include those with special needs or nonnative English speakers (Ma, 2020). Some small counties in North Carolina provided laptop computers to students to use at home, but Wake County did not have this kind of program (Hui, 2020). The governor's school closure orders applied to in-person learning; however, some schools reopened as childcare centers for those community members serving in the health care profession and those serving in public safety (Hui, 2020).

Research Questions

1. What impact did COVID-19 have on teachers' instructional practices as they shifted from face-to-face teaching to virtual teaching?
2. What impact did teachers' technology preparation have on the shift from face-to-face to virtual?
3. What is the impact of COVID-19 on teachers' social-emotional well-being during the shift from face-to-face learning to virtual learning?

Theoretical Framework (Overview)

This research study described the impact that COVID-19 had on instructional practices, technology preparation, and social-emotional well-being. This study examined the instructional practices, technology preparation, and social-emotional well-being of teachers in a north central North Carolina school district during COVID-19. This study was informed by Bandura's social cognitive theory, self-efficacy, and triadic reciprocal determinism (TRD); theories in disaster; technological, pedagogical, content knowledge (TPACK); and social-emotional learning (SEL).

Social Cognitive Theory

Bandura's (1989) social cognitive theory involves these three concepts: learning through observation, learning through internal mental states, and learning new information but not necessarily changing one's behaviors because of gaining new information (Cherry, 2019). In 1977, Bandura introduced the concept of self-efficacy to social cognitive theory, which is the belief that a person can be successful in certain conditions. Mastery of experience, vicarious experience, social persuasion, and somatic and emotional states are the sources of self-efficacy (Middleton et al., 2018). Table 1 shows how self-efficacy develops.

Table 1

Sources of Self-Efficacy (Bandura, 1977)

Source	Description
Mastery of experience	The successful completion of prior task builds confidence to face future problems and overcome them.
Vicarious experience	Observations of peer success encourage positive judgements of individual performance in similar situations .
Social persuasion	Encouragement from others to perform successfully
Somatic and emotional states	Positive attitude/mood motivates successful performance.

The social cognitive theory supports this research study since this study looks at the behaviors of teachers and how these behaviors affect their lives during the pandemic.

Theories in Disaster

The theories in disasters include information about the causes of disasters. Etkin and Burton (2015) provided background information about what disasters are and why disasters occur. The disaster theories include acts of nature, effects of nature, society or human-caused, and modern-day epidemics (Kim & Sohn, 2017). Heinrich's Law, the

Normal Act, and Complexity are the theories in disaster discussed throughout this study. Disaster theories are discussed in this review since the COVID-19 pandemic was declared a disaster (Kim & Sohn, 2017).

TPACK

The TPACK framework was developed by and Mishra and Koehler in 2006, (Kurt, 2019). The TPACK framework explains the knowledge teachers need for the effective integration of technology (Koehler et al., 2012). The TPACK framework suggests that in order to integrate technology, pedagogy, and content into teaching, teachers must have a thorough understanding of each component (Koehler et al., 2012). Since technology became instrumental in how teachers delivered instruction during the pandemic, this literature review explains TPACK and provides information as to why technology integration was needed.

SEL

The last focus of this study includes teachers' social-emotional well-being. A survey conducted in March 2020 at the Yale Center for Emotional Intelligence along with Collaborative for Academic, Social, and Emotional Learning (CASEL, 2021b) revealed data on teachers' emotional lives during the pandemic and found that teachers were anxious, fearful, worried, overwhelmed, and sad (Cipriano & Brackett, 2020). CASEL's (2021b) SEL was founded in 1994 by Daniel Goleman and Eileen Rockefeller Growald. SEL is a method of assisting children and adults in the development of basic life skills (CASEL, 2021b). SEL teaches the skills that we need to manage our relationships, our jobs, and ourselves efficiently and ethically (CASEL, 2021b). All theoretical frameworks mentioned in this overview are discussed fully in Chapter 2.

Definition of Terms

The following terms are used in this study.

COVID-19

A contagious virus caused by severe acute respiratory syndrome (SARS; CDC, 2020a). COVID-19 has been identified as a global pandemic (Cucinotta & Vanelli, 2020).

Pandemic

When a disease spreads exponentially, the World Health Organization proclaims it to be a pandemic. This indicates that the growth rate is explosive and that new instances are being reported every day (Columbia Mailman School of Public Health, 2021).

Distance Learning

A combination of instructional television, radio shows, printed material, and internet lesson delivery (United Nations, 2020).

Remote Learning

One of the primary educational resources available to kids during the pandemic lockdown (García & Weiss, 2021).

Hybrid Learning

An online teaching platform designed to replace face-to-face instruction that can be used by students simultaneously learning at home and school (Bonderud, 2021).

Limitations

The main goal of providing the study's limitations is to present any potential impacts on the study's findings, as well as the reasons for any of the study's decisions

(Creswell & Creswell, 2018). This study included elementary teachers from two of 30 Title I schools in the district. The district only allowed two schools to participate in this study. Because only two schools were chosen, the study's research was limited to only that subset of teachers. This study analyzed the teachers' perceptions of instructional practices, technology preparedness, and social-emotional well-being while teaching during COVID-19. By concentrating on surveys and interviews of teachers in two schools, it does not represent all elementary classroom teachers in the school district, North Carolina, or the United States. Additionally, the perspectives of the participants are limited as a result of having 25 respondents. With a small number of participants, this further limits any generalizations that could be drawn from this study.

The final limitation of this study is the time of the study. This study was conducted over the course of 12 months. This is a limitation because it does not offer a comprehensive study of this present-day pandemic phenomenon.

Delimitations

Delimitations are the boundaries that the authors have purposefully established (Theofanidis & Fountouki, 2018). The participants' selection criteria are one of the study's delimitations. The participants were limited to classroom teachers and no other educators within a school setting such as the literacy coach or facilitator. Classroom teachers were used in this study because the classroom teachers had current hands-on experiences teaching students and could speak to the topic. Another delimitation of this study is that it was limited to two of 30 elementary schools in the district. I am currently employed at one of the 30 elementary school sites, and the school where I work was excluded from this study.

Summary

Chapter 1 of this dissertation focused on the introduction of the study, which provided the reader with the problem, purpose, research questions, overview of the theoretical framework, definitions, and limitations and delimitations that I studied. This research study was conducted in a school district in north central North Carolina.

Chapter 2 is a review of literature. This chapter provides literature that presents historical and background information that helped to develop the foundation of this study. The review of literature includes an introduction, literature on the COVID-19 pandemic, literature on natural disasters, literature on COVID-19 and schools closing, literature on COVID-19 and schools reopening, literacy on technology integration, literature on social-emotional well-being, and literature on the theoretical frameworks: social cognitive theory, disaster theories, TPACK, and SEL.

The methodology is described in great length in Chapter 3. The data collection, analysis methods used, research design, and protocol for this study are all explained. Chapter 3 provides an explanation for a qualitative study. Chapter 4 provides the data analysis and results for this research study. Chapter 5 reports the findings as they relate to the problem and describes any recommendations for further research.

Chapter 2: Literature Review

Introduction

The goal of this review was to consider the impact that COVID-19, a natural disaster, had on the educational system in North Carolina. This review includes literature focusing on the COVID-19 pandemic, the impact of natural disasters on education, schools closing in North Carolina, schools reopening in north central North Carolina, technology integration, and teachers' social-emotional well-being. The theoretical frameworks that guided this study are included in this literature review.

COVID-19 Pandemic

COVID-19 was declared a controllable pandemic according to the World Health Organization due to its global spread (Cucinotta & Vanelli, 2020). A pandemic can be defined as "an epidemic of an infectious disease that has spread across a large region, for instance multiple continents or worldwide" ("Pandemic," 2020). A terrible, intense condition known as Coronavirus 2 was the source of the outbreak (SARS-Cov-2; Carmosino, 2020). According to GAO (2020), the coronavirus COVID-19 caused a high sickness rate in December 2019 and a high death rate in February 2020. People throughout the world have been affected by the coronavirus and have either become ill or died as a result of the virus's impacts. The World Health Organization (2020) designated the 2019 Coronavirus Disease 2019 (COVID-19) on February 12, 2020. "Coronaviruses are a family that cause mild to moderate upper-respiratory tract illnesses that include the common cold, SARS, and Middle East respiratory syndrome (MERS)" (Carmosino, 2020, para. 3). The CDC (2020a) stated that individual-to-individual contact, coughing, sniffling, and coming into contact with objects that have been exposed to viral particles

are all ways the coronavirus can be spread. According to reports, the coronavirus originated from a wet market in Wuhan, China, which is a place where vendors sell live animals (Carmosino, 2020). The phrase wet market refers to the need for the vendors to continuously clean the flooring as a result of the ongoing butchering of animals and the use of softening ice to keep the food safe (Carmosino, 2020). "Most Coronaviruses infect bats, birds, and mammals, which act as a host reservoir" (European Centre for Disease Prevention and Control, 2020, p. 2). Prior to 2020, there was no treatment for the Coronavirus; however, those individuals who fell severely ill from the infection could look for experimental drugs and therapies (Johns Hopkins Medicine, 2022). Soon after the pandemic started, two pharmaceutical companies, Pfizer-BioNTech and Moderna, developed COVID-19 vaccines that were more than 90% effective by November 2020 (Isaacson, 2021). The World Health Organization (2020) recommended the following precautions: thoroughly clean and wash your hands or use an alcohol-based sanitizer; stay at least 6 feet away from other people; wear a cloth mask in public; avoid touching your eyes, nose, and mouth; ensure that you and others cover your nose and mouth; when you cough, use a tissue to dispose of it; and if you have symptoms such as a cough, headache, or low-grade fever, isolate yourself until you feel better.

The Impact of COVID-19 on Teaching and Learning

The onset of COVID-19 impacted the lives of educators, students, and families with the enforced stay-at-home orders placed on the nation. Due to the stay-at-home orders, teachers and students were forced into new digital learning environments (Michel, 2020). It is not clear how effective virtual learning was since many K-12 teachers and students had limited experience with online instruction, and a large gap in technology

access existed across the country (Kuhfeld et al., 2020). This new approach to teaching resulted in some deficits in learning (Middleton, 2020). Several EdWeek online surveys completed by teachers in March 2020 revealed that teachers were not equipped to instruct online, and a great number of their students did not log in to complete class assignments (Middleton, 2020). Data from the TALIS survey, which captured information about professional development, showed that 18% of respondents reported a need for professional development in information and communication technologies (Schleicher, 2020).

When the school systems shifted to virtual learning, they provided teachers and students with learning materials that supported both traditional and digital learning models. Learning packets, television or radio educational programs, and online platforms were used to support learning (Schleicher, 2020). Switching from in-person learning to online learning required teachers to change normal instructional practices such as presenting information in small increments (Kolb, 2020). Teachers had different approaches for how to teach subjects, which could be due to a limited knowledge base for teaching online, limited technology skills, teachers having personal issues, and teachers experiencing death or sickness (Middleton, 2020). Some teachers prepared and used asynchronous videos for instruction, while others conducted synchronous sessions with students (Middleton, 2020).

Barriers to Learning During COVID-19

Several factors affected students' abilities to access education during COVID-19. The International Literacy Association (2020) survey reported that 40% of teachers reported students' access to materials as a barrier. The National Telecommunications and

Information Administration (2018) reported that 95% of households with incomes over $75,000 reported having broadband, while 62% to 75% of households with less than $35,000 incomes reported having broadband. The COVID-19 pandemic revealed that computer and internet access is critical to students' abilities to access education, so households with less than $35,000 incomes without technology support show the digital divide (Lake & Makori, 2020). This digital divide shows the gap in which student groups are most likely to not have access to education.

Because of the spread of the pandemic, many adults in the home became essential workers (Hodges et al., 2020). Employment issues became more prevalent and resulted in 15% of adults being unemployed as of May 2020 (Hodges et al., 2020). Unemployment issues result in families not having enough food to eat, not having enough money to pay the rent, and not being able to cover household expenses (Pavetti & Robinson, 2020). Many employed families, 20%, worked remotely (Duffin, 2020), while another 21% of adults worked outside the home during COVID-19 (Hodges et al., 2020). Parents working remotely reported increases in housework, childcare responsibilities, and managing their children's schoolwork (University of Pennsylvania, 2021). Studies also revealed that student engagement was low, as teachers reported that there was a 60% decrease in student engagement since COVID-19 (Herold & Kurtz, 2021). Teachers also reported one fourth of students having truancy issues or not participating in instruction (Herold & Kurtz, 2021). Missed school days impact academic achievement. Educators found it hard to create lessons online that were interesting, relevant, and enjoyable, thus making it hard for students to engage (Winthrop, 2020). When school is missed, kindergarten students display poor social skills, third-grade reading skills are low, middle

school students have low GPAs, and there is an increase in high school dropout rates (Jordan, 2020). These external factors contributed to students' abilities or inabilities to participate in completing assigned tasks or to participate in online classes (Hodges et al., 2020).

Overview: Natural Disasters

The COVID-19 pandemic qualifies as a natural disaster (Sakurai & Chughtai, 2020). Natural disasters include extreme weather and have the potential to pose a major threat to human health, life, property, vital infrastructure, and homeland security (Department of Homeland Security, 2021). CDC (2022) listed the following as natural disasters: earthquakes, extreme heat, floods, hurricanes, landslides and mudslides, lightning, tornadoes, tsunamis, volcanoes, wildfires, and winter weather. Globally, natural disasters kill 60,000 individuals each year, and disasters have the greatest effect on those in poverty and those who have low middle-class incomes without resources (Ritchie & Roser, 2019). Natural disasters not only impact mortality, but they can also impact the way of life. After a natural disaster, people fall victim to physical injuries, trauma or illnesses are sustained, they become homeless resulting in living in shelters, and they become impacted requiring immediate support such as food, water, shelter, and medical assistance due to this type of emergency (Ritchie & Roser, 2019).

Pandemics are outbreaks of infectious diseases that greatly impact morbidity and mortality across geographical areas which cause social, economic, and political disorder (Madhav et al., n.d.). Pandemics have negative consequences, as seen with the impact of the H1N1 influenza pandemic (Qiu et al., 2017). The H1N1 pandemic not only impacted mortality, but it also impacted health care systems, animal health, agriculture, education,

transportation, tourism, and the financial zones (Qiu et al., 2017). Another example of a pandemic's impact can be identified with SARS and Ebola, which occurred in 2013 and 2015. These pandemics caused disorder in the economy and social order of China and West Africa, which caused death and illness (Qiu et al., 2017).

Similar to other natural disasters, the COVID-19 pandemic affected people's everyday lives, businesses, and society (Sakurai & Chughtai, 2020). The COVID-19 pandemic resulted in a national quarantine, lockdown, illness, and fatalities (Haleem et al., 2020). The COVID-19 pandemic also caused stay-at-home orders; travel bans; restrictions on visiting households outside of your own; and the closing of nonessential stores, gyms, cinemas, museums, art galleries, and places of worship (Cohut, 2021). Many lives were lost during the pandemic according to the National Center for Health Statistics, which reported over 500,000 U.S. deaths as of March 2021 (CDC, 2021b). The pandemic caused some economic hardships as many people lost their jobs and many worked from home. According to the Pew Research Center (2020) report, 25% of U.S. adults were either laid off or lost their jobs (Parker et al., 2020). According to the Upwork report, 41.8% of the workforce worked remotely in December 2020 (Ozimek, 2020). Food insecurity was another hardship that many faced during the onset of the pandemic, as 44% of households were reported to be food insecure according to the U.S. Census Bureau (2020). Minority families were most affected by food insecurities, with 48% of Black households being affected and 52% of Hispanic households affected, and 54% of homes with children being affected (Census Bureau, 2020). Data reports also showed a shift in education. The National Home Education Research Institute reported a 10% increase in the number of students homeschooled in 2020, which was 2.5 million in

the spring of 2019 to 2.75 million students homeschooled in 2020 (Ray, 2021). Education was also directly impacted by the pandemic, with 33% country-wide school closures affecting over 148,000,000 learners according to UNESCO (2021). This research focuses on the impact of the pandemic on educational stakeholders.

Impact of Natural Disasters on Education

The pandemic, like other disasters of any kind, can have a lasting impact on children and their education. In many instances when a disaster is declared, schools are shut down and used for shelters. Researchers have investigated the impact natural disasters have on communities. A study conducted by Gibbs et al. (2019) analyzed improvements in academic scores for children in Australia who were variably exposed to a large bushfire. The findings showed that in schools with higher levels of bushfire effects, expected improvements from Year 3 to Year 5 scores were reduced in English language arts and math (Gibbs et al., 2019). In addition, the findings highlighted the prolonged academic impact and recognized significant opportunities for intervention in the education system in order to allow children to meet their academic potential.

Another study conducted by Di Pietro (2018) examined the dropout rates and the on-time graduation rates at the University of L'Aquila and students enrolled in other universities and looked at how these differences changed during the post-earthquake to the pre-earthquake term in Italy, which suffered an earthquake in 2009. The outcome indicated that the earthquake had a slight but statistically important effect on the dropout rate of the university (Di Pietro, 2018). In particular, the change between L'Aquila students and those studying at other universities in Central Italy in the likelihood of dropping out in the second year of college was 3.4% higher in the post-earthquake era

compared to the pre-earthquake period (Di Pietro, 2018). This study also reported that learning disruptions and emotional damage caused by the earthquake may have led students to leave the university (Di Pietro, 2018). In terms of the on-time graduation rates, the results showed that in the post-earthquake era, the change in the likelihood of on-time graduation between L'Aquila students and those studying at other universities in Central Italy was about 4.7 percentage points lower than in the pre-earthquake period (Di Pietro, 2018). A research study in Thailand conducted by Thamtanajit (2020) explored the effect of extreme flooding on student performance. A difference-to-difference method was used to measure the extreme flooding in Thailand in 2011 as a natural experiment to assess its effects on the O-net national examination. The researcher combined the National Institute of Educational Test school level O-net examination scores with school-specific data from the Ministry of Education for the 2006-2013 academic school years and found that except for social studies, the flood had a negative and substantial impact on all Grade 6 test scores and had a detrimental and important effect on all test scores for Grade 9 but no major effects on the test scores for Grade 12, except for social studies (Thamtanajit, 2020). DeVaney et al. (2009) examined the effects Hurricane Katrina had on education. A survey was carried out to investigate the views of the teachers and the long-term impacts on schools, neighborhoods, students, and families and to analyze how schools reacted to different problems and responded to them. The respondents were asked to list the top three problems related to work, and two key trends arose which included enrollment-related problems (47.8%) and emotional well-being (24.2%; DeVaney et al., 2009). The survey also determined that 37.9% of respondents stated that the influx of new students seemed to result in curricula issues, with some expressing concerns about meeting

deadlines for students' Individual Education Plans. Twelve of 15 statements (80%) related to emotional well-being were reported by the St. Tammany parish (DeVaney et al., 2009). Comments related to student records, emotions, and lack of supplies were discovered by analyzing the second and third problems identified by respondents, which included 36% of respondents sharing worries about the school schedule and the need to make up for lost class time. In addition, 44% of respondents were concerned with the physical damage and no access to substitute teachers, making it difficult to take time off from work (DeVaney et al., 2009). As steps were taken to deal with the problem, 72% of the respondents indicated that the actions were successful (DeVaney et al., 2009). The first action was providing counseling of which 51.6% participated, and the second action was in a statement, make the best of the circumstance (DeVaney et al., 2009). Of the respondents, 45.2% reported that they would do nothing differently. In terms of school impact, 56.5% reported increased enrollment and overcrowding as mentioned previously (DeVaney et al., 2009). The greatest impact on students and families was housing, being 37.1% (DeVaney et al., 2009). Impact on the community resulted in 45.2% of respondents detailing overcrowded schools, stores, and traffic (DeVaney et al., 2009). The impact on the classroom teacher resulted in teachers taking on the role of counselor and being more flexible and innovative (DeVaney et al., 2009). Changes in academic performance showed that students had lower skill levels (DeVaney et al., 2009). In terms of displaced students, almost 50% of respondents were not sure what took place with displaced students. The school leadership used communication methods such as phones, TV, radio, or websites to get information out to the community. Respondents reported on mental health, and 33.9% of respondents reported that mental health services were

offered to adults, while 79.4% of students were provided with counselors (DeVaney et al., 2009). Respondents reported financial support, food, and materials as other supports offered to students. This study concluded that teachers needed support to handle their own emotional well-being issues related to the impact of the hurricane (DeVaney et al., 2009). School systems seemed to be overwhelmed by the needs of so many, and there was a lack of planning and funding during this time to follow up and meet the needs (DeVaney et al., 2009).

Theories in Disaster

The idea of a disaster can be interpreted and defined in a variety of ways. Etkin and Burton (2015) defined disaster as an enormous and unexpected calamity that occurs when the position of a star or planet is not aligned, resulting in typhoons and earthquakes. Considering the current state of modern society, it is fair to incorporate technological and social disasters at this time (Kim & Sohn, 2017). Disaster types include natural, human-caused, technological, and quick or slow (Etkin & Burton, 2015). Other modern-day disasters include epidemics such as the Ebola virus and the Middle East respiratory syndrome coronavirus (MERS-CoV) and animal diseases that include bovine spongiform encephalopathy and highly pathogenic avian influenza (Kim & Sohn, 2017). This section provides information about Heinrich's Law, Normal Accident, and Complexity, which will describe major disaster theories that occurred in Korea and around the world. In 1931, William Heinrich introduced a study that analyzed accidents of wide ranges and therefore developed Heinrich's Law (Kim & Sohn, 2017). Heinrich's Law stated that for every workplace injury that occurs, there are 29 accidents resulting in minor injuries and 300 accidents resulting in no injuries (Sridharan, 2021). Heinrich's Law is recognized as

the law of 1:29:300, meaning a noticeable accident will be followed by several other accidents or events that inform of forthcoming disasters (Kim & Sohn, 2017). Figure 1 shows Heinrich's Pyramid, which explains Heinrich's Law.

Figure 1

Heinrich's Pyramid

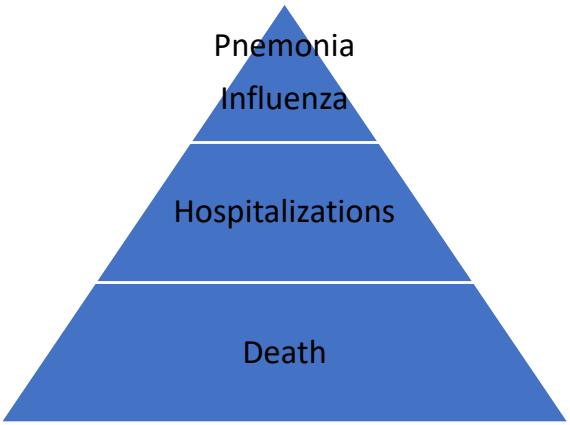
Note. This model was produced by Herbert Heinrich in 1931 as a result of the requirement to reduce non-injury events in order to eliminate minor significant injuries. From Heinrich's Pyramid-Does it Hold Up 90 Years Later?, by R. Klatt, 2019, MEMIC.

An example of Heinrich's Law is the 1995 Sampong Department Store collapse in Korea that occurred due to structural problems even though there were signals present before the accident occurred (Kim & Sohn, 2017). COVID-19 had a rippling effect on society. Similarly, to Heinrich's Law, COVID-19 incidents led to even more serious incidents or death. The CDC (2021b) reported statistical information on coronavirus cases and death. On March 15, 2020, there were 1,058 reported coronavirus cases and 671 deaths (CDC, 2021b). On April 15, 2020, there were 27,223 reported coronavirus cases and 29,146 deaths (CDC, 2021b). On July 4, 2020, there were 51,015 reported coronavirus cases and 48,050 deaths (CDC, 2021b). On August 14, 2020, there were

54,904 reported coronavirus cases and 52,882 deaths (CDC, 2021b). According to the CDC (2021b), respiratory disease, influenza, and pneumonia are health conditions that contributed to deaths involving COVID-19. Figure 2 shows how COVID-19 incidents relate to Heinrich's Law.

Figure 2

COVID-19 Pyramid



The next disaster theories included the normal accidents and complexity, which were discovered by Charles Perrow. Professor Charles Perrow at Yale University claimed that there is a possibility of tragedy associated with power plants, chemical factories, aircrafts, ships, dams, and gene manipulation (Kim & Sohn, 2017). The normal accident theory is the belief that accidents relating to technological and mechanical incidents with preexisting risks are normal and those risks are normal segments in our lives (Kim & Sohn, 2017). This theory developed as Charles Perrow was trying to determine the cause of the Three Mile Island disaster (Parkinson, 2019). The Three Mile Island Nuclear Power Plant accident is an example of the normal accident (Kim & Sohn, 2017). It occurred in Pennsylvania in 1979 when radioactive gases and hazardous iodine were released into the environment; it not only impacted the immediate environment, but it

also affected surrounding areas (Kim & Sohn, 2017). Charles Perrow was also responsible for discovering the complexity theory. The complexity theory is the final disaster theory included in this section. The complexity theory involves the study of natural phenomena, helps to understand the features of modern-day disasters, and finds ways to correct the disaster (Kim & Sohn, 2017). This theory is useful to healthcare organizations, contributing information to assist with policy development, and in the development of information technology and workplace surroundings (O'Sullivan et al., 2013). The complexity theory is helpful when understanding epidemics and animal diseases such as SARS, H1N1 virus, Foot-and-Mouth disease, and MERS-CoV (Kim & Sohn, 2017).

COVID-19 Pandemic: Schools Closing

President Trump declared a national emergency on March 13, 2020, encompassing all 50 states and the District of Columbia. Under the nationwide emergency declaration, disaster declarations were also approved for the four territories (FEMA, 2020). Schools, universities, malls, churches, and companies were shut down in an effort to reduce social connections among huge gatherings of people and decrease the spread of the coronavirus. Research from past experiences showed that these closures helped to contain outbreaks (Barnum, 2020). In response to the epidemic, numerous states started closing schools in March 2020. Over 1.5 billion students were affected by the closures, as many states began to close schools in response to the pandemic, according to UNESCO (Klobucista & Maizland, 2020). Having more than two dozen reported cases of COVID-19 in North Carolina, North Carolina Governor Roy Cooper ordered all North Carolina Schools to close on March 13, 2020 (Hui & Sherman,

2020). In making his declaration, Governor Cooper said,

> We are seeing increased anxiety, fear from parents, from teachers, from superintendents across our state and we need a period of time here to assess the threat of COVID-19 and to make sure that we have a coordinated statewide response to deal with the fallout that comes when you don't have children in school. (Hui & Sherman, 2020, p. 4)

In accordance with an executive order (see Appendix A) signed by Governor Cooper, schools in North Carolina were initially closed until May 15, 2020, but they were kept closed for in-person instruction for the duration of the 2019-2020 academic year through June 2020. The decision to shut down schools would be hard on working parents and students who received their meals at school (Hui & Sherman, 2020). These challenges lead Governor Cooper to also request a major disaster declaration for North Carolina by FEMA requesting individual assistance, crisis counseling program, disaster unemployment assistance, and small business administration disaster assistance (F. Porter, 2020). Governor Cooper worked with the Department of Health and Human Services and the Department of Public Instruction to develop a plan to ensure that children had food to eat, families had safe options for children, and learning continued (Hui & Sherman, 2020).

As schools closed, Governor Cooper asked the State Board of Education to work with the North Carolina Department of Public Instruction and lawmakers to create a plan that would guarantee students had access to high-quality education for the rest of the school year, provide remote learning as a result of the closure of school buildings, and ensure that all employees, including classified staff like cafeteria workers, custodians, bus

drivers, and instructional assistants work in a safe environment (F. Porter, 2020). When schools closed, remote or online learning replaced in-person instruction. Plan B Options A, B, and C were the three choices presented to North Carolina schools in June 2020 for returning to school (see Appendix B). Option A allowed students to return to school for in-person instruction with minimal social distancing, Option B allowed students to return with moderate social distancing, and Option C allowed students to participate in remote learning only (F. Porter, 2020).

COVID-19 Pandemic: Schools Reopening

Children are less likely than adults to get COVID-19, according to the CDC (2021b). In certain severely affected countries, the proportion of cases involving people under the age of 18 ranged between 1% and 2% of all fully confirmed cases (Klobucista & Maizland, 2020. More information was provided by the CCD (2021b), including the fact that children under the age of 18 make up 7% (or more than 200,000) of recorded COVID-19 cases, 1% of reported COVID-10 hospitalizations, and 1% of reported COVID-19 fatalities. According to scientists, infected children were asymptomatic (CDC, 2020b). Children get the illness, but they recover from it more quickly than adults do (CDC, 2020b). Due to the limited rise in cases and low levels of community transmission of the virus, many countries reopened schools in person (Michaud & Kates, 2020). For both parents and teachers, reopening schools did present some difficulties. Parents continued to worry about the security of their kids in the event that they were sick or caught the virus and had to go back to school. Other worries were teachers and school personnel and elderly family members living with youngsters who were of school age being at greater risk of contracting the virus (Klobucista & Maizland, 2020).

In North Carolina, Governor Cooper initially decided that students should go back to school in July 2020 under Option B, which permitted schools to run with a blend of face-to-face instruction or online learning (F. Porter, 2020). In October 2020, Governor Cooper announced that elementary schools and charter schools could reopen under Option A starting October 5, 2020, but school districts continued to have the flexibility between Options A, B, and C (F. Porter, 2020). Option A continued to include safety precautions such as wearing a face mask for teachers and students, social distancing, and conducting symptom screeners (F. Porter, 2020). Other safety measures included one-way entrances and hallways, keeping students together in small groups as much as possible, using the classroom for breakfast and lunch if the cafeteria did not allow for social distancing, canceling large group activities and assemblies, installing Plexiglas and other barriers in the front office area, daily temperature checks, creating spaces to isolate students with COVID-19 symptoms, adjustments of schedules for frequent handwashing as needed, limits on sharing of materials, and limits on the visitation of nonessential visitors (Melnick et al., 2022). On March 4, 2020, the State Board of Education mandated that all districts offer in-person learning (Duncan, 2021). The guidelines for the school's reopening included students in kindergarten through fifth grade returning up to 5 days a week with a plan of 6 feet of social distancing or minimal social distancing, sixth-grade to 12th-grade students returning up to 5 days a week with students following the 6-feet social distancing requirement to remain safe, and schools K-12 would have to have a remote learning option (Duncan, 2021).

Technology Integration (NC Digital Competencies)

Teachers have been instructed to conduct remote instruction since COVID-19

began. North Carolina's educational systems started emphasizing and focusing more on the value of the NC Digital Competencies, which were adopted on September 10, 2019 (EdSurge, 2019). House Bill 23, which called for the development of digital teaching and learning competencies, was adopted by the NC General Assembly in 2013 (General Assembly of North Carolina, 2013). These competencies would "provide a framework for schools of education, school administrators, and classroom teachers on the needed skills to provide high quality, integrated digital teaching and learning" (General Assembly of North Carolina, 2013, p. 1). The digital competencies were aligned with the International Society for Technology in Education, the International Association for K-12 Online Learning, and the NC Professional Teaching Standards (North Carolina Department of Public Instruction, n.d.). The state board approved the competencies in 2016 (North Carolina Department of Public Instruction, n.d.). The intention of the competencies for teachers was to improve teaching practices and guide student learning (North Carolina Department of Public Instruction, n.d.). The goal was to develop leadership and digital citizenship among school administrators (North Carolina Department of Public Instruction, n.d.). The five focus areas included in the digital competencies for school administrators are vision and strategy, content and instruction, human capacity and culture, personal growth, and connectedness and community (see Appendix C). Leadership in digital learning, digital citizenship, digital content and instruction, and data and assessment are among the four focus areas listed in the digital competencies for teachers (see Appendix D). The use of technology has become more essential as students progress through elementary, middle, and high school as well as college and into their jobs. As a result, the inclusion of digital competencies is essential since they provide a

framework. On July 1, 2017, the digital learning competencies were introduced (North Carolina Department of Public Instruction, n.d.) The way school administrators view the technology standards has a big impact on how teachers, students, and the community view them. To slow the spread of COVID-19, educational institutions shut down, and many schools and universities shifted their classes to video conferencing platforms like Zoom and Google Meet (De' et al., 2020). Due to the technical requirements needed for online learning, the NC Digital Learning Competencies became vital. The digital learning competencies have four focus areas: leadership in digital learning, digital citizenship, digital content and instruction, and data and assessment (North Carolina Department of Public Instruction, n.d.). Szakasits (2018) examined how teachers' instructional strategies complemented online learning settings. The results of this study demonstrate that teachers thought they were best able to demonstrate digital citizenship, that teachers were confident in demonstrating confidence in digital learning, and that elementary teachers needed more assistance in promoting digital learning environments than middle school and high school teachers.

Benefits of Technology Integration for K-12 Students

Lesson planning, working with colleagues in professional learning communities, and taking part in family engagement activities are just a few of the many duties that fall under the purview of teachers. One of the duties teachers have taken on in the 21st century is technology integration. When a variety of instructional strategies are represented by technology, this is called technology integration (Liu et al., 2017). Technology integration, according to Gilakjani (2017), is the use of technology tools in English language arts, math, and science that enable students to apply computer and technological

skills for critical thinking. The Elementary and Secondary Act of 2001 made technology integration in schools a requirement, according to the U.S. Department of Education (n.d.). This law aims to raise student academic performance as determined by standardized tests with the idea of fostering their technological literacy (Davies & West, 2018). The technology integration process is described in depth by Hanover Research (2022) and includes establishing a vision, creating a technology integration strategy, offering specialized professional development, incorporating technology into daily instruction, and assessing technology implementation. Learning how to use technology to enhance education can be challenging (Reid, 2017). As they are in charge of incorporating technology in the classrooms, teachers in the schools have evolved into technology facilitators. Teachers have adapted by incorporating certain technology like computers, the Internet, smartphones, social media, and tablets into their daily routines. Technology integration enables educators to choose their own software, enabling more engaging lessons (Gilakjani 2017). According to Liu et al. (2017) incorporating technology allows teachers and students to use knowledge in new ways, boost literacy and understanding across the curriculum, and employ audio and video to do so. Once teachers have received the appropriate professional development to support integration, teachers are confident in the implementation process, the software is readily available, and supports of the school and the school district are in place, technology integration in K-12 classrooms can be successful (Kim & Jang, 2020). In Carver's (2016) study on teachers' impressions of the advantages and disadvantages of integrating technology, 59% of participants said that using technology increased student engagement and 23% thought using technology increased student knowledge.

Factors That Promote Technology Integration K-12

In the 21st century, technology encourages active thinking and creative learning. Students frequently utilize the Internet while linked to their devices and gadgets. In 2013, more than 70% of Americans ages 3 and older utilized the Internet (Snyder et al., 2018). A National Educational Technology Plan (NETP) was created by the U.S. Department of Education in 2009 (U.S. Department of Education, n.d.). This strategy acknowledged that technology influences meaningful, engaged, and authentic learning experiences (Slutsky, 2018). Technology leaders need to be skilled and knowledgeable in order to enable a technologically advanced environment for technology to succeed. According to NETP, educational institutions must have a solid infrastructure that can handle fast internet connectivity, digital learning, activities for professional development, and electronic devices for both teachers and students (U.S. Department of Education, n.d.). Learning should be more student-centered than teacher-centered, according to NETP (U.S. Department of Education, n.d.). Researchers were able to monitor the relationships between teachers and students as a result of the integration of technology in Marshall's (2017) study. The study discovered that technology was a tool for integrating technology into the classroom and that teachers' use of technology benefited greatly from the knowledge of the students. Slutsky (2018) used the Computer Technology Integration Survey to assess the levels of self-efficacy, and the results revealed two recurrent themes: internal work-related factors and external personal ones. Slutsky discovered that a teacher's usage of technology integration is influenced by people, social media, smartphones, and professional development. These persons can be friends, family members, coworkers, or other educational facilitators like coaches or administrators.

Social media was used to collaborate and gather knowledge from experts (Slutsky, 2018). When necessary, teachers must utilize smartphones, and they can encourage students to think (Slutsky, 2018). Slutsky also discovered that professional development did not occur frequently and gave little differentiation The key factor that encourages technology integration is TPACK, which requires certain well-organized educational opportunities for teachers to advance their knowledge and skills (Uslu, 2018). In a study conducted by Jurica and Webb (2016) that looked at factors that impacted technology integration in public schools comparing teacher years of teaching experience and comfort level with technology integration, it was found that few students use technology for over 20 minutes per day and many students used technology under 10 minutes every day. Studies have attempted to identify the causes of the lack of technology integration and have come up with various solutions including self-efficacy, lack of assets, backing, and preparation. (Jurica & Webb, 2016). Self-efficacy surrounding technology integration involves the belief in a person's capacity to utilize technology in a learning environment (Crossan, 2020). When a person believes that they can do whatever is necessary to succeed, they have high self-efficacy; when a person is unsure if they can do whatever is necessary to succeed, they have low self-efficacy (Stajkovic & Luthans, 1998).

Barriers to Technology Integration K-12

Technology helps students become more proficient digital users and gives them the resources they need to think critically. Students who use technology effectively learn to conduct research, work in teams, and think creatively, and they are explorers. However, there are drawbacks to technology integration. Peggy Ertmer identified two categories of obstacles to technology integration in 1999, including first-order and

second-order barriers (Chen et al., 2019). Chen et al. (2019) defined first-order barriers as anything that would need to be available to enable the adoption of technology integration in classrooms, such as the required professional development and technology supply in the form of devices, programs, and materials. The second-order barrier relates to teachers' perceptions about how students learn and the value of technology in the educational process. A research study that looked at TPACK, attitudes toward technology, innovativeness, gender, professional seniority, duration of computer use, and frequency of technology use and support provided a model that examined factors affecting technology integration (Uslu, 2018). It was discovered that teachers needed assistance with technology and should take part in professional development to aid in the effective integration of technology. Planning for the integration of technology should be done using evidence-based judgments. To encourage technology integration, teachers' technological, content, and pedagogical understanding must improve (Uslu, 2018). The study also discovered that teachers' perceptions were influenced by their ability to use the software and demonstrations by students. Additionally, the survey revealed that male teachers had a higher path for integrating technology than female teachers. Individual innovation, technical support, or professional experience had no influence on how well technology was integrated. Teacher experience and teacher ideas have been found to be a barrier to computer use and technology integration and the curriculum. A study conducted by Tarman et al. (2019) examined the technological challenges faced by social studies teachers in middle schools. Gender, professional growth, and teaching experiences were the main study topics. The study found no difference between the experiences of men and women. In terms of professional development, 57.9% of

instructors participated, compared to 42.1% who did not. The findings revealed that teachers who did not participate in professional development encountered challenges. The barriers faced with professional development include guidance on how to use certain programs and find software. This study demonstrated that the utilization of computer labs for technology integration and the integration of the social studies curriculum content was affected by teacher beliefs about barriers to teaching with technology or teaching experience.

There are several studies that provided data on technology barriers from the point of view of teachers and students. Carver (2016) examined K-12 teachers' perceptions of the benefits and disadvantages of technological integration barriers faced by either teachers or students. A survey of 68 online course participants was carried out. This study discovered that teachers' and students' usage of technology was impacted by first-order barriers, which included the availability of technology. The information included the following barriers to technology: 76% of participants believed the amount of technology available, 61% of participants believed the location of technology, and 24% of participants believed that teacher knowledge and skills were barriers to technology integration. Francom (2016) discovered that the lack of time to plan for integrating technology was a significant barrier in classrooms across Grades K-12 using survey data to compare technology barriers in smaller school districts to those in larger public school districts. A barrier to technology integration included class sizes of 26 or more students as well as a lack of digital resources. Of 150 school districts, 127 school districts were involved in the study. Lack of access to technology was cited as the biggest challenge to using technology by 63.05% of respondents, followed by a lack of time to

develop and plan for technology use by 40.48% of respondents (Francom, 2016). Other research results in this study revealed that smaller school districts with 1.500 or fewer kids reported having better access to technology (Francom, 2016).

Hsu (2016) investigated the beliefs, practices, and barriers to technology integration of teachers who taught in Grades K-6. The results indicated the following barriers: students' lack of computer skills, teachers' lack of training and exposure to technology, teachers' lack of technical support, and teachers' lack of time to implement technology-integrated lessons (Hsu, 2016).

Technology Requirements and Video Conferencing: Shifts While Teaching Virtual

As school districts shifted to online or hybrid learning, the need for a learning management system (LMS) was paramount. COVID-19 caused schools and institutions to shut down temporarily to reduce the spread of the disease, which changed how students were educated (Chauhan et al., 2021). The lockdown required innovative ways of teaching, which included technology such as video conferencing and online learning platforms (Chauhan et al., 2021). In terms of delivering instruction, teachers in the north central North Carolina district were expected to use the remote learning platform Canvas (see Appendix E) to create student class work assignments. The Canvas LMS was developed to support a more structured way of communicating, having discussions, collaborating, and providing online assessments for students (Tsang, 2019). The Canvas LMS allowed institutions access to manage online learning, teachers the ability to develop and provide online learning activities and evaluate students' knowledge, and students the ability to take part in classes and gain feedback about mastered and unmastered skills (Instructure, 2020). Canvas could be accessed on mobile devices such

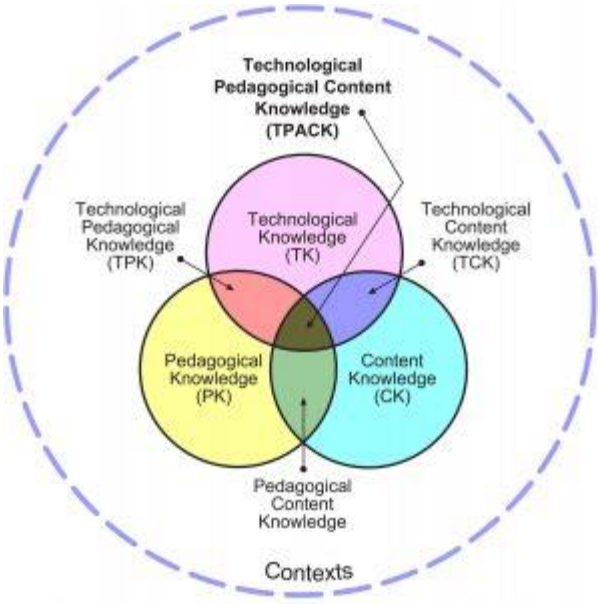
as phones or tablets (Instructure, 2020). Tsang (2019) explored the perceptions of high school teachers' use of the Canvas LMS and if teachers perceived it to be useful and easy, it was determined that Canvas is easier to use if teachers were digital natives. It was easier to use after recurring training, and some students struggled with using it (Tsang, 2019). Another research study conducted in 2019 that focused on the implementation of Chromebooks and the Canvas LMS in K-3 classrooms examined the perceptions of school district leaders who designed and implemented a 1:1 Chromebook program that included the use of an LMS (Webber, 2019). This study found that students are digital learners, and educators will be better off ensuring the use of instructional technology so that students are prepared for the future (Webber, 2019).

TPACK

With students having access to smartphones, tablets, social media, apps, and videos, technology demands have become an important aspect of students' lives. In response to these technology demands, teachers must find ways to engage students with technology that includes content. The TPACK framework developed by Mishra and Koehler (2006) was developed to understand teachers' knowledge of technology integration (Harris et al., 2017). Figure 3 explains the TPACK model.

Figure 3

The Seven Components of TPACK



Note. This TPACK Model was developed by Punya Mishra and Matthew Koehler in 2006 summarizing the seven components of TPACK. From TPACK.ORG by M. Koehler, 2017 TPACK.ORG. Copyright 2012 by tpack.org.

The TPACK model outlines the specific knowledge for teachers using technology in instructing and learning (Koehler, 2017). TPACK builds on Shulman's (1986) concept of pedagogical content knowledge which includes technological knowledge (Koh, 2020). TPACK evolved from the following knowledge forms: technology knowledge involving being aware of technology and technology tools, pedagogical knowledge involving teaching practice, and content knowledge which involves the understanding of subjects being taught (Koh, 2020). Mishra and Koehler, researchers from Michigan State University, explained that the strengths of the TPACK framework are defined by how the base areas (technological pedagogical knowledge, technological content knowledge, and pedagogical content knowledge) form the seven constituent elements of TPACK:

technological knowledge, pedagogical knowledge, content knowledge, pedagogical content knowledge, technological pedagogical knowledge, technological content knowledge, and technological pedagogical content knowledge (Kurt, 2019). Three theoretical positions have been identified by Jin (2019) as distinctive, integrative, and transformative. The distinctive position suggests that TPACK is the sum of the knowledge base areas of technological knowledge, pedagogical knowledge, and content knowledge; to increase teachers' TPACK use, teachers must increase their knowledge of technological knowledge, pedagogical knowledge, and content knowledge. The integrative position suggests that there is an overlap between technological knowledge, pedagogical knowledge, and content knowledge and suggests that to increase teachers' TPACK, teachers will need to become aware of integrating their technological knowledge, pedagogical knowledge, and content knowledge. The transformative position of TPACK suggests TPACK is new learning gained from past learning experiences that include teachers' opinions and feelings that associate with but are different from technological knowledge, pedagogical knowledge, and content knowledge. TPACK's great influence may be because it is a theoretical framework that reflects on how technology is incorporated into teaching by suggesting an integrated view of teachers' knowledge base needed to implement technology effectively in teaching (Willermark, 2017). There has been some criticism of the TPACK model for not being technically useful. Critics suggest that the concepts of the various realms of knowledge are erroneous and inadequate (Willermark, 2017). A TPACK study conducted in Estonia was to determine if preservice teachers perceived their knowledge of TPACK (Luik et al., 2017). The results of this study revealed that preservice teachers were deficient in terms of

pedagogical knowledge, but the teachers recognized that they integrate technology well (Luik et al., 2017). A study conducted in 2018 focused on improving technology, analyzed how 10 teachers incorporated technology, and determined features and practices for improvement (Hardisky, 2018). The findings concluded that veteran teachers are unwilling to change due to the belief that their current teacher practices are fine, and less-experienced teachers were willing to include technology in pedagogical practices (Hardisky, 2018). Another study of science teachers in Turkey examined the TPACK self-efficacy perceptions of 563 science teachers (Kiray et al., 2018). The findings proved that pedagogical content knowledge is important in teachers' integration of technology, and technological pedagogical knowledge has a significant impact on TPACK self-efficacy perceptions of teachers after pedagogical content; therefore, teachers' abilities to combine pedagogical knowledge with technological knowledge and content knowledge had an effect on TPACK self-efficacy (Kiray et al., 2018).

Social and Emotional Well-Being

The shift to online learning from in-person learning during the COVID-19 pandemic brought some social challenges for teachers. Some of these challenges included the disturbance of school programs and routines, the quick change from in-person teaching to virtual teaching, isolation due to having to be socially distanced from others, and teachers being unclear about their own health and safety (T. Porter, 2020). The Yale Center for Emotional Intelligence in collaboration with CASEL conducted a survey gathering information about teachers' emotional lives during the COVID-19 pandemic, which revealed the five most mentioned feelings: teachers had anxiety, teachers worried, teachers were fearful, teachers felt overwhelmed, and teachers were unhappy (Cipriano &

Brackett, 2020). The reasons for these feelings included teachers having a fear that they or their loved ones would contract the COVID-19 virus and teachers having to maintain their own needs and those of others while working from home and adjusting to using new technology for teaching (Cipriano & Brackett, 2020). Other ways this pandemic impacted teachers were shown when teachers became concerned with factors affecting students such as poor nutrition, isolation, students not being cared for, and inequities (Aperribai et al., 2020). Teachers were also found to be stressed due to not being sure of their responsibilities and how to connect with students to support students' understanding and learning and the rapid shift from the classroom to learning at home using technology (Aperribai et al., 2020). The Education Support (2020) reported that 52% of educators stated that their mental health had decreased during the pandemic (Spalding, 2020). Teachers' mental health can be supported when the environment is respectful, when teachers are given autonomy of voice, when there are opportunities for building relationships, and when goal setting is realistic (T. Porter, 2020). A survey conducted by the CDC (2021a) found that teachers self-reported symptoms that were consistent with clinical depression in 27% of cases and generalized anxiety in 37% of cases. Fifty-three percent of teachers report having thoughts of quitting their jobs in comparison to before the pandemic. In order to cope with the stress of the pandemic, 19% of teachers began or increased their alcohol consumption (CDC, 2021a).

Educators play a unique role in supporting students and colleagues throughout their day; therefore, to maintain this level of support, they must find ways to take care of their own social-emotional well-being. Teachers' well-being can be defined as the response to the environment and social events that determine how educators respond to

their students and colleagues (T. Porter, 2020). Research has shown that students learn when the environment is safe and encouraging, and so do adults (Martinez, 2015). The following can have a negative and positive impact on a teacher's well-being: workload, organizational support, school connections, professional growth, activity satisfaction, and individual experiences including stress, a sense of accomplishment, and happiness (T. Porter, 2020). According to Education Week (2020), stress is overwhelming teachers. When dealing with stress, teachers need to determine ways to bridge their own emotions and feelings before responding to student behaviors and find ways to relax after a busy day as ways of utilizing their emotional intelligence, which helps them to feel better about themselves and the world around them (Martinez, 2015). Since emotions are the center of what teachers do and why they do it, social-emotional competencies are crucial to reducing burnout and increasing teacher well-being (Martinez, 2015). Social-emotional competencies are determined by context. If the work environment is negative, teachers will tend to display negative behaviors; if the environment is positive, teachers will be more apt to manage stress and seek help when needed (Martinez, 2015). In a survey conducted in 2021 by the RAND Corporation, one in four teachers said they had depression symptoms, while the majority of the secondary school principals said their jobs were stressful (Will & Superville, 2022). That stress could trigger a significant outflow of educators if it is not addressed (Will & Superville, 2022). According to a study by a coalition of mental health organizations in New Orleans, educators who were on the job during the pandemic experienced emotional distress at rates similar to those of healthcare professionals: 36% of them tested positive for anxiety, 35% for depression, and 19% for post-traumatic stress disorder (Casey, 2022). Everyone in the school

building, including school administrators, will ultimately benefit from having structural supports for teacher mental health (Will & Superville, 2022). To determine the needs of employees in Colorado, a workplace mental health module has been released by the Center for Health, Work, & Environment at the Colorado Depression Center (Colorado School of Public Health, 2021). This online tool kit allows employers to access the management and workplace policies they have in place to address the mental health of their employees. An evaluation of the workplace culture, employee benefits, education and training, and equity and accessibility is conducted among employers using a survey (Will & Superville, 2022). Recommendations from the survey include all employees should learn how to access available supports for their own mental health needs; schools should set up peer support programs so staff members can learn "how to be allies or "askable" adult colleagues to get the support they need; some teachers or other staff members should be trained to be "champions for mental health within the school district" since it can be intimidating to confide in your boss; schools should establish peer support programs; and all of the information offered should be in multiple languages (Will & Superville, 2022). Another recommendation to support teachers' mental health by Houston's Independent School District's senior manager of crisis intervention is to incorporate calming rooms or a place where teachers could go during their time away from students to calm and relax, and perhaps there could be music and aromatherapy (Casey. 2022)

SEL

Students' mental capacity had been impacted by school closures since students could not participate in mental health services offered by schools during the pandemic

(Terada, 2020). Some students experienced grief and anxiety paired with already existing disparities and inequities during the pandemic (Mason & Glover, 2020). As schools expected an increase in the need for additional support for students' social-emotional well-being, SEL must become a prime concern for educators (Mason & Glover, 2020). CASEL and SEL came about in 1994 from a meeting of researchers, educators, and advocates for children (CASEL, 2021b). CASEL (2021b) defined SEL as how children and adults gain an understanding of controlling their emotions, develop goals, understand and share the feelings of others, and make careful decisions (CASEL, 2021b). CASEL (2021b) addressed five components: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL, 2021b). Figure 4 displays CASEL's (2021b) SEL framework.

Figure 4

CASEL's (2021b) SEL Framework

Note. The CASEL Wheel aids in creating conditions and skills that promote students' learning and growth. (Collaborative for Academic, Social and Emotional Learning, from CASEL.org. By CASEL, 2022). Copyright 2020 by CASEL.

The self-awareness component addresses one's ability to comprehend one's own

feelings, thoughts, and beliefs, as well as how they affect actions in different situations (CASEL, 2021b). The self-management component addresses one's ability to successfully control one's feelings, perceptions, and actions in a variety of circumstances to achieve one's goals and expectations (CASEL, 2021b). The social awareness component addresses one's ability to comprehend and empathize with the experiences of others including those from various backgrounds and cultures (CASEL, 2021b). The relationship skills concept addresses one's ability to form and sustain positive and supportive relationships, as well as manage situations with a variety of people and groups (CASEL, 2021b). The responsible decision-making component addresses one's ability to make thoughtful and constructive decisions about one's own conduct and social relationships in a variety of situations (CASEL, 2021b). To improve all students' social, emotional, and academic learning, this framework takes a holistic approach that stresses the importance of creating inclusive learning environments and coordinating activities across settings (CASEL, 2021b). The SEL framework is believed to be most effective when it is being integrated into the academic curriculum and culture of the school, as well as through school-wide activities and policies, and partnerships with families and community organizations (CASEL, 2021b).

During school closures, many school systems moved to research-based SEL initiatives appropriate for understanding and managing emotions, promoting self-care, guiding families on developing a caring home environment, and being dedicated to remaining connected (Schulund & Weissberg, 2020). A meta-analysis covering three decades of research on SEL reported findings of 213 programs that used the five SEL intervention components to have increased students' academic achievement by 11

percentile points when compared to students who did not participate in SEL programs (Taylor et al., 2017). SEL programs decreased aggression and emotional suffering among students, expanded helping behaviors in school, and enhanced positive attitudes regarding self and others (Taylor et al., 2017). A recent meta-analysis of 82 schools' level SEL programs found advancements in the following four areas: SEL competencies, dispositions, socially responsible conduct, and academic achievement (Taylor et al., 2017). Another study conducted in 2017 found that SEL programs could increase academic levels and promote positive behavior, while decreasing inappropriate behavior, substance abuse, and emotional anguish for elementary school students (Dusenbury & Weissberg, 2017). The COVID-19 pandemic changed how and what was taught in schools, including SEL programs which will not solve all the needs of the educational system but will help school districts prepare students post-COVID-19 (Schulund & Weissberg, 2020). Focusing on SEL and trauma-informed practices can help to improve student academics (Berger, 2018). Trauma-informed practices were in place before the pandemic but became integral due to students' experiences with death, grief, and their family's financial hardships (Terada, 2020).

Social Cognitive Theory

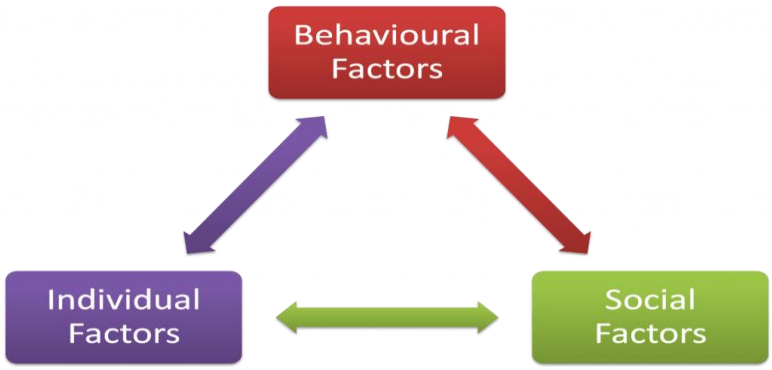
The social cognitive theory states that learning happens in a social context with a dynamic and reciprocal interaction of the person, the environment, and the behavior (Bandura, 1977). The social cognitive theory began in 1960 as the social learning theory and developed into social cognitive theory in 1986. Observational learning is the major theme of social cognitive theory (Vinney, 2020). Bandura claimed that observational learning is where individuals observe and mimic others in their environment, enabling

individuals to learn information rapidly (Vinney, 2020). There are four processes that occur through observational learning: attentional processes, retention processes, productional processes, and motivational processes (Vinney, 2020). Attention process refers to a person learning by attending to modeled behaviors; retention process refers to remembering the observed information so it can be recalled later; production process involves determining how to organize information learned and applying the information; and motivational process determines whether an observed behavior is performed based on an incentive (Bandura, 1989). According to social cognitive theory, human behavior is influenced by the environment or internal factors (Bandura, 1989). When dealing with stress and challenges, people internally develop coping strategies. Bandura (1977) identified self-efficacy from social cognitive theory. Self-efficacy can be defined as an individual's faith in their own capacity to prevail in a specific circumstance. Bandura believed that perceived self-efficacy determines the kinds of behaviors one displays when met with challenges or stressors (Ackerman, 2020). Self-efficacy is thought to have a strong effect on a person's thoughts and emotions (Haney, 2020). Bandura (1977) believed that behavior affects the person and the environment and either influences behavior or each other. The outcome is an interaction of factors known as reciprocal determinism (Bandura, 1977). Social learning theory explains that behavior, personal factors, and environmental factors are equivalent determinants of each other (Bandura, 1977). Figure 5 shows the TRD model. In terms of behavior factors, reciprocal determinism, according to Bandura (1977), is when one's behavior is affected by cognitive components and environmental components (Bandura, 1978). Cognitive factors somewhat describe how events are observed, how they are seen, if they will have lasting

effects, efficacy, and how the information they carry will be ordered for use in the future (Bandura, 1978). The environmental factors involve the context of the behavior (Bandura, 1978). The personal factors involve how a person behaves, including their expectations and their beliefs (Bandura, 1978).

Figure 5

Reciprocal Determinism Model (Bandura, 1977)



Note. The reciprocal determinism model represents Albert Bandura's Reciprocal Determinism showing the connectedness between behavior, individual, and environmental factors. From The two-way street of behavior and environment, by J. Sherwood, 2021, A Little Bit Human. (https://www.alittlebithuman.com/reciprocal-determinism-the-two-way-street-of-behavior-and-environment/).

The reciprocal determinism reveals how the observed behavior affects the interaction of the three determinants: personal, behavioral, and environmental (Bandura, 2002). The personal determinant involves having high or low self-efficacy about behavior; the behavioral determinant involves feedback one receives after performing a behavior; and the environmental determinant involves features of the environment that affect one's ability to successfully implement a behavior (Bandura, 2002). As TRD translates to this research study, the impact of the traumatic experience is dependent on

COVID-19, and COVID-19 is dependent on social distancing, wearing a face mask, and washing your hands. The impact on how a person perceives the traumatic experience is dependent on the environment and the behavior, and the cycle continues. The outcome can be positive or negative and is reciprocal.

Chapter 3: Methodology

The purpose of this phenomenological study was to investigate the impact COVID-19 had on K-5 elementary school teachers' instructional practices, technology preparation, and social-emotional well-being. The participants in this study were elementary teachers working in a north central North Carolina school district. This chapter is divided into several sections that outline the methodology I used. I explain my justification for selecting a phenomenological study design, I provide an explanation of the role of the researcher, I explain the description of the desired participants for this study, I describe the instrumentation that was used in the study, I identify the data collection procedure, and I explain the data analysis process.

Research Questions

The study aimed to answer the following research questions:

1. What impact did COVID-19 have on teachers' instructional practices as they shifted from face-to-face teaching to virtual teaching?
2. What impact did teachers' technology preparation have on the shift from face-to-face to virtual?
3. What is the impact of COVID-19 on teachers' social-emotional well-being during the shift from face-to-face learning to virtual learning?

Research Methodology

A qualitative methodology was used for this study. According to Creswell and Creswell (2018), a qualitative study is an investigation into a social or human problem on the creation of a comprehensive holistic picture using words to describe specific opinions of informants in a natural setting. A qualitative study approach was used because it offers

researchers a wide rationale for studying people's culture-sharing behaviors and attitudes (Creswell & Creswell, 2018). A qualitative approach worked best for this study because its purpose is to understand teachers' experiences and perceptions of instructional practices, technology preparations, and social well-being during COVID-19. Data related to teachers' experiences and perceptions were collected. This type of data collection aligns with a qualitative methodology.

Qualitative research was the better option for this research study over quantitative research for several reasons. One reason is quantitative research focuses on surveys and experiments (Creswell & Creswell, 2018), which was not the goal of this study. Another reason is that this qualitative study methodology allowed me to collect data from participants in their natural settings. I was able to have up close, face-to-face interactions and conversations with participants, and I was able to observe the behaviors and actions of the participants (Creswell & Creswell, 2018). In this study, the focus was on teachers' instructional practices, teachers' technology preparations, and teachers' social well-being during COVID-19. Qualitative researchers get information by inspecting documents, observing behavior, or interviewing (Creswell & Creswell, 2018). Interviews, observations, documents, and audiovisual information are common sources of data for qualitative researchers (Creswell & Creswell, 2018). In this qualitative research, I gathered multiple sources of data such as interviews and survey information. Qualitative research involves inductive and deductive data analysis such as building patterns, themes, and categories gathered from the data (Creswell & Creswell, 2018). Deciding on themes and patterns allowed me to determine a comprehensive set of themes to report in the study. Another reason for a qualitative approach is the holistic account, which is when

qualitative researchers seek to offer a thorough picture of the topic or subject (Creswell & Creswell, 2018). I gathered information from teachers who reflected on real-life events and experiences in terms of instructional practices, technology preparations, and social-emotional well-being during COVID-19.

The purpose, problem, and research questions for this study aligned with the qualitative research method. Understanding the perceptions of teachers' instructional practices, technology preparation, and social-emotional well-being during COVID-19 could best be researched using interviews and a survey to gather teachers' perspectives. Interviews are not an option that is available through a quantitative means of study.

Phenomenological Research

The purpose of a phenomenological research study is to learn about people's real-life experiences with a phenomenon as recounted by them (Creswell & Creswell, 2018). Specifically, this phenomenological study intended to understand teachers' instructional practices, technology preparation, and social-emotional well-being during the COVID-19 pandemic. The interviews and survey responses provided in-depth information about teachers' experiences while teaching during COVID-19. The phenomenological study method allows the researcher to gather information about several individuals who have experienced the phenomenon (Creswell & Creswell, 2018). The task is to investigate a person's lived experiences of a phenomenon while highlighting the phenomenon's universal essence (Neubauer et al., 2019). In order to focus on the participants' experiences of the event and find the essence of the phenomenon, the researcher must suspend their own attitudes, opinions, and suspicions (Neubauer et al., 2019). The sources of data included in this study included open-ended survey questions and

interviews with elementary teachers. These data collection methods contributed to the triangulation of data collection (Creswell & Creswell, 2018). This research relied on the perceptions and experiences of teachers who taught during the pandemic. A key strength of a phenomenological study is that it allows the researcher to describe lived experiences of the participants (Creswell & Creswell, 2018).

Research Design

This research was designed to understand the experiences and perceptions of the participants' instructional practices, technology preparation, and social-emotional well-being during the COVID-19 pandemic. A qualitative phenomenological research format was used in this study. A phenomenological research design allows the researcher to examine a case, event, program, process, activity, or individual (Creswell & Creswell, 2018). The goal of this phenomenological study was to provide data on a certain parameter, in this case, instructional practices, technology preparations, and social-emotional well-being (Creswell & Creswell, 2018). The phenomenological study allowed me to gain an in-depth understanding of the impact that COVID-19 had on teachers' instructional practices, technology preparations, and social-emotional well-being when shifting from face-to-face teaching to virtual teaching.

Role of the Researcher

The researcher gathers data in qualitative research by analyzing documents, observing behavior, or interviewing subjects (Creswell & Creswell, 2018). As the interviewer, I guided the conversation by asking semi-structured interview questions. Contacting and interacting with participants; collecting, transcribing, and analyzing the data; and reporting the findings were all part of my responsibilities. I gathered

information through surveys and interviews. I oversaw getting permission from the school principals, recruiting participants, securing their agreement, sending out the surveys, and organizing interviews with teachers. There was no affiliation with the participants in this study and no research bias because I did not work at the schools where I recruited teachers for these interviews. This method allowed me to investigate the respondents' verbal and nonverbal behaviors.

Participants

The population included K-5 elementary teachers located in a school district in north central North Carolina. The school system includes a population of 2,512 teachers. This school district has 30 elementary schools, and 24 are identified as Title I. The school district allowed two schools to participate in this research study. School 1 has a teacher population of 22, and School 2 has a teacher population of 48. The current study included participant surveys and interviews from only two schools in the district. Both elementary schools serve prekindergarten students. To be eligible for this research study, teacher participants must be certified classroom teachers who are actively teaching and had participated in face-to-face teaching and virtual teaching during the pandemic. A research approval letter was obtained from district-level personnel (see Appendix F). A formal recruitment email invitation was sent to principals and teachers (see Appendix G). The teachers who indicated that they desired to participate in the study survey were asked to agree to an online consent, and those who participated in the study interviews signed a consent form (see Appendices H and I). After signing the consent form, the teachers participated in the survey and interview process. I contacted two elementary school principals to identify participants for this phenomenological study. A maximum of six

participants volunteered to participate. Creswell and Creswell (2018) highly recommended small sample sizes for phenomenological studies. Once participants were identified, I sent out a recruitment email and a consent form (see Appendices H and I).

Instrumentation

As the researcher, I played a variety of roles in this study. First, I created the survey in Qualtrics and sent it to participants to complete. Next, I am the instrument that was used in this research to collect data during video conference interviews scheduled via Zoom meetings. Zoom meetings allowed me to observe gestures without being in the same physical space as the interviewee. Zoom meetings took away the need to be in the same space at the same time; however, Zoom meetings can present issues when technology fails. I provided participants with the option to meet face-to-face as an alternative to a Zoom meeting so that I did not miss an opportunity to gather these data. My role as the interviewer was to lead the discussion by asking questions. In this study, I contacted participants and communicated with them; collected, transcribed, and analyzed data; and reported the results. Data were collected through surveys and interviews. This phenomenological study allowed me to investigate interviewees' verbal and nonverbal behavior. I conducted interviews with teachers to gather data to gain insight into their instructional practices, technology preparation, and social well-being during the COVID-19 pandemic. This research was based on the collection of data from teachers who would have gained these experiences teaching during the COVID-19 pandemic. To identify teachers who have had experiences teaching during the pandemic, I solicited principals to select teachers who had been teaching prior to the start of the August 2021 school year. I developed 15 interview questions (see Appendix J) and six survey questions (see

Appendix K) that were used to measure the impact COVID-19 had on teachers' instructional practices, technology preparations, and social well-being. The interview and survey questions were designed to collect data about teachers' perceptions of the impact COVID-19 had on teachers' instructional practices, technology preparations, and social well-being during face-to-face learning and virtual learning during COVID-19. The results of this study assisted me in determining the teachers' instructional practices, teachers' technology preparations, and teachers' social-emotional well-being before and during the pandemic. The interview and survey questions were open-ended questions intended to elicit information regarding teachers' perceived teaching practices, teacher preparation, and teacher social-emotional well-being prior to and during the COVID-19 pandemic. The research questions were designed to investigate the impact COVID-19 had on teachers' instructional practices, technology preparation, and social-emotional well-being during the shift from face-to-face teaching to virtual teaching. Research Question 1 which addresses instructional practices is linked to Bandura's social cognitive theory (Bandura, 1989) and TRD (Bandura, 1977). Research Question 2 addresses technology preparation and is linked to the TPACK framework (Mishra & Koehler, 2006). Research Question 3 addresses social-emotional well-being and is linked to Bandura's (1977) social cognitive theory and the SEL framework (CASEL, 2021a). The COVID-19 pandemic is linked to disaster theories: Heinrich's Law (Sridharan, 2021), Normal Accidents, and-Complexity (Kim & Sohn, 2017). Table 2 shows the alignment table, which outlines the research questions with the instrument used, and shows the data that were collected.

Table 2

Alignment Table

Research questions	Instrument	Data collection	Instrument	Data collection
1: What impact did COVID-19 have on teachers' instructional practices as they shifted from face-to-face teaching to virtual teaching?	Survey	Survey Questions 1 and 2 which address instructional practices	Interview	Interview Questions 1-5 which address instructional practices
2. What impact did teachers' technology preparation have on the shift from face-to-face to virtual?		Survey Questions 3 and 4 which address technology preparation		Interview Questions 6-10 which address technology preparation
3. What is the impact of COVID-19 on teachers' social-emotional well-being during the shift from face-to-face learning to virtual learning?		Survey Questions 5 and 6 which address social-emotional well-being		Interview Questions 11-15 which address social-emotional well-being

Data Collection

I applied for and received district approval to conduct the study once my proposal was accepted by completing the necessary paperwork and submitting it to the office of research and accountability. I distributed the survey to two administrators and asked them to distribute it to the teachers at their respective schools (see Appendix H). A link to show interest in taking part in an interview was included in the email. I conducted an approximate 30-60-minute interview via Zoom with six participants. Before the interview, I provided the participants with a list of interview questions so the participants were prepared to answer the interview questions prior to the interview. With the

permission of the participants, I recorded the interview using the Zoom application. All interviews were saved and secured in a zip-locked folder on my personal computer. The participants were required to acknowledge that they understood the confidentiality statement before they were allowed to take part in the interview. The participants were made aware that they could leave the interview at any time. I collected demographic information from the survey, which was held anonymous.

Data Analysis

Themes and patterns that arise from data are interpreted by researchers (Creswell & Creswell, 2018). I analyzed my participant's interviews by coding and categorizing ideas and concepts. To check the validity, I had the participants check my analysis to see if it accurately reflected the opinions of each participant and what they expressed in the interview (Creswell & Creswell, 2018). I also had a colleague review the document to check for accurate codes, categorizing of ideas, and themes. This colleague is a principal. She earned her Doctor of Education (EdD, Educational Leadership and Administration) from High Point University where she used the qualitative research method to gather data from elementary, middle, and high school administrators.

The Coding Process

The coding process began with me open coding or looking at the data and determining keywords or phrases to summarize the paragraph. Next, I looked for repeated ideas, keywords, themes, concepts, or categories within the data. The more times a notion, keyword, or phrase was used by the participants, the more important it became. I read through the transcript several times while coding. To summarize portions of the coding, I made some linkages between ideas and keywords. These summaries aided in

the identification of key themes for each research question. I highlighted terms that supported the themes or categories determined in the first round of coding during this phase. Thematic analysis coding began once two rounds of coding were completed. During thematic analysis coding, I focused on themes and patterns across the data. I was able to validate that the responses supported the themes and patterns established during the earlier rounds of coding during the re-reading. A focus of thematic analysis coding is identifying patterns in meaning across the data (Devle, n.d.) During this phase of coding, I was able to make more links and thus use more open coding. I coded responses for each survey and interview question separately. This allowed me to understand the themes for the research question and any other themes that arose from each question. While coding the interviews, I continued to look over previous surveys and interviews, comparing the current data set to the old data set for common codes and themes across all the survey and interview data. For instance, after completing the coding for the second survey and interview, I went back over the initial survey and interview transcript, adding new information from the second interview. This process was repeated, allowing me to adjust themes as needed. This made it easier for me to find themes. The technique was completed without the use of any coding software. Each coding round was completed by hand.

Summary

This chapter's objective was to describe the research method used to address the research questions. A discussion of the procedure, study participants, instrumentation, and data collection outlined the specifics of how this study was carried out and who participated. A qualitative phenomenological investigation was used to develop a theory

about the impact COVID-19 had on teachers teaching virtually during the pandemic. By sharing their personal experiences and opinions about teaching virtually, all participants contributed to this idea.

Chapter 4: Results

Educational institutions closed down to prevent the spread of COVID-19, and many schools and universities switched to video conferencing systems such as Zoom and Google Meet (De' et al., 2020). This phenomenological research study was conducted to understand teachers' teaching experiences focusing on teachers' instructional practices, technology preparedness, and social-emotional well-being while teaching during the COVID-19 pandemic. The first three chapters provided information about the COVID-19 pandemic and its impact on teaching and learning; a review of literature on natural disasters and their impact on education, technology, and SEL; and a description of the methods used to conduct the research. This chapter includes a description of the data, an explanation of the data analysis, and findings in relation to each research question. Qualitative data are reported in regard to the research questions.

Overview

This study utilized qualitative data to answer research questions related to teachers' instructional practices, technology preparedness, and social-emotional well-being while teaching during the COVID-19 pandemic. The research questions guiding this study were

1. What impact did COVID-19 have on teachers' instructional practices as they shifted from face-to-face teaching to virtual teaching?
2. What impact did teachers' technology preparation have on the shift from face-to-face to virtual?
3. What is the impact of COVID-19 on teachers' social-emotional well-being during the shift from face-to-face learning to virtual learning?

Research Question 1

Research Question 1 was, “What impact did COVID-19 have on teachers’ instructional practices as they shifted from face-to-face teaching to virtual teaching?” Due to the fact that many teachers and students in Grades K-12 had little experience with online instruction, it is unclear how effective virtual learning was (Kuhfeld et al., 2020). The goal of this research question was to determine what impact COVID-19 had on teachers’ instructional practices.

Qualitative Data

According to Creswell and Creswell (2018), qualitative research methods are often used to investigate issues where little is known about a phenomenon. Data responses were gathered from a survey and an interview. The results from the survey included 25 responses from elementary educators, and the results from the interviews included six responses from elementary educators. Research Question 1 stated, “What impact did COVID-19 have on teachers’ instructional practices as they shifted from face-to-face teaching to virtual teaching?” To answer this question, I concentrated on the responses to Survey Questions 1 and 2 and Interview Questions 1-5. Twenty-five survey respondents and six interview respondents responded to the questions. Eight themes were found in the responses: use of technology, collaborative groups or small groups, communication, communication using technology apps, setting expectations, not prepared, prepared, and district technology resources.

Theme 1: Use of Technology. Use of technology to support instructional strategies was a theme that emerged from the survey and interview responses. Twenty-one survey participants identified use of technology as an instructional strategy that

supported their remote instructional delivery during COVID-19. Five of the six interview participants, or 83%, indicated that the use of technology was a technique used to teach virtually during COVID-19. Table 3 identifies the types of technology teachers used to teach during COVID-19.

Table 3

Use of Technology

Types of technology used	Survey participant responses	Types of technology used	Interview participant responses
Zoom and SeeSaw	2, 20, 21, 22, 25	Online Videos	2
Google Classroom	3, 20, 21	Zoom	3, 4, 5, 6
Online Resources	4, 9	SeeSaw	4
Tiktok and Youtube	5	Google Classroom	5
Canvas and Google Slides	6, 8, 13, 14, 24	Canvas	5
Canvas	7, 10	ClassDojo	5
Onscreen Recordings	11	Ed. Puzzle & Study Island	6
Creating digital content, and digital field trips, Nearpod, Kahoot, and Quizziz	13, 14	Zoom breakout rooms	1,2, 3, 4, 6
Power point slides and online activities	16	Lanschool	6
Zoom polling and Zoom breakout rooms	18	iReady, Eureka Math, Khan Academy	5
Teams	21		
Google meet	22		

Multiple participants explained the techniques they used to teach virtually during

COVID-19. Survey Participant 8 wrote, “I used Canvas and Google Docs for classwork and assessments.” Survey Participant 13 wrote, “Creating digital content, digital field trips, Canvas, Nearpod, Kahoot, and Quizziz.” Survey Participant 18 wrote, “I used Zoom polling. Zoom breakout rooms were helpful to work one on one with my students.” Interview Participant 1 said, “We did a lot of engagement activities with the students even though we weren’t there together, but using the computers, we were able to interact together online which the students enjoyed.” Interview Participant 4 stated,

> The techniques that I used to teach during COVID-19 was Zoom. Zoom is what I used and then while in my home I turned my room into a bit of a classroom so I had the school board that students could view on my screen. I used a lot of Seesaw and a lot of visual aids.

The use of technology was a widely used strategy by teachers during the COVID-19 pandemic. The use of technology and virtual learning transformed how teachers planned for their student groupings. Not only did teachers use technology to teach content areas, but teachers also used technology to incorporate collaborative groups during COVID-19.

Theme 2: Collaborative Groups. Teachers decided which strategies worked well when supporting learning at home. Teachers used student learning styles to determine the best ways to interact with students to ensure that their learning styles were met. Since teachers were using more technology to communicate with students during the pandemic, it was important to inquire about how teachers supported individual instruction and small group instruction from both the survey and interview respondents.

Five teacher interview participants, or 83%, stated that they used breakout rooms

to provide individual instruction and small group instruction while monitoring other students who were completing seatwork while teaching virtually during the pandemic. The teachers indicated that the breakout rooms were a good resource to have which allowed them to monitor instruction. Interview Participant 1 said, “The Zoom rooms helped. I would put students in the rooms to work and could pop in to check in on them to see if they need help with their task.” Interview Participant 3 detailed,

> What I would do for small group is create breakout rooms. I would let students in the whole group know that I would instruct them on their assignment. My students knew what to do on SeeSaw independently. While students worked on SeeSaw, I worked with students in breakout rooms during guided reading sharing my screen, which showed a passage that students had to read.

Interview Participant 4 stated,

> I was able to jump into zoom breakout rooms while I left my assistant with the whole group. I tried to keep everything as close as possible to what I would do if we were in person. I would meet with students individually or in small groups and so would my assistant.

Interview Participant 5 shared,

> My instruction really didn’t change from in the classroom except for using breakout rooms in Zoom. I still had a small group that I would be working with while I would have another small group working on Khan Academy, and another small group working on iReady or Eureka Math going over videos that were previously used. What I really liked about COVID-19 was that it gave me a chance to make sure that I could teach the lesson. Also, the math curriculum that

> we used had lessons that would teach the students. Also, if the students needed that more focused instruction then they were able to get it during the small group instruction provided in the breakout rooms.

Survey Participants 10, 12, 18, 19, and 23 also indicated the use of Zoom breakout rooms as an instructional strategy to address individual and small group instruction. Survey Participant 10 wrote, “The instructional strategies that I used last year was Canvas, Cooperative grouping in breakout rooms.” Survey Participant 18 wrote, “I use Zoom polling to get students engaged in their learning. Also, the Zoom whiteboard for assessing students and communication. The breakout rooms were helpful to work one on one with my students.”

The use of Zoom and Zoom breakout rooms identified in the surveys aligned with the use of Zoom breakout rooms in the interviews. Zoom breakout rooms and assigning independent tasks as a strategy to support students in either individual or small groups while monitoring other students who were completing seatwork proved to be a trusted and reliable resource that was available to support teachers' instructional practices as they shifted from in-person teaching to virtual teaching.

Theme 3: Communication. Another theme that arose from the data was communication. Teachers must be skilled at listening to their students and at clearly articulating concepts to students. Communication during COVID-19 was important since teachers relied on technology as a resource to teach concepts. Both interview respondents and survey respondents mentioned communication as an instructional strategy that they used during COVID-19. Interview Participant 1 said,

> I thought it would be important with the students to keep them engaged. One

> strategy that I also use with the computer is being able to communicate and being able to use resources and tools that we can interact together and still be engaged.

Interview Participant 4 said,

> Wow, I learned so much during COVID-19. I had to actually learn how to Zoom. I had to actually learn how to do slides, upload information to children to communicate in SeeSaw. I had to actually learn that first. I taught myself so that I can teach my children.

Survey Participant 4, wrote, "Keeping the students focused by communicating the task." Survey Participant 9, wrote, "I made sure that my communication was clear without a lot of lecturing." Technologies such as Zoom, Google, Teams, and LMS have made communication between the teacher and students more effective and productive. Technology applications were also a form of communication that was used between teachers and students during COVID-19.

Theme 4: Communication Using Technology Applications (Technology Apps or Apps). COVID-19 accelerated the spread and use of technology and technology applications or apps by educators. Teachers used many technology apps to communicate with students while teaching virtually during COVID-19. Communication using technology apps was another theme that emerged from the data.

Interview Participant 6 said, "I did gain a lot of technology strategies. I used online apps that I had never used before such as Nearpod, PearDeck, Study Island, Eureka, and Jamboard." Interview Participant 3 said, "The strategies I gained from teaching online is using more technological resources that I wouldn't have necessarily used in person. I used the Canvas Learning Management System and I used Screencastify

to make videos."

Participants provided several examples of strategies that they gained while teaching online; as a result, teachers' use of several technology resources impacted teachers' instructional practices as they shifted from face-to-face teaching to virtual teaching. Communication was a reliable resource that teachers and students used during the pandemic. The themes of communication and communication using technology apps to support learning were aligned in the survey and interview data.

Sixty-eight percent of the survey respondents, or 17 of 25, identified communication using technology apps as a strategy gained from teaching virtually during COVID-19. Survey Participant 2 wrote, "The instructional strategies which supported my remote instructional delivery was Zoom and SeeSaw," while Survey Participant 14 listed "Canvas, Nearpod, SeeSaw, Kahoot, and Quizizz." Survey Participant 21 listed "Google Classroom and Teams." The interview data revealed that teachers used the Canvas LMS, Google, and Powerpoint Slides as sources of communicating with their students as a strategy. The surveys revealed that teachers used the following apps as other strategies to communicate with students while teaching during COVID-19: Zoom, SeeSaw, Tiktok, Youtube, Nearpod, Kahoot, Quizziz, and Teams.

Theme 5: Setting Expectations. Setting expectations in the in-person classroom setting helps to guide and prepare students for learning. This is also true for the virtual learning environment. Setting expectations was the next theme identified in the participant responses. Interview Participant 3 stated,

> The techniques that I used to teach during COVID-19 were going over routines with my students and trying to make sure that they knew my expectations. I

> wanted to make sure they knew what they were responsible for during instruction and during instructional time.

Interview Participant 5 shared,

> The techniques that I used virtually during COVID-19 were first set the expectations of what I would like to see happen on Zoom and even if I was not on Zoom. The expectation that I needed to see on Google classroom or Canvas. I gave students instructions on what needed to be completed.

Survey Participant 17 wrote, "Establishing positive relationships with students and families, providing a routine, increasing student engagement, continuing to provide rigorous instruction while following pacing guides, and most importantly classroom management was key in setting my expectations." Setting expectations came from teachers wanting to ensure that students knew what was expected of them as scholars.

Other strategies that were implemented during the pandemic were mentioned in the surveys and interviews. It is important to recognize that teachers did experiment with other teaching methods throughout the pandemic. Teachers also mentioned ongoing feedback, pairing higher-level ability students with lower-level ability students, clear communication, gradual release, higher order thinking skills, activating strategies, routines, classroom management, and the use of visuals, which are other strategies that connect and coincide with the use of technology, collaborative groups, communication, and setting expectations.

These survey and interview responses show that teachers used familiar teaching strategies, which influenced teachers' instructional delivery while teaching remotely during COVID-19 with technology resources being used more widely. During the

pandemic, technology was used to support learning. Teachers adjusted by incorporating computers, the Internet, smartphones, social media, and tablets into their daily routines. To support learning, various instructional strategies were used (Schleicher, 2020). The survey and interview data revealed that teachers used the following instructional strategies to teach during the pandemic: use of technology, collaborative small groups, communication, communication using technology applications, and setting expectations. Seeing that teachers' teaching behaviors changed while providing instruction during the COVID-19 pandemic by incorporating more technology into their daily lessons, these behaviors fit into Bandura's (1989) social cognitive theory because these teachers can be seen as people who have influenced their environment as well as have been influenced by their environment using instructional practices that they were already familiar with while teaching students in-person to teaching learning standards virtually or remotely. Bandura (1977) believed that people are products and producers of their environment. Through the pandemic, teachers continued to use familiar teaching strategies to support instruction. These strategies in turn impacted students' abilities to have access to educational support from a teacher or have access to resources that were available and provided by a teacher.

Research Question 1 addressed teachers' instructional strategies as teachers shifted from teaching in-person to teaching virtually or remotely due to the pandemic. In a similar manner, social cognitive theory gives a framework for understanding how people are shaped by their surroundings (Vinney, 2020). Bandura (1977) introduced the concept of self-efficacy to social cognitive theory, which included mastery of experience, which is one source of the four sources of self-efficacy (Vinney, 2020). Mastery of experience is having previously completed a task successfully which gives one more

confidence to take on and overcome challenges in the future (Middleton et al., 2018. Teachers were able to apply similar or the same instructional practices that they had used previously while teaching in person to teaching virtually during COVID-19. For example, teachers used visual aids, independent instruction, and small group lessons; conducted guided reading; and formed collaborative groups while teaching in-person and while teaching virtually. Research Question 1 also investigated teachers' preparedness to provide remote instruction while teaching during the COVID-19 pandemic.

Teacher readiness to provide remote instruction or teach online was explored during this research. To help answer Research Question 1, "What instructional strategies supported your remote instructional delivery during COVID-19," I focused on the responses to Survey Question 2 and Interview Questions 1-5 to gather data from the responses. Twenty-five survey respondents were asked to respond to Survey Question 2, and six interview participants were asked to respond to Interview Questions 1-5. Three themes were identified in the participants' responses to include not prepared, prepared, and district technology support provided.

Theme 6: Not Prepared. The COVID-19 pandemic had a significant impact on the way teachers delivered instruction, as it abruptly changed from an in-person learning environment to an online format. There were mixed feelings among teachers in regard to their preparedness to provide remote instruction. Sixteen of 25 survey respondents stated that they were not prepared to provide remote instruction during COVID-19. Survey Participant 2 wrote, "I was not prepared for remote instruction however, I was a fast learner. I learned a lot by watching PD from North Central, North Carolina Public Schools, talking to other educators, and YouTube." Survey Participant 7 wrote,

> Not really prepared. We were thrown into it and had to self-teach all of the strategies we used. It was incredibly overwhelming and stressful. We were required to do so much and had to contact parents daily, which added so much to our workload.

Participant 8 wrote, "I would say I was not very prepared. I was learning the new LMS site the week before we started school. I wish the district had given us more of a plan before we started." Participant 10 wrote, "The sudden lockdown did not give me enough time to get fully prepared, however, I researched online strategies and techniques to give extra support to students." Participant 6 said,

> Not at all prepared, so I learned a whole lot along the way. I was not prepared to teach virtually, so using my co-workers that knew more than I did about virtual teaching helped. Some of the software was very beneficial. Zoom was a trial and tribulation, but I made it.

Participant 4 indicated, "I wasn't prepared at all sorry to say. I had to do a lot of on-the-job training quick. I had to learn because I had 22 children depending on me for their education." Although several teachers responded that they were not prepared to teach remotely during COVID-19, some teachers' responses differed based on prior knowledge and/or experiences.

Theme 7: Prepared. While some teachers may not have been prepared to deliver instruction remotely during the pandemic, some teachers felt comfortable and were prepared. Prepared was the next theme that arose from the data. Survey Participants 11, 12, 15, and 17 stated that they were prepared to provide remote instruction during COVID-19. Participant 11 wrote, "My tech skills and past understanding of learning

management systems helped me; however, it was a curveball learning Zoom and Canvas." Survey Participant 12 wrote, "In the beginning (March 2020), I was vaguely prepared. As more professional development was provided, I was better equipped by August 2020." Survey Participant 15 wrote, "I was very prepared. It required daily prepping of my google slides." Survey Participant 17 wrote, "I felt prepared to provide remote instruction to my students." Interview Participant 1 said,

> Oh, my goodness, at first, I was like I don't know. I don't know how I am going to keep the kids engaged. I don't know how I am going to communicate with parents. It ended up being a lot of fun after lots of Zoom meetings and professional development through DPS; I became more confident and comfortable.

Interview Participant 2 stated, "At first not at all, but once we got into our training, more professional development, I was able to begin planning my lessons and manipulate technology more so that I could teach virtually." Training sessions helped teachers to prepare to deliver instruction remotely. After being offered resources to support teaching remotely, some teachers did indicate that they were prepared to deliver instruction remotely during the COVID-19 pandemic. The school district provided teachers with some materials such as computers and technology applications to help with their delivery of instruction remotely.

Theme 8: District Technology Resources. District technology resources was the last theme that emerged from the data. Survey Participants 2 and 18 shared personal reflections about the district's technology support. Survey Participant 2 wrote, "I was not prepared for remote instruction however, I was a fast learner. I learned a lot by watching

PD from North Central, North Carolina Public Schools, talking to other educators, and YouTube." Survey Participant 18 wrote, "I was not so prepared when we first started remote instruction." Interview Participant 4 said, "I had to do a lot of on-the-job training quick. The district provided support throughout the year with PD to assist us." Teachers stated that after being offered resources to teach, they were better equipped to teach virtually during COVID-19. Participant 2 stated, "At first not at all, but once we got into our training, more professional development, I was able to begin planning my lessons and manipulate technology more so that I could teach virtually."

Teachers were not equipped to teach online, according to many EdWeek online questionnaires taken by teachers in March 2020, and a large number of students did not connect or log on to complete class assignments or tasks (Middleton, 2020). Research Question 1 addressed the online EdWeek online questionnaires, as the majority of teachers were not prepared for remote instruction. Survey Items 3 and 4 connect to the TPACK framework, which describes the knowledge set required to teach a subject, teach the subject successfully, and use technology (Mishra & Koehler, 2006). Understanding the components of the TPACK framework further informs technology integration. Some survey and interview participants mentioned that they felt somewhat prepared and others extremely unprepared to provide remote instruction during COVID-19.

Most of the teachers, 21 of 25, identified the use of technology as an instructional strategy used to teach virtually during COVID-19; however, many teachers felt unprepared to teach during the pandemic. The district provided teachers with resources to support their use of instructional strategies including materials and professional development. Zoom was a popular resource that was used by teachers since it provided

teachers with tools such as breakout rooms, polls, whiteboards, chat features, and screen sharing. Survey Participant 18 wrote, “I use Zoom polling to get students engaged in their learning. Also, the Zoom whiteboard for assessing students learning and communication. The breakout rooms were helpful to work one on one with my students.” Online resources seemed to help teachers as they adjusted to virtual learning. Survey Participant 1 wrote, “I was not prepared at all but taught myself very quickly how to use various tools using the digital platform, KYTE Learning Site [provided by the district].”

In addition to asking about being prepared to teach virtually, the six interview participants were asked, “What should your school district do to better prepare you to teach virtually?” The responses to this question were used to inform Research Question 1, “What impact did COVID-19 have on teachers’ instructional practices as they shifted from face-to-face teaching to virtual teaching?” Five themes emerged from the interview data: training or professional development, technology workshops, provide a virtual learning day, internet, and Wi-Fi.

Two teachers indicated that training or professional development was needed to better prepare them to teach virtually. Interview Participant 1 said, “I think they need to do a little bit more professional development for teachers.” Interview Participant 6 shared, “I need a whole lot of training. We need a whole lot of training to be prepared for something like this again.”

Technology workshop was a theme that arose from the responses. Participant 1 said, “I think they needed to train teachers a little more on how to use the technology tools.” Participant 4 stated, “Workshops, that’s basically all they could do. Make sure that we were up on all the technology. Make sure we know how to do different things on the

computer."

Another theme that emerged from the data was to provide a virtual learning day. Participant 5 highlighted virtual days, stating,

> I think something the district can do to help or teach us and better prepare us in case something happens again is to provide the virtual learning days. We had Wellness Wednesday. Virtual days will be a great state just in case another variant takes us back. We can be well prepared by making sure that students log into Zoom and have a learning day at home since some students haven't logged into online class in a long time.

The Internet was another theme that arose from the data. Participant 6 noted, "We need to be better prepared with technology mainly the internet because we were using our own internet access and if we did not have it then we would not have been able to teach."

The last theme identified in the data was Wi-Fi. Participant 6 said, "They could have prepared us with some Wi-Fi. They did not do it for us, but they did for the kids." The data continue to show that there is consistency with responses to the interviews and surveys as teachers pointed out that they would need professional development, training, or workshops using technology tools and technology resources in preparation for a pandemic.

Summary of Findings

Overall, regarding Research Question 1, "What impact did COVID-19 have on teachers' instructional practices as they shifted from face-to-face teaching to virtual teaching," in this sample, it was revealed that COVID-19 did have an impact on teachers' instructional practices. The qualitative survey data and interviews did align. The themes

that arose in the qualitative survey data included use of technology, collaborative groups or small groups, communication, communication using technology applications, setting expectations, not prepared, prepared, and district technology resources.

To gather data to support Research Question 1, Survey Questions 1 and 2 and Interview Questions 1-3 identified instructional strategies that supported teachers' remote instructional delivery. The survey results and the interview results were consistent. One instructional method that assisted with remote instruction during COVID-19 was the use of technology, according to 21 survey respondents and several interview respondents. Teachers had different approaches as to how to teach subjects. Teachers used a variety of methods to teach their subjects, which may have been attributed to their lack of technology expertise, understanding of online teaching, personal problems, or experiences with illnesses or death (Middleton, 2020). Some educators led synchronous sessions with students, while other educators created and used asynchronous videos for instruction (Middleton, 2020).

Survey Question 2 and Interview Questions 4 and 5 provided insight into teachers' preparation as they taught during COVID-19. According to the study, 16 of 25 survey respondents were not ready to teach online during COVID-19, and two of six interview respondents also revealed that teachers were not ready to teach online during the pandemic. During the interviews, some participants did mention using Google Classroom before the pandemic. There was a wide disparity in access to technology nationwide, and many teachers and students in Grades K-12 had no experience with online instruction (Kuhfeld et al., 2020). The survey data and interview data results also showed that after obtaining district support, teachers were more prepared to teach

electronically during COVID-19. The data from the surveys and the interviews also showed that after taking part in professional development and training sessions, teachers felt at ease and were better equipped to teach online. Information and communication technology professional development was indicated as being necessary by 18% of respondents, according to the data from the TALIS survey that collected information on it (Schleicher, 2020).

A great number of survey participants, 21 of 25, or 84%, indicated that they used technology resources as instructional strategies to teach virtually, and five of six interview participants, or 83%, also reported using technology instructional strategies to teach virtually. When a variety of instructional strategies are represented by technology, this is called technology integration (Liu et al., 2017). Table 3 identified 30 technology resources that teachers used as instructional resources. Further, the interview participants indicated specifics about being prepared to teach and how the district can better prepare teachers to teach in a pandemic, such as providing technology training or workshops as a source of support. The school district provided teachers with professional development that taught them how to use and incorporate technology tools during COVID-19. The TPACK model supports this learning as teachers were made aware of technology tools identified in Table 3.

Research Question 2

Research Question 2 was, “What impact did teachers’ technology preparation have on the shift from face-to-face to virtual?” Qualitative data were used to investigate this question. The goal of this research question was to determine what impact teachers’ technology preparation had on the shift to virtual learning. To answer this research

question, I focused on two survey questions, Survey Question 3 and Survey Question 4.

3. Describe the technology support provided by your district to support your technology preparation during COVID-19.
4. What steps should your district take to prepare teachers for technology in future pandemics?

I also focused on Interview Questions 6-10:

6. Describe how you have used technology in your classroom during COVID-19.
7. How prepared were you to integrate technology during COVID-19?
8. Explain to what extent technology has changed the way you provide instruction to students during COVID-19.
9. Describe any specific technology professional development that you feel prepared you to implement technology into your classroom during COVID-19.
10. What should your school district do to better prepare you to integrate technology?

There were 25 responses to the survey and six responses to the interview questions. Six themes were found in the responses: professional development, online tools and resource materials, technology preparedness, more technology usage, an LMS, and ongoing training.

Theme 1: Professional Development

Professional development was a theme that emerged from the survey and interview responses. The participants provided detailed responses that outlined their firsthand encounters with the phenomenon and provided more insight into what impacted

their technology preparedness. Ten of 25 of the survey participants, or 40%, indicated that professional development had an impact on teachers' technology preparation on the shift from face-to-face to virtual and four of six interview participants indicated that professional development had an impact on teachers' technology preparation on the shift from face-to-face to virtual.

Technology integration in K-12 classrooms can be successful if teachers have received the necessary professional development, teachers are confident in the implementation process, software is easily available, and school and district support is in place (Kim & Jang, 2020). It is important to have ongoing and regular opportunities to learn and grow. Professional development is a way to keep teachers knowledgeable on new approaches to how children learn, new technology tools and devices for the classroom, and fresh curriculum materials (Chen et al., 2019). Several participants mentioned professional development in their survey and interview responses. Survey Participant 14 wrote, "The district provided technology support through the KYTE website. It offers self-paced professional development videos on various tech topics. I learned so much by completing courses on topics of interest that help with providing instruction." Survey Participant 20 wrote, "We also were provided with professional development and time to learn the resources." Interview Participant 1 stated,

> In the beginning, I was a little nervous about using technology and technology integration, I especially wanted to see strategies and wanting to see their answers, but again looking at the resources that the district provided for us it became very easy. I used tools that we can interact together (Jamboard), we can work together, we can collaborate on different projects together after using Google Classroom, so

> yeah, I was very prepared after I did PD and understood the options that were out there for teachers.

Interview Participant 5 stated,

> After PD, I think that I used more technology than I did based on the pandemic. One thing I know, we never know when it can happen again so I continuously make sure students know where to go and how to use technology. This goes for all of my students ESL, newcomers, and refugees. The first day of school, I had a student from Honduras. He came over and day one I had him to make sure he knew how to get to on this, our learning platform and I showed him what goes on this platform, so I think the extent of making sure everyone is aware of how to use the technology and where to go is important.

North Carolina adopted the NC Digital Competencies in 2019 (EdSurge, 2019). These competencies were designed to give schools of education, school administrators, and classroom teachers a framework for the abilities they would need to provide high-quality, integrated digital teaching and learning (General Assembly of North Carolina, 2013). Survey Questions 3 and 4 and Interview Questions 6-11 link to the TPACK framework. The major variable that encourages technology integration is TPACK.org. This framework offers a model that helps teachers determine how their knowledge domains interact to effectively teach and engage students using technology (Willermark, 2017). It entails some preplanned educational opportunities for educators to learn and develop (Uslu, 2018). The school district provided teachers with professional development, which specifically focused on technology integration. When asked about professional development in the TALIS study, 18% of participants claimed they needed to increase

their understanding of information and communication technology (Schleicher, 2020). Not only did teachers participate in professional development, but teachers were also provided with and used online tools and resource materials to support learning. Because of this, it is important to note the evidence of TPACK.

Theme 2: Online Tools and Resource Materials

Access to online tools and resources was not an issue since the school district provided teachers and students with laptops, Chromebooks, and hotspots. Online resources seemed to help teachers as they adjusted to virtual learning. Online tools and resource materials were the second theme that arose from the data responses. Eight of the 25 survey participants reported that the school district provided online tools and resource materials to support teachers' technology preparedness, and four of six interview respondents reported that the district provided online tools and resources to support teachers' technology preparedness. Some of the online resources mentioned included Zoom, Google Slide, Headsprout, Drawing Tools, Lanschool, iReady, and Eureka. Survey Participant 7 wrote, "The district provided Lanschool to monitor students' internet activity during school hours, Epic, eBooks, Peardeck, and Nearpod which were used to create interactive google slides and Zoom to hold online classes." Survey Participant 20 wrote, "Teachers were provided with subscriptions to many different online tools." Interview Participant 1 said,

> I used technology tools for all subjects. The drawing tools that was provided to me and the students let me see how students used their strategies in math. We did virtual field trips so I actually loved using the tools that we had on Zoom.

Interview Participant 3 said,

> Google slides was very helpful for the grade level that I taught. I felt that it provided a visual for students if I needed to share the screen during virtual instruction. The slides are still helpful to have an actual visual, and we are using iReady and Headsprout.

Teachers and students were forced into new digital learning settings because of the stay-at-home orders (Michel, 2020). It is unclear how effective virtual learning was because many K-12 teachers lacked experience with online training, and there were significant regional differences in access to technology (Kuhfeld et al., 2020). Technology leaders must have the skills and knowledge to enable a technology-rich environment for technology to succeed. NETP advocates for solid infrastructure in educational institutions that support internet speeds, digital learning, professional development activities, and electronic devices for both teachers and students (U.S. Department of Education, n.d.). Teachers stated that online resources supported their implementation of the curriculum. Beyond describing the online tools and resource materials that were used in the classroom during COVID-19, 25 survey participants and six interview participants were asked about technology integration.

Theme 3: Technology Preparedness

Technology preparedness was another theme that arose from the participants' responses. Eight of the survey participants and two of the interview participants indicated that they were prepared to integrate technology during COVID-19. Fifty-two percent of the survey participants indicated that they were not prepared to integrate technology during COVID-19, and 66% of the interview participants indicated that they were not prepared to integrate technology during COVID-19. Survey Participant 15 wrote, "I was

very prepared. It required prepping of my google slides." Interview Participant 5 shared,

> I was prepared. I like technology. I think students relate to technology a lot, especially with all of the social media that's growing. Me being one of the younger teachers, I think that I understand social media and how it can play a positive role in the classroom.

Teachers also mentioned that they were not prepared to integrate technology during COVID-19, or they were not initially prepared to integrate technology, but their feelings changed after receiving professional development. Survey Participant 7 wrote,

> Not really prepared. We were thrown into it and had to self-teach all of the strategies that we used. It was incredibly overwhelming and stressful. We were required to do so much and had to contact parents daily, which added so much to our workload.

Survey Participant 12 wrote, "In the beginning (March 2020), I was vaguely prepared. As more professional development was provided, I was better equipped by August 2020." Interview Participant 4 reflected,

> I wasn't prepared at all. I had to prepare myself. Luckily, the school system started offering weekly workshops. Almost daily, they were showing us something new that we could add in and that was a quick learn. I took those workshops so that I could master the skills and I ended up working with colleagues until I learned enough and mastered it.

According to Hanover Research (2022), setting a vision, designing a technology integration strategy, delivering personalized professional development, integrating technology into daily instruction, and reviewing technology implementation are all part

of the technology integration process. Hanover Research aligns with the TPACK framework identifying with the key components. Integrating technology connects with the technological knowledge portion of TPACK where one must be knowledgeable and skillful enough to use and apply technology. Designing a technology integration strategy connects with the pedagogical knowledge portion of TPACK. Delivering personalized professional development connects with content knowledge. As teachers were provided with more professional development, they felt better prepared to use technology. Being prepared to integrate technology also required more technology usage by teachers and students.

Theme 4: More Technology Usage

More technology usage was another idea that materialized from the survey and interview responses. More computer usage using online presentations helping to make direct connections was identified as to how technology has changed the way teachers provide instruction during COVID-19. Three of the interview participants felt that more technology usage changed the way they provided instruction to students during COVID-19, and five survey participants felt that more technology usage changed the way they provided instruction to students during COVID. There is a disparity between the surveys and interviews. Participant 1 said,

> The students are very comfortable with the computer. They love the activities and the apps that they can use. They know how to reach out to me and each other and we learn together. They send me messages through the computer rather than before, they would catch me in the hallway to ask me questions. Now the students will say that they will send me a message on Canvas.

Interview Participant 2 said,

> Oh wow, a lot. Having to use technology helped me to improve my knowledge and use my computer because the materials that I normally would use were on paper, but I had to adjust. Now, I use my computer more and the programs that I learned how to use while teaching at home.

Interview Participant 5 stated,

> I use more technology now than before the pandemic. We never know when it can happen again and need to be prepared. I continuously make sure that students are using technology and online apps. I want to make sure that my students know how to use technology in case of another pandemic.

Survey Participant 8 wrote, “Make sure students have computers and know their logins and how to use a range of apps on them”. Survey Participant 14 wrote, “Incorporate virtual learning at least once per month.”

This theme aligns with the TPACK framework since teachers were able to take a new learning experience using technology and incorporate it into their daily lessons while teaching online. Teachers believed that increasing their usage of technology affected the way they delivered instruction to their students. Teachers reported using reading, math, and science applications to support instruction. Placing computers in students' hands increases their educational advantage and provides opportunities to learn and explore beyond the classroom walls provided teachers know how to use computers and computer programs.

Because of the lockdown, creative teaching methods emerged, including video conferencing and online learning platforms (Chauhan et al., 2021). Teachers in the north

central North Carolina school district used an LMS to deliver instruction to students virtually during COVID-19. The LMS was a resource that teachers and students used to connect to academics virtually.

Theme 5: LMS

During the shutdown, teachers used the Canvas LMS. The LMS was a learning platform that allowed the collection of all learning materials in one location for easy student access. Teachers in the north central North Carolina school district were required to use the remote learning platform Canvas (see Appendix E) to develop student class assignments when it came to delivering instruction. Teachers used the LMS for sharing interactive links, video sharing, Zoom, reading, content-based instruction, games, collaboration, and projects. Twenty-five survey respondents and six interview respondents provided insight about the Canvas LMS. Fifty percent of teachers interviewed, or three of six, reported using the Canvas LMS; 40% of the teachers who participated in the survey, or 10 of 25, reported using the Canvas LMS. Interview Participant 1 said,

> Canvas was the big buzzword when we were home. I completed all of the required modules and set up my Canvas page for my students with different assignments. I used Canvas every day. I love Canvas. I also used Canvas to send videos to my students and they could send me videos.

Participant 5 stated,

> Our district gave us Canvas training. I think that professional development really helped me. If you put everything on your Canvas page with links it makes it so much simpler for students and their parents. They knew where to go to access

> information, so I was glad that the district gave us that professional development on Canvas in Elementary School.

Survey Participant 19 wrote, “Canvas classroom made easy access for Zoom links and for links to specific learning apps for students and parents. I feel the access to resources was not a problem.” The district provided training to teachers so they would be able to use the Canvas LMS to deliver instruction. Through their participation in professional development, teachers became more knowledgeable of how to present content to students in more interactive ways by using videos, games, images from the Internet, creating slides, or class discussions using the Canvas LMS, which increased their level of TPACK. The lockdown prompted teachers to adopt cutting-edge teaching methods, including video conferencing and online learning platforms (Chauhan et al., 2021). The Canvas LMS gave institutions access to control online learning and teachers the capacity to create and deliver online learning activities, assess students’ knowledge, and give feedback on mastered and not mastered skills to students (Instructure, 2020). Teachers also mentioned that ongoing training would be beneficial to better prepare them to integrate technology presently and in the future.

Students are digital learners, and educators will be better off ensuring the use of instructional technology to ensure that students are prepared for the future, according to a research study that focused on the implementation of 1:1 Chromebooks and the Canvas LMS in K-3 classrooms (Webber, 2019). Training on the LMS seemed beneficial to teachers. Teachers reported needing ongoing training using the LMS since they were integrating technology within their lessons.

Theme 6: Ongoing Training

Ongoing training was the last theme that emerged from the data in response to Research Question 2, "What impact did teachers' technology preparation have on the shift from face-to-face to virtual?" Fifty percent of the teachers who participated in the interviews, or three of six, and 68% of the survey participants, or 17 of 25, stated that more training was needed to integrate technology. Interview Participant 2 stated, "Probably give more training." Interview Participant 4 shared,

> Provide more professional development. I think there should be a mini class at least once a year that we can go to just to make sure we continue learning new technology-based apps to use in our classrooms. This can also be a part of our CEUs. This will help us be better prepared.

Interview Participant 6 indicated, "The district can provide us with excellent PD." Survey Participant 11 wrote, "There should be ongoing professional development workshops to keep teachers aware of the new online and technology resources needed." Survey Participant 13 wrote,

> The district should continue to provide learning through the KYTE website. In addition, they should regularly use the train-the-trainer model and train tech champions on the most current and user-friendly technology so they can train the staff.

Employees have the knowledge and skills necessary to efficiently complete their work when regular training is offered. Teachers mentioned that training helped them be prepared to integrate technology during the pandemic. The training teachers participated in while teaching virtually included online web-based training, online training from a

trainer via Zoom, and online self-paced training. All the options provided teachers with access to the information and an opportunity to learn the information when it was convenient for the teacher. Once teachers have received the appropriate professional development to support technology integration, technology integration can be effective (Kim & Jang, 2020).

Slutsky (2018) used the Computer Technology Integration Survey to analyze teachers' levels of self-efficacy, which resulted in two common themes: external personal factors and internal work-related factors. The study found that people, social media, smartphones, and professional development influence technology integration. During the shutdown, educators participated in professional development. These professional development opportunities supported teachers' technology integration and helped prepare them to teach virtually. Through professional development opportunities and other resource material supports, teachers' self-efficacy was influenced. The consensus among the educators, survey and interview participants, was to have ongoing professional development to help support the use and integration of technology.

Summary of Findings

Overall, regarding Research Question 2, "What impact did teachers' technology preparation have on the shift from face-to-face to virtual," the data show that teachers believe that participating in professional development, the use of online applications, and technology equipment and materials helped to support their technology preparedness. The data revealed that COVID-19 did have an impact on teachers' technology preparation. There was alignment between the qualitative surveys and interviews. The themes in the data included professional development, online tools and resource

materials, technology preparedness, more technology usage, LMS, and ongoing training. To gather data to support Research Question 2, Survey Questions 3 and 4 (see Appendix K) and Interview Questions 6-10 (see Appendix J) outlined teachers' technology preparedness. The majority of participants in the survey indicated training was provided by the district to support technology preparedness during COVID-19. Once teachers participated in professional development that centered around the sharing of technology resources and how to use those technology resources, teachers gained the confidence and skills needed to shift their teaching from face-to-face learning to virtual learning. The theme of more technology usage did reveal a difference in the survey and interview data, with 20% of the survey participants believing that more technology usage changed the way teachers provided instruction, while 50% of the interview respondents had this same belief.

Research Question 3

The third research question in this study was, "What is the impact of COVID-19 on teachers' social-emotional well-being during the shift from face-to-face learning to virtual learning?" To gather more information on the social-emotional impact of teachers teaching virtually during the pandemic, questions regarding this topic were asked during the 25 surveys and six interviews. To answer this question, I focused on Survey Questions 5 and 6 and Interview Questions 11-15 (see Appendices J and K). These questions included gathering information about the social-emotional impact teachers experienced while teaching virtually during COVID-19. Qualitative data were collected to answer this research question. Seven themes arose from the data: physical activity, online social activity, religious connections, phone calls, mental health activities,

wellness day, and professional support.

Theme 1: Physical Activity

Teachers relied on familiar strategies such as physical activities like exercising or walking to support their social-emotional well-being during the pandemic. Fifty-six percent of the survey participants, or 14, and 17% of the interview participants indicated that they participated in some kind of physical activity as a coping mechanism to support their social-emotional well-being. Teachers explained some of the physical activities that they participated in during the pandemic, which included walks, yoga, and hikes. Survey Participant 12 wrote, "Yoga and going on daily walks." Survey Participant 13 wrote, "I exercised regularly, took neighborhood walks, and hiked." Interview Participant 2 said, "I did a lot of walking and exercising."

Teachers must learn to connect their own emotions and feelings before responding to student actions, as well as find ways to unwind after a long day, in order to use their emotional intelligence, which helps them feel better about themselves and the world around them (Martinez, 2015). During the pandemic, teachers were anxious due to a lack of clarity about their roles and how to engage with students to help their understanding and learning, as well as the rapid transition from the classroom to learning at home utilizing technology (Aperribai et al., 2020). Recognizing that teachers' emotional states were impacted by the pandemic, this fits into the SEL theory. Teachers had to learn to regulate their emotions, discuss their feelings, and make informed decisions during the pandemic. The survey and interview items addressed teachers' social-emotional well-being during the pandemic.

Not only did teachers find time for physical activities, which supported their

social-emotional well-being, but they also found times throughout the week for social interactions. Three of six interview participants and five of 25 survey participants stated that they participated in activities such as Zoom calls, FaceTime calls, Google Duo calls, or Google Meets. These social interactions were beneficial in supporting teachers since teachers reported feelings of isolation during the pandemic.

Theme 2: Online Social Activity

To help cope with their social-emotional well-being during COVID-19, teachers devoted some time to social gatherings. These social gatherings included being in a digital space or virtual environment with family and friends which allowed them to communicate interactively and bond while at a distance. Twenty percent of survey participants and 50% of interview participants indicated that they engaged in online social activity. Survey Participant 3 wrote, “I Zoomed a lot with family and friends at the end of the day.” Survey Participant 13 wrote, “Daily meetings with my PLC team was also very helpful with coping.” Survey Participant 24 wrote, “Staying connected with family through FaceTime, emails, and Google Duo.” Interview Participant 4 indicated,

> The PLC would meet weekly, and you could bring a game. A different PLC leader would lead the game and host it for that night. They would have to think of something different to do. Some of the games were really cool. It made you think and kept us connected as a unit at the same time.

Interview Participant 5 stated,

> I would be with family. I stay around 2 ½ hours away from my family so whenever I did get that time to hang with them that was always great using Google Meets with family and friends. I know that we always work from home so

when we had breaks and we would get on Zoom or Google Meets and chat. This was always good for me. Teachers also found time to make religious connections.

Theme 3: Religious Connections

The effects of the pandemic proved to be deadly for many, mainly the elderly (Robertson, 2020). Religious connections was another theme identified in the responses. Teachers reported making religious connections as a coping mechanism during COVID-19 to help with their social-emotional well-being. Twenty percent of survey participants and 33% of interview participants shared their religious experiences. Survey Participant 5 wrote, “My coping mechanisms included praying, Bible study, etc.” Survey Participant 5 wrote, “Listened to spiritual music.” Interview Participant 2 shared, “Well, in the morning I would get up and do a devotional for my mental health.” Interview Participant 3 said, “What I did for myself was more spiritual. I would pray and listen to sermons. That’s what helped me get through what I needed.” According to a Pew Research Center survey done in the summer of 2020, more Americans than residents of other economically developed countries believe the pandemic has strengthened their own and others’ religious beliefs (Sahgal & Connaughton, 2021). Not only did teachers rely on their religion for social-emotional support during the pandemic, but teachers also relied on phone calls to help support their social-emotional well-being.

Theme 4: Phone Calls

Due to the safety protocols that were in place to prevent the spread of COVID-19, teachers were forced to spend their time at home away from family and friends. Phone calls were a coping mechanism that some teachers used to support their social-emotional well-being during the pandemic. The responses identified 24% of survey participants and

33% of interview participants who indicated that they used phone calls to make connections during the pandemic. Interview Participant 4 stated,

> I learned that you need others and you have to be able to reach out to people and be able to receive help. Being at home alone all the time was not good for anyone, so I felt good that the way that school friends called. We had like a phone chain here at school that people used to call and just check up on each other to make sure that you were okay. It was great to have that, and we could not mention anything about work. You had to just call and have fun.

Participant 8 wrote, "I would call colleagues to stay in touch and to discuss our hardships with virtual learning." Participant 20 wrote, "Telephone conversations with family and zoom calls."

Teachers having the ability to make phone calls during the pandemic proved to be a helpful strategy for teachers that impacted their social-emotional well-being. Phone calls were one strategy that made it possible for a social connection for teachers during the pandemic. It was also important to understand from teachers how mental health activities impacted their social-emotional well-being.

Theme 5: Mental Health Activities

According to the CDC (2021a), it was natural to feel different during the pandemic. Stress, anxiety, grief, and worry were all happening to people including teachers during COVID-19. Teachers reported finding mental health activities to help them cope with their social-emotional well-being during COVID-19. Mental health activities was another theme that emerged from the data responses. Forty-eight percent of survey participants and 50% of interview participants reported participating in some sort

of mental health activity to support their social-emotional well-being during COVID-19. Survey Participant 14 wrote, “Meditation.” Survey Participant 17 wrote, “Relaxing arts and crafts projects at home.” Survey Participant 18 wrote, “Allowing myself process time and grace.” Interview Participant 1 shared,

> We had an opportunity to just de-stress and don’t worry about anything on wellness day. We had activities that the district provided and they gave us options on things that we could do to help us. Some of our staff here at the school offered opportunities to get together and share, so that was important.

Interview Participant 5 shared,

> I think the social-emotional impact of teaching during COVID-19 was really knowing when to take time for yourself. I think once we was virtual and parents and students could contact us, I feel like it was one of them things like we couldn’t stop. We had nothing else to do all day but answer. We could go anywhere. It’s like we always had to make ourselves accessible for parents and students. I had some students that would write me on Canvas at 8’o’clock at night. I had to find that balance social-emotionally to figure things out since we’re online.

Interview Participant 6 wrote, “Anytime that I had a little time to take a relaxation I would go on vacation whenever I could. Doing that was my break. I used any workdays to decompress from work.” Although there were no one-size-fits-all remedies to help teachers cope with their social-emotional well-being during COVID, many found ways to manage.

Theme 6: Wellness Day

The school district in north central North Carolina continued to provide options to teachers to support their social-emotional well-being by offering a wellness day. The response to one's personal and social experiences that affect how one interacts with students and coworkers can be characterized as a teacher's well-being (T. Porter, 2020). Teachers were granted a wellness day to help support their social-emotional well-being during the pandemic. The wellness day allowed the teacher to be aware of their own emotions, behaviors, mindsets, and challenges along with determining some activities needed such as exercising, prayer, and meditation to support them through their emotions and behaviors. Wellness day called Wellness Wednesday by the school district was another theme that arose in the data responses. Twenty-two of 25 of the survey participants, or 88%, indicated that the school district provided a wellness day, and four of six of the interview participants, or 67%, indicated that the district gave teachers a wellness day. Survey Participant 12 wrote, "Wellness Wednesday was a huge help for my mental health. It allowed me to recharge, plan and show up better for my students without feeling "midweek burnout." Survey Participant 19 wrote, "Our district supported our social-emotional well-being by providing teachers with Wellness Wednesday where we had a day to just relax and do self-care." Interview Participant 3 said, "I feel our district encouraged us by giving us a wellness day allowing students to not be on the screen so less screen time for one day a week." Interview Participant 5 shared,

> Wellness Wednesday was the social-emotional day for students and teachers. We had Wellness Wednesday. During that time for teachers that was a time that we could do our grade level meetings and meet with our team and just really talk

about how things are going.

During the COVID-19 pandemic, teachers faced certain social issues as they transitioned from in-person to online instruction. Two of the five components of CASEL's (2021b). SEL model are self-awareness and self-management. The school district recognized the need to support teachers with a wellness day. Another theme that arose in the survey and interview participants' responses included meetings. According to teachers, the district also felt a need to use the wellness day for staff meetings or professional development. Teachers indicated that required staff meetings interfered with their wellness. Five of 25 of the survey participants, or 20%, acknowledged having Wellness Wednesday, but they shared that this day was also a day for staff meetings. Survey Participant 6 wrote, "The district created Wellness Wednesday. Teachers were supposed to have a cap on meetings. The cap didn't always happen, so my Wellness Wednesday was mostly filled with meetings." Survey Participant 8 wrote,

> Wellness Wednesdays were not good at all. We had meetings from 7:45-3:00 pm and were asked to do additional PD's on top of all the work we were expected to do. I didn't feel supported at all. We were overwhelmed and there was never a break from work.

Interview Participant 2 shared, "Wellness Wednesday was a great help. Some of the training that they did on Wednesday helped." Teachers seemed to benefit from the wellness day and training offered through the district. It was also important to understand what the school district could do better to prepare teachers' social-emotional well-being during a time of crisis.

In addition to asking teachers about the coping strategies used to support their

social-emotional well-being, six interview participants were asked to explain the impact of teaching virtually during COVID-19. This question was asked to inform Research Question 3. The themes that emerged included challenging and isolation/separation.

The most common theme in the responses to this question was challenging. The majority of the interview participants, 50%, expressed that the social-emotional impact of teaching virtually was challenging. Interview Participant 2 said,

> For me, it was a little upsetting because I wanted the kids to learn that I could not physically work with them like in the building. That made me feel like I wasn't doing my job as I should have been doing.

Interview Participant 3 said, "I noticed that it was more challenging because students weren't focused in their homes. There were distractions at home. They could watch TV and so their focus wasn't there to learn anything." Interview Participant 6 stated,

> Oh my gosh, that was terrible. Trying to get the kids on board virtually and having them trying to set up with the classroom is very hard. In class, it was easier, but virtually the kids are home, and you have no control over the kids. It's like they can go to sleep. They can do whatever they want to do so that was difficult for me because I like my kids to continue to be focused.

The second theme described in the data that impacted teachers socially and emotionally while teaching virtually was isolation/separation. Sixteen percent of teachers identified isolation/separation as having a social-emotional impact while teaching virtually. Interview Participant 4 expressed,

> Not seeing your colleagues on a regular basis, not being in the building, not seeing and handling your children at a table, you knew those children were

> struggling and you just didn't know how to reach out to them and help. They didn't know about computers, the person in the home didn't know about computers or technology. I didn't know what to do sometimes and did not know who to turn to.

Teachers recognized the need to adjust their mental health needs by participating in activities that helped them cope with their social-emotional well-being, and the district provided teachers with a wellness day.

Theme 7: Professional Support

Professional support was identified as a needed option for teachers to support their social-emotional well-being during COVID-19. Schools provide numerous services to students, including services such as transportation, meal services, and mental health services. The north central North Carolina school district provided schools with student support services options such as school social workers, school counselors, and mental health agencies. Teachers also had access to mental health service providers through the Employee Assistance Program. Professional support was the last theme gathered from the data that teachers stated impacted their social-emotional well-being during COVID-19. Fifty percent of teachers identified in the interviews and 16% of teachers identified in the survey revealed that the school district could support their social-emotional well-being in a time of crisis by offering professional support. Interview Participant 2 stated, "I think they should always have counselors available which gives people the opportunity to talk and share their opinion about what's going on." Interview Participant 5 said, "I think, have more district-led Zooms or something for all teachers to join and just ask questions. Really get to evaluate and know what teachers are going through and learn how teachers

feel." Interview Participant 6 said, "Offer up different classes for the teachers so they can be able to deal with whatever they might be doing emotionally or the stress of dealing with parents and students." Survey Participant 4 wrote, "Provide awareness of mental health services provided by the district."

Summary of Findings

Overall, regarding Research Question 3, "What is the impact of COVID-19 on teachers' social-emotional well-being during the shift from face-to-face learning to virtual learning," the results from the qualitative survey and interview data did align for the most part. There was a difference noted where teachers reported that the district could support their social-emotional well-being in a time of crisis by offering professional support since 50% of the interview respondents and 16% of the interview respondents reported this finding. The surveys and interviews indicated that teachers participated in activities such as physical, mental health, social, religious, and wellness during the shift from face-to-face learning to virtual learning with themes such as physical activity, online social activity, religious connections, phone calls, mental health activities, Wellness Wednesday, and professional support. Teachers expressed the importance of participating in some type of wellness activity to support their social-emotional state.

Wellness Wednesday was the wellness day that was provided by the school district as a way to support teachers' social-emotional state during the pandemic. Teachers indicated that Wellness Wednesday was offered as support and provided some advantages and disadvantages. Some advantages of Wellness Wednesday included the district offering sessions to help teachers cope with their social-emotional well-being and teachers having time to themselves without students. A disadvantage to Wellness

Wednesday included teachers having to engage in mandatory meetings. When addressing social-emotional well-being, leaders may want to take into account specifically allotted time for teachers that is uninterrupted. Having uninterrupted time would give educators time to focus on themselves rather than having to attend required meetings, which allows time for self-care and social-emotional well-being.

Chapter 5: Discussion

This study investigated the impact COVID-19 had on teachers' instructional practices, technology preparedness, and social-emotional well-being in a north central North Carolina school district. The COVID-19 pandemic brought about some academic challenges for students, teachers, administrators, parents, and school districts (World Health Organization, 2020). The pandemic brought about enforced stay-at-home orders (Michel, 2020). Due to precautions taken to stop the spread of the COVID-19 virus, more than a billion kids were unable to attend school or a university nationwide (McCarthy, 2020). Traditional teaching methods had to be abandoned in schools due to the pandemic (García & Weiss, 2021). Many schools and universities defaulted to offering online instruction to students. Remote learning or virtual learning became an alternate way to access education for many students across the nation. Since many teachers and students in Grades K-12 had little experience with online learning and there was a significant disparity in access to technology across the nation, it is unclear how effective virtual learning was (Kuhfeld et al., 2020). The purpose of this phenomenological study was to investigate the impact COVID-19 had on K-5 elementary school teachers working in a north central North Carolina school district. The research questions guiding this study were

1. What impact did COVID-19 have on teachers' instructional practices as they shifted from face-to-face teaching to virtual teaching?
2. What impact did teachers' technology preparation have on the shift from face-to-face to virtual?
3. What is the impact of COVID-19 on teachers' social-emotional well-being

during the shift from face-to-face learning to virtual learning?

This research was conducted in an effort to inform school leaders, administrators, and teachers about the resources and support teachers will need as they prepare to teach remotely during a pandemic or crisis. The study explored the lived experiences of 25 teachers from two Title I schools in north central North Carolina. Both Title I schools total 44 teachers. The school system's teacher population consists of 2,512 certified teachers. There are 30 elementary schools, and 24 of them identify as a Title I school. The principals at the two schools identified were sent information about the qualitative study. A survey and an interview were used in this study. The creation of recommendations for the district and suggestions for additional research was made possible once common themes were identified. The survey and one-on-one interviews captured the educators' lived experiences resulting in a narrative response to the questions. The answers to the questions provided feedback about teachers' instructional strategies, technology preparedness, and social-emotional well-being as there was a shift in education from face-to-face learning to virtual learning due to the pandemic. The theoretical framework for this phenomenological study on the shift in education, the impact of COVID-19 on face-to-face and virtual learning, focused on Bandura's (2002) social cognitive theory, self-efficacy and TRD; theories in disaster; TPACK; and SEL.

The data collected during this qualitative study was composed of responses from 25 participants. Twenty-five of the participants responded to the survey questionnaire, and six of the participants responded to the open-ended interview questions. The responses to the questions provided insight that was analyzed to provide answers to the research questions. The survey was conducted using Qualtrics, an online survey tool, and

the interviews were recorded and transcribed. While responding to the open-ended questions, all participants were encouraged to share any information that they considered relevant to the questions being asked. Teachers' most prevalent ideas and viewpoints about their teaching practices, technology preparedness, and social-emotional well-being during the pandemic were highlighted. The study found that educators' instructional practices, technology preparedness, and social-emotional well-being shifted from the norm during the COVID-19 pandemic.

Interpretations/Findings

The purpose of the study was to determine what impact COVID-19 had on teachers' instructional practices, technology preparedness, and social-emotional well-being. The survey data and interview data indicated that there was an impact on teachers' instructional practices, teachers' technology preparedness, and teachers' social-emotional well-being. Teachers' way of delivering instruction changed as a result of the pandemic. Analysis of the data revealed that educators' methods of delivering instruction changed to accommodate remote learning. Teachers used technology such as computers, Chromebooks for students, Wi-Fi, Zoom, Canvas, and Google Classroom to provide daily lessons while teaching during COVID-19. Approximately 84% of the survey respondents indicated that the use of technology was a technique used to teach virtually during COVID-19. The interviews did confirm the results of the surveys, with 83% of respondents indicating that the use of technology was a technique used to teach virtually during COVID-19. Educators mentioned that they depended on online materials to teach. Not many online resources were used previously in the classroom since the traditional ways of teaching did not include teaching and learning from home, and students were not

assigned an individual computer. The lockdown prompted educators to adopt cutting-edge teaching methods, including video conferencing and online learning platforms (Chauhan et al., 2021). The online resources that teachers used included Zoom, SeeSaw, Google Classroom, TikTok, Youtube, Canvas, Google Slides, Nearpod, Kahoot, Quizziz, Whiteboard, and Google Meets. Online resources are what teachers used to address students' learning needs. Zoom was a popular resource that was used by teachers since it provided teachers with tools such as breakout rooms, polls, whiteboards, chat features, and screen sharing. These data could imply that teachers' use of online resources supported their implementation of the curriculum.

Also mentioned by participants were collaborative groups. Approximately 83% of teachers stated that they used collaborative groups to support teaching during the pandemic. Teachers reported using Zoom breakout rooms for collaboration. Twenty percent of the survey respondents indicated that they used collaborative groups to support teaching. These collaborative groups provided teachers with a strategy that they used to work with students individually or in a smaller setting outside of the entire class whole group setting.

Use of technology apps is another instructional practice that teachers used to teach during COVID-19. Approximately 78% of the interview respondents identified using technology apps as a strategy gained from teaching virtually during COVID-19. Teachers reported using technology apps like Nearpod, SeeSaw, and Jamboard to communicate with students. Sixty-eight percent of the survey respondents identified communication using technology apps as a strategy gained from teaching during the pandemic. The survey did confirm the interviews. These data suggest that teachers communicated with

students differently during the pandemic by using technology applications. The data also determined setting expectations as a theme. Teachers reported going over routines with students as being important since teachers wanted students to know what was expected of them while they learn at home.

Not prepared was another theme that was identified. Sixty-four percent of teachers reported that they were not initially prepared to teach remotely during COVID-19, but after receiving professional development, they felt comfortable teaching. Professional development provided teachers with resources and strategies to help teachers build their confidence to teach remotely. Teachers also mentioned district technology resources as having an impact on teachers' instructional practices. Teachers stated that after being offered resources to teach that they were better prepared to teach virtually during COVID-19. Teachers used the Canvas LMS to teach students during the pandemic. The Canvas LMS made it possible for teachers to create and deliver online learning activities and assess students' knowledge, while students could participate in classes and receive feedback on skills they had acquired and still need to work on (Instructure, 2020). Teachers who participated in professional development and used the resources provided by the district are more likely to have success with remote instruction since teachers felt better equipped after learning about resources and how to implement the resources. Once teachers have received the appropriate professional development to support the integration, teachers are confident in the implementation process, software is readily available, and supports of the school and the school district are in place, technology integration in K-12 classrooms can be successful (Kim & Jang, 2020). The surveys and interviews did align. The data indicated that teachers agreed that continued

professional development was necessary to promote technology integration because technology resources helped support the use of technology throughout the pandemic.

Bandura's (1977) theory of social cognitive theory explains how people are active influencers and are influenced by their surroundings. The teachers in this study provided examples of their experiences as to how they shifted their teaching practices due to the pandemic. Teachers talked about transitioning from teaching in person to teaching virtually and explained the teaching techniques they used once they transitioned to teaching virtually. This transition to virtual was quick and sudden. It did not provide teachers with a lot of time to prepare. Many teachers were not fully prepared to teach virtually due to a lack of knowledge, materials, and professional development. Elementary teachers can boost their self-efficacy beliefs by teaching digitally, given the significance of these beliefs in both teaching and learning. This can be accomplished by combining their own teaching and learning with the four principles of the self-efficacy theory: mastery experiences, vicarious experiences, social persuasion, and somatic and emotional states. Mastery experiences are practical learning opportunities that teachers have when teaching (Bandura, 1977). An English language arts teacher has a mastery of experience when they teach an English language arts lesson to elementary students. This mastery experience is created when the teacher does this task. During the pandemic, teachers are automatically building mastery experiences while teaching virtually. When someone watches someone else accomplish a task, they have a vicarious experience, and when a credible person persuades another person of their capabilities, social persuasion has an impact on self-efficacy (Bandura, 1977). If the person being observed is successful, the observer will grow in their self-efficacy, but if the person being observed

is not successful, their self-efficacy may decrease. The district did provide teachers with laptops and students with Chromebook computers. Teachers did participate in either self-paced professional development or online professional development supported by the district and made adjustments as they navigated teaching while in a pandemic. These professional development opportunities provided teachers with vicarious experiences. Some of the adjustments included learning to use an online LMS called Canvas, using different types of technology, using online apps, using videos, and taking virtual field trips. During this transition, many teachers also expressed that they used Zoom or Google Classroom to conduct class and teach daily lessons. The use of breakout rooms and the use of online apps were strategies gained while teaching virtually. Teachers provided examples of the professional development they participated in as they transitioned to teaching virtually. Teachers reported that they continued to work in professional learning communities. Professional learning community meetings lend teachers a common planning time where teachers support each other by sharing knowledge and practice and giving each other verbal responses providing opportunities for social persuasion. Pre-COVID, teachers traditionally taught in a classroom, which housed two or three desktop computers for students to use, so many students did not have their own devices. Teachers also expressed how they had to learn to use online apps such as SeeSaw, Nearpod, and Headsprout, which were not the normal teaching tools teachers used when teaching in person. These teachers eventually gained self-efficacy as they adapted to the changes that occurred and adjusted their professional and personal lives to conform to the changes within the environment. Bandura (1977) stated that behaviors affect the person and the environment and either one influences the behavior of each other, as known as reciprocal

determinism. Many of the teachers were not prepared to teach during a pandemic, but they were able to shift once given some materials and guidance. After being given guidance and materials to teach virtually, somatic and emotional states (Bandura, 1977) did impact teacher self-efficacy since teachers are content experts in teaching a subject and/or grade these teachers felt comfortable, knowledgeable, and prepared to teach virtually. The teachers' experiences and knowledge serve as significant factors when it comes to instructional practices used during COVID-19.

Charles Perrow's complexity theory (Worek, 2019) was another framework used in this study. Research related to complexity theory involves finding answers to modern-day disasters. Teachers in this study found ways to continue to teach while in the pandemic. Interview Participant 4 stated, "Zoom is what I used and then while in my home I turned my room into a bit of a classroom." Teachers used Google Classroom to teach students. Some teachers preferred to use independent study to teach along with small group instruction. Online features such as screen sharing were used to teach as well as the use of video sharing. Computers were used to help deliver and receive instruction. Teachers and students connected to the Internet at home in order to participate in teaching and learning. The use of an online LMS was used to support teaching and learning. During the pandemic, with support from the district, teachers developed strategies to support learning and provided some learning experiences for the students that they served virtually.

In terms of technology preparedness, a common theme in the interview participants' responses was professional development. Teachers need assistance with technology and should take part in professional development to assist with effective

technology integration, according to a research study that examined TPACK (Uslu, 2018). Approximately 40% of the survey participants indicated that professional development had an impact on teachers' technology preparedness as they shifted from face-to-face to virtual learning. Professional development was another technological resource of support for teachers. Since teachers were teaching online or remotely, there was an immediate need to incorporate technology into their daily lessons. Teachers also reported that there was a need for professional development to be ongoing. Based on multiple interviews, teachers became knowledgeable of how to use and integrate technology into their lessons by participating in professional development. The school district provided professional development through online methods such as videos and a website. Themes that arose when teachers responded to the survey and interview questions about technology preparedness were professional development, online tools and resource materials, technology preparedness, more technology usage, LMS, and ongoing training. Students are digital learners and teachers will benefit from ensuring the use of instructional technology to impact student preparedness for the future, according to a 2019 research study that focused on the implementation of 1:1 Chromebooks and the implementation of Canvas (LMS) in the K-3 classrooms (Webber, 2019). These data might suggest that there is a chance for a greater impact on instruction whether students are learning remotely or in person by increasing teachers' capacity to integrate technology using an LMS and online applications along with the ability to provide instruction remotely.

Teachers need support to improve their technological knowledge, have a positive impact on their perceptions of technology, and aid in the effective integration of

technology, all of which are linked to the TPACK framework (Mishra & Koehler, 2006). The technological knowledge dimension is concerned with the process of understanding technology and becoming generally skilled in such a way that allows for flexible technology adaption (Mishra & Koehler, 2006). Sixty-six percent of teachers interviewed in this study, or four of six, expressed that they were not prepared to integrate technology in their classrooms, and 52% of survey participants expressed that they were not prepared to integrate technology in their classrooms during the pandemic. Although the teachers felt unprepared to incorporate technology, they were able to adapt and use technology to promote learning by taking part in workshops. Interview Participant 1 stated, “I wasn't prepared at all; however, again I had to prepare myself, luckily the school system started working with workshops weekly almost daily.” Teachers stated that the district provided resources to help with their understanding of using technology within their classrooms. Some of the teaching tools used included online learning apps, drawing tools, communication tools, and video sharing tools.

The pedagogical knowledge dimension involves teaching practices (Mishra & Koehler, 2006). To support learning, teachers set expectations and routines, used visual aids, and provided opportunities for independent learning sessions and small group learning sessions using breakout rooms. Teachers continued to follow pacing guides. Interview Participant 2 stated, “I used the standards.” Teachers also set up expectations for classroom management using incentives such as ClassDojo. Teachers did not lose sight of the teaching processes, practices, or methods of teaching due to the pandemic; rather, they adjusted and continued to use those strategies while they taught virtually.

In terms of social-emotional well-being, common themes that emerged in the data

were physical activity, online social activity, religious connections, phone calls, mental health activities, wellness days, and professional support. Approximately 56% of survey participants indicated that they participated in physical activity as a coping mechanism to support their social-emotional well-being during COVID-19, and 17% of interview participants indicated that they participated in physical activity as well. There is a difference between the survey data and the interview data. Both the interview questions and survey questions (see Appendices J and K) that addressed social-emotional well-being were similar in nature but could have been confusing to the respondents since many of the interview respondents answered by including the coping strategies that were more student-related than personal. Teachers expressed the importance of participating in some type of wellness activity to support their social-emotional state. Teachers engaged in some physical activities such as walking, exercise, yoga, and hiking. In order to continue providing support to students and colleagues throughout the day, educators must discover strategies to look after their own social and emotional well-being (T. Porter, 2020). Since teachers were working from home due to the stay-at-home orders, physical activities at home were incorporated into teachers' lives to support their mental well-being.

Wellness day was another wellness activity that teachers used to support their social-emotional well-being. Wellness Wednesday was the wellness day that was provided by the school district as a way to support teachers' social-emotional states during the pandemic. Approximately 88% of the survey participants indicated that the school district provided a wellness day, and 67% of the interview participants indicated that the school district granted a wellness day. During the COVID-19 pandemic, the Yale Center for Emotional Intelligence and CASEL conducted a survey to learn more about

the emotional lives of teacher (CASEL, 2021b). The results showed that the five most frequently mentioned emotions were anxiety, worry, fear, overwhelm, and dissatisfaction (Cipriano & Brackett, 2020). The wellness day was important for teachers since it would provide teachers with an allotted time for self-care activities such as exercise and meditation. Some teachers did report that the wellness day gave them the time and space needed to attend to their own mental health while teaching during the pandemic, and others reported having to attend meetings during the wellness day; therefore, wellness day served as a day of self-care and a day of meetings for teachers. This information might suggest that teachers would prefer to spend the wellness day engaging in self-care activities rather than attending meetings.

Fifty percent of interview participants and 20% of the survey participants also mentioned participating in online social gatherings such as Zoom calls, FaceTime, emails, and Google Duo. Teachers mentioned making religious connections as a coping mechanism during COVID-19. Approximately 33% of the interview participants and 20% of the survey participants reported that they participated in prayer and Bible study and listened to spiritual music, which helped support their social-emotional well-being during the pandemic. Religious connections provided teachers a way for coping with the anxiety caused by the pandemic and helped to reduce emotional stress.

Professional support was another theme that arose in the data. Approximately 50% of the interviews participants and 16% of the survey participants reported that the district could support their social-emotional well-being in a time of crisis by providing professional support. It was discovered that teachers were under stress during the pandemic as a result of their uncertainty about their roles, their relationships with

students, and the quick transition from the classroom to technology-based learning at home (Aperribai et al., 2020). With the onset of COVID-19, which exacerbated stressful working conditions and transitioning to virtual instruction which caused extra stress on teachers, many teachers found themselves needing the support of a professional to cope. CASEL (2021b) provided resources for teachers to use during the pandemic. These data could imply that teachers as well as students benefit from having access to professional support to support their social-emotional well-being.

In order for teachers to be successful professionally and personally, they must be consistently provided with the tools necessary to help control and regulate their emotional state. CASEL (2021a) described SEL as the process by which children and adults learn to control their emotions, set objectives, understand and share other people's feelings, and make thoughtful decisions (CASEL, 2021a). Teachers in this study expressed their experiences with social-emotional well-being while teaching during the pandemic and how it played a part in their ability to deliver instruction to students. Some teachers expressed some of the ways that they coped with their own social-emotional well-being, which was through exercise, online social gatherings, religious measures, mental health activities, and professional support. Other teachers expressed feelings of frustration and isolation. Teachers stated that while students were at home, they at times seemed to be distracted and not fully focused while in class. Teachers also indicated that not seeing colleagues or students in person was a challenge. Pre-COVID, teachers could blink lights or clap a certain rhythmic beat to get students' attention, but during COVID-19, these were hard-to-use strategies because teachers were competing with students’ watching TV at home or students having the ability to go to sleep without interruption, causing loss of

learning. Prior to the pandemic, SEL was mainly concentrated on students and their needs, but while in the pandemic, the district also considered the social-emotional state of teachers by providing a wellness day (Wellness Wednesday) as well as some district-wide supported wellness activities that teachers could select to participate in to support their personal social-emotional well-being.

Understanding teacher leaders' teaching experiences, instructional strategies, technology preparedness, and social-emotional well-being when teaching during COVID-19 is critical in helping school districts design suitable and effective solutions as they grow leaders. Teachers, administrators, and district officials can address educators' concerns based on perceptions and lived experiences by leveraging the comments of educators in the current study. Teachers need assistance with technology and should take part in professional development to aid in effective technology integration, according to a research study involving variables affecting technology integration and TPACK (Uslu, 2018). This study can assist leaders in providing professional development opportunities for educators to fulfill specific training needs. Furthermore, the current research can assist leaders in making financial and budgeting decisions that benefit educators and, as a result, provide greater possibilities for students. The data can also be used to assist educational leaders in understanding the importance of implementing immediate and appropriate change based on the needs of the world and living environment.

Implications

Findings from the research study demonstrated that professional development directly impacted teachers’ abilities to teach virtually during the pandemic. Professional development served as a resource that supported teachers' instructional delivery and

technology preparedness during COVID-19. The findings from this study showed that teachers relied on professional development to help with teaching strategies and to learn how to use and integrate technology during COVID-19. Utilizing professional development is one strategy that the school district can use to strengthen teachers' performance levels. Once teachers' performance levels increase so will student achievement. Findings also determined that teaching virtually was a challenge for educators' social-emotional well-being since teachers were struggling with isolation. Support from a trained professional in the area of mental health could possibly support teachers' social-emotional well-being while at school.

Recommendations

The three recommendations I would make for this district as a consequence of this study are to keep new processes in place to support technology, construct a strategic plan for professional development to assist with technology integration, and establish mental health staff support outlets within schools. These suggestions are based on the literature review's findings and the theoretical frameworks as seen through the context of this study. These activities open up possibilities for greater impact.

Suggestion 1: Continue Utilizing New Technologies

The first suggestion is for the district to continue developing the new processes put in place as a result of the pandemic such as utilizing the 1:1 Chromebooks with elementary students, providing students with home Wi-Fi hotspots, and using the Canvas LMS and technology applications to engage students to support the integration of technology.

The 1:1 Chromebooks allow students to have individual practice with a computer.

Students can engage in asynchronous online learning. Students and parents can have access to class information, assignments, and materials ahead of time, which will allow for early preparation. When students have their own computers, they will have immediate access to stored assignments on computers. The stored assignments can act as learning resources for parents that they can use with their students for review. To access assignments online for review, students will most likely need Wi-Fi access.

At the start of the pandemic, the demand for hotspots increased. The north central North Carolina school district provided Wi-Fi hotspots to families who indicated that they needed a hotspot. The hotspots allowed students opportunities to access the Internet and the virtual classroom. Since students continued to use the 1:1 Chromebooks, which allowed access to reading programs, math programs, science programs, and other learning apps, the school district will benefit greatly from the purchase of hotspots for students using Title I monies as a funding source. Being a 1:1 district allows students more individualized learning at school and home. A Wi-Fi hotspot alternative could be the use of a public virtual private network. The school district can collaborate with businesses like community apartment complexes, coffee shops, restaurants, or grocery stores in each school zone to offer Wi-Fi to students using a virtual private network. Having Wi-Fi at home allows parents more access and availability to support students at home while making connections to the school and student learning. The Wi-Fi hotspots provide students with opportunities to use the LMS provided by the school district.

The Canvas LMS was purchased by the district in the year 2020 to support remote instruction. It will be beneficial to continue using this LMS to integrate technology. Canvas offers a universal place to store classroom assignments that are easily accessible

and differentiated for students. Learning apps can be stored in Canvas and easily found on students' Canvas pages online. The LMS is also a source of communication between the school and the home. Canvas can also be used as a source of accountability since it stores students' grades and attendance. Technology applications can be accessed through Canvas.

The use of technology applications is important to continue because it allows teachers to differentiate instruction to meet the needs of all students. Students can work at their own pace or one on one on assignments. Students can also work in collaborative groups. Technology apps are good resources that offer interactive games to reinforce spelling, phonics, reading, and math skills. For instance, teachers in this study explained that the district provided them with the SeeSaw app, which was easily accessible for students at school and at home. SeeSaw is an interactive resource that allows students to use videos, drawing tools, and links. Kahoot was another application used by teachers in this study that students and teachers can benefit from if this application is continued. It is one of the popular games that was used to review concepts after a lesson was taught. Applications like this allow students to participate in games anonymously, which is great for those students who are reluctant to participate in class, and it offers an opportunity for collaborative working pairs.

The Elementary and Secondary Education Act of 2001 was created with the goal of developing students' technology literacy while also enhancing academic achievement performance as measured by standardized tests (Davies & West, 2018). The COVID-19 pandemic made it necessary for the north central North Carolina school district to integrate technology into classrooms daily. Many of these technologies have remained in

the learning environment and will remain once the pandemic passes. Before COVID-19, students had a computer or technology teacher that they may have seen once a week or on some sort of rotating basis. When COVID-19 came about, students were provided with individual Chromebooks and hotspots and classroom teachers were given Canvas. Chromebooks and Canvas are connected to technology used by the district. The school districts' curriculum and instruction department can develop processes around utilizing emerging technologies that should be used in the classroom to support instruction. The curriculum and instruction department can simply include in the pacing guide a technology component aligning with the English language arts, math, science, and social studies units to integrate technology. This can be done by including apps and tools in English language arts, math, and science that allow students to engage each other. Videos can be created to help students understand how to use software; provide screen time reflection, which allows students time to focus on academics rather than other things on the screen; and include technology that students already use in their daily lives, which will help with skill transference.

Suggestion 2: Develop a Technology Professional Development Plan

After determining what technology resources the district has, the next step is to clearly define how and when teachers are to use the technology in their daily lessons. Within this study, multiple interview and survey participants indicated that they needed more professional development to integrate technology. Not only would more professional development support students' learning, but it would help support teachers' knowledge, use, and self-efficacy (Crossan, 2020). This is supported by Uslu's (2018) research in which it was determined that teachers require professional development to

help integrate technology appropriately. This would also support teachers in knowing more about how to interact with technology and teachers having the opportunities to determine ways of differentiating between what technologies to incorporate within certain lessons. Teachers will benefit from the following three professional development resources: online self-paced professional development, technology professional development, and personalized professional development.

Online Self-Paced Professional Development. The school district encouraged using the KYTE Learning site in 2020, which is an online professional learning website. It is recommended that teachers use this site since it is a technology resource designed to support teaching and learning that is already funded by the district and allows teachers to select professional development courses aligned with their ability levels. The KYTE Learning site offers teachers achievement badges that recognize teachers for completing a technology professional development course. Teachers would benefit from participating in online self-paced professional development quarterly.

Technology Professional Development. The school district has employed a district digital teaching and learning coach. The digital teaching and learning coach was hired to serve all elementary, middle, and high schools in the district. To support teachers, it is recommended that this coach conduct a needs assessment of all schools and develop a professional development plan. This plan will need to outline teachers' technology needs; provide useful strategies for technology integration; provide teachers with information about how to use hardware and technology devices; and provide teachers with learning sessions about technology programs, tools, and applications. District-wide technology professional development would support teachers and their

ability to integrate technology.

Personalized Professional Development. Teachers have different technology ability levels and can benefit from professional development to support their individual learning needs. For this reason, it is recommended that the school district offer teachers personalized professional development. I recommend that the digital teaching and learning coach provide teachers with these sessions through modeling for classroom teachers and providing hands-on coaching sessions to support technology integration of programs, tools, and applications. Great learning opportunities for teachers can be found in this district with collaboration. The coach will provide teachers opportunities to visit classrooms across the district where teachers have mastered the use of technology, which is another resource for teachers in the district. Another way to support personalized professional development is through observation. Teachers would benefit from the coach observing their implementation of technology and providing feedback and best practices to support them with their technology integration.

Additionally, there should be an evaluation system after each professional development that holds teachers accountable for participation, which strictly focuses on identifying a teacher's TPACK ability in order to promote technology integration (Uslu, 2018). According to the research study, teachers' attitudes were influenced by their ability to use software and engage students in demonstrations (Uslu, 2018).

Suggestion 3: Establish Mental Health Support for Staff

The final suggestion is to establish mental health support for staff other than the employee assistance program. In the interviews, 50% of the teachers indicated that they would benefit from having some kind of professional support for their mental health.

These data suggest that some teachers needed mental health resources. This is supported by the Center for Health, Work, & Environment at the Colorado Depression Center (Colorado School of Public Health, 2021), in which it was determined by a survey that teachers needed to learn ways to access help for their own mental health needs and teachers should be provided with mental help support. This would support teachers in knowing more about where to go for mental health support in their organization. Beyond knowing where to go for mental health support, the school district can offer immediate resources within the school building. The survey made the following suggestions: set up peer support groups in the school, train staff other than administrators to be mental health champions, establish peer support programs, and be sure to offer mental health resources of support in multiple languages (Will & Superville, 2022). These mental health resources can be used in all schools and may not require much funding.

Peer Support Groups. Peer support groups, often known as self-help groups, are associations of people who come together to discuss issues and experiences related to a specific issue, condition, ailment, or event. Teachers can speak with others who share their experiences and understand what they are going through in a support group. These individuals can give the kind of useful ideas that can come from firsthand experience (Community Tool Box, n.d.) Teachers can benefit from peer support groups for the following reason: When a teacher is struggling with a condition or sickness they can find comfort and understanding in support groups; teachers can serve as examples for one another as it is motivating and exciting to see other people overcoming similar challenges and improving their lives; peers support groups serve as a safe place for teachers to discuss personal difficulties, experiences, struggles, and thoughts; and teachers talking

with others in these peer support groups can lower their anxiety, boost self-esteem, and help members' feelings of well-being (Community Tool Box, n.d.).

Train Staff to Be Mental Health Champions. Mental health champions are people who commit their lives to raising public awareness of and participation in mental health education. They might work in a range of settings such as schools, health care facilities, or businesses. Mental health champions try to foster an environment where employees feel free to discuss their mental health at work and ask for assistance when necessary (Chester, 2022). Mental health champions at school will provide teachers with easy access to mental health support in the building when needed. I recommend that the school district identify mental health champions who are stationary at school daily; provide materials that the mental health champion can distribute on mental health when issues arise; and create well-being strategies similar to the wellness day that teachers described in this study to motivate staff to look after their own mental health. Some well-being strategies that will support teachers include creating a calm down space in the schools, wellness centers in the school, Zen or meditation rooms, and before-school and after-school walking groups; or sending morning affirmations that the entire school can say or do to support their mental health.

Establish Peer Support Programs. Teachers continue to support students in school and sometimes they do not have an outlet to support their own well-being. With help from district leaders, the following recommendations are practical resources that teachers can use to support in a peer support program:

1. Expand the chances for staff interaction during the day.
2. Provide and grant time for and promote teamwork and collaboration among

teachers.

3. Create a peer support group or teacher mentor group tailored to the needs of the school specifically so teachers can benefit from one another's assistance.
4. Give these groups enough time to solve problems in the present.
5. Encourage staff participation by promoting wellness activities like yoga, recipe exchanges, or socializing events.
6. Establish a procedure or process to recognize and address staff members' sadness or trauma.

Additionally, there is a need for further research in order to determine if other teachers in Title I elementary schools have similar experiences. The experiences of the teachers, their perceptions of instructional practices, and their social-emotional well-being during COVID-19 were similar. The similarities can be that the interviews and surveys were only used with elementary school teachers. Further research can aid in understanding if elementary school teachers at other schools in other cities or states view teaching during COVID-19 in the same ways and if they faced the same or similar challenges with teaching remotely.

Further research can bring attention to real-world experiences with pandemics and how teachers would need to shift their instructional delivery to remote learning. In addition, more research on this topic could shine a light on the mental health challenges of teachers during a pandemic along with workplace support for teachers while teaching during a pandemic.

Reflection

It is critical for qualitative researchers to reflect on their work by talking about

their experiences and how they have been transformed as a result (Creswell & Creswell, 2018). This study gave me a better understanding of how teachers felt while teaching during a pandemic and what resources teachers needed to have to be prepared to teach remotely or virtually during a pandemic. Teachers offered their perspectives and experiences, indicating the need for professional development that focuses on technology integration as well as a qualified professional to support teachers' social-emotional needs. I hope to continue to learn about and draw attention to the unique needs of teachers in terms of technology use and technology implementation so they can be met in order to provide a high-quality teaching and learning experience for both teachers and students. Teachers embraced technology because it was the only method they could use to assist with remote learning, as discovered through this study; therefore, I would like to support teachers' experiences with technology in order for them to have a greater understanding and comfort level with it. In addition, I hope to develop a better understanding of the specific needs of teachers' mental health and support for adults in the school environment

Summary

The present study examined the perceptions of north central North Carolina teachers towards instructional practices, technology preparedness, and social-emotional well-being during the pandemic. The analysis provided information that teachers adapted and adjusted to teaching online as they shifted from in-person learning to teaching virtually during the pandemic. Teachers were confronted with many challenges daily and were flexible. Teachers used the new teaching and learning materials that were provided by the district to support learning. Online resources such as Zoom and Google Meets were some of the tools teachers used to provide instruction while teaching online. Eighty-

four percent of teachers indicated in the survey that they used Zoom and or Google Meets, while 83% of teachers stated in the interviews that they used online resources to provide instruction. Teachers adapted with the support of the school district, which provided teachers with professional development to support them with learning an LMS called Canvas and using KYTE Learning, an online self-paced professional development website.

The results of this study also indicated that the school district provided professional development, and educators in this district took part in the professional development that was provided by the school district to support teachers' use and integration of technology during the COVID-19 pandemic. Forty-five percent of the survey participants indicated that training was provided by the district to support technology integration. The COVID-19 pandemic happened suddenly with little time to prepare, so school leaders, schools, and institutions had to quickly develop a way to support students as they continued learning at home. The school district offered ongoing professional development to support teachers as they transitioned to teaching virtually. Fifty percent of teachers interviewed and 68% of teachers surveyed stated that trainings or workshops were needed to better prepare them to teach virtually. More technology training for teachers on how to provide virtual classes should be stressed, as it has been discovered that virtual learning requires it.

The results of this study also determined that it was difficult for teachers to teach during the pandemic. In fact, 50% of teachers who participated in the one-on-one interviews agreed. Teachers reported that teaching was challenging, they had feelings of isolation, and they were not able to fully control the actions of students and keep them

from the distractions within their homes. To help balance themselves, teachers relied on wellness activities to help cope with the stressors of the pandemic. Physical activities, meditation, and religious activities helped teachers with their social-emotional well-being through the pandemic. The school district provided teachers with a wellness day, but teachers reported that there were mandatory meetings that were held on this day causing interruption of their wellness.

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Appendix A

Governor Cooper's Executive Order

State of North Carolina

ROY COOPER
GOVERNOR

March 14, 2020

EXECUTIVE ORDER NO. 117

PROHIBITING MASS GATHERINGS AND DIRECTING THE STATEWIDE CLOSURE OF K-12 PUBLIC SCHOOLS TO LIMIT THE SPREAD OF COVID-19

WHEREAS, the undersigned issued Executive Order No. 116 on March 10, 2020, which declares a State of Emergency to coordinate the State's response and protective actions to address the Coronavirus Disease 2019 ("COVID-19") public health emergency and to provide for the health, safety, and welfare of residents and visitors located in North Carolina ("Declaration of a State of Emergency"); and

WHEREAS, the undersigned established the Novel Coronavirus Task Force on COVID-19 to work with state, local, and federal partners in responding to challenges posed by COVID-19; and

WHEREAS, the World Health Organization declared COVID-19 a global pandemic on March 11, 2020; and

WHEREAS, on March 11, 2020, the President of the United States took executive action to restrict travel from Europe into the United States of America; and

WHEREAS, on March 13, 2020, the President of the United States declared the ongoing COVID-19 a pandemic of sufficient severity and magnitude to warrant an emergency declaration for all states, tribes, territories, and the District of Columbia pursuant to Section 501(b) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. § 5121-5207 (the "Stafford Act"); and

WHEREAS, on March 13, 2020, the President of the United States pursuant to Sections 201 and 301 of the National Emergencies Act, 50 U.S.C. § 1601, *et seq*. and consistent with Section 1135 of the Social Security Act, as amended (42 U.S.C. § 1320b-5), declared a national emergency that the COVID-19 outbreak in the United States constitutes a national emergency beginning March 1, 2020; and

WHEREAS, the North Carolina Department of Health and Human Services ("NCDHHS") confirmed the number of cases of COVID-19 in North Carolina continues to rise; and

WHEREAS, Executive Order No. 116 invoked the Emergency Management Act, and authorizes the Governor to exercise the powers and duties set forth therein to direct and aid in the response to, recovery from, and mitigation against emergencies; and

WHEREAS, NCDHHS has organized a Public Health Incident Management Team to manage the public health impacts of COVID-19 in this state; and

WHEREAS, first responders and health care professionals remain integral to ensuring the state is best situated to respond to and mitigate the threat posed by COVID-19 and such first responders and health care professionals should have the availability of all necessary personal protective equipment and continue to follow all necessary response protocols; and

WHEREAS, pursuant to N.C. Gen. Stat. § 166A-19.30(b)(3), the undersigned, with the concurrence of the Council of State, has the power to regulate and control the congregation of persons in public places or buildings; and

WHEREAS, pursuant to N.C. Gen. Stat. § 166A-19.30(b)(4), the undersigned, with the concurrence of the Council of State, may waive a provision of any regulation or ordinance of a state agency which restricts the immediate relief of human suffering; and

WHEREAS, pursuant to N.C. Gen. Stat. § 166A-19.30(b)(5), the undersigned, with the concurrence of the Council of State, may perform and exercise other such functions, powers and duties as are necessary to promote and secure the safety and protection of the civilian population; and

WHEREAS, further action is necessary to protect the health and safety of the residents of North Carolina, slow the spread of the COVID-19 outbreak, reduce the number of people infected, and avoid strain on our health care system; and

WHEREAS, the undersigned has sought and obtained concurrence from the Council of State consistent with the Governor's emergency powers authority in N.C. Gen. Stat. § 166A-19.30.

NOW, THEREFORE, by the authority vested in me as Governor by the Constitution and the laws of the State of North Carolina, **IT IS ORDERED**:

Section 1. Prohibition of Mass Gatherings

Pursuant to N.C. Gen. Stat. § 166A-19.30(b)(3), which allows for the undersigned to regulate and control the congregation of persons in public places or buildings and with the concurrence of the Council of State, to help protect the health and well-being of North Carolinians, I hereby prohibit mass gatherings in the State of North Carolina.

a. A mass gathering is defined as any event or convening that brings together more than one hundred (100) persons in a single room or single space at the same time, such as an auditorium, stadium, arena, large conference room, meeting hall, theater, or any other confined indoor or outdoor space. This includes parades, fairs and festivals.

b. A mass gathering does not include normal operations at airports, bus and train stations, medical facilities, libraries, shopping malls and centers, or other spaces where more than one hundred (100) persons are gathered. It also does not include office environments, restaurants, factories, grocery stores or other retail establishments.

c. Pursuant to N.C. Gen. Stat. § 166A-19.30(a)(2), the provision of this section shall be enforced by state and local law enforcement officers.

d. Violations of this section or orders issued pursuant to N.C. Gen. Stat. § 166A-19.30 may be subject to prosecution pursuant to N.C. Gen. Stat. § 166A-19.30(d) and is punishable as a Class 2 misdemeanor in accordance with N.C. Gen. Stat. § 14-288.20A.

Section 2. School Closures

a. Pursuant to N.C. Gen. Stat. § 166A-19.30(b)(5) which allows the undersigned to perform and exercise such other functions, powers and duties as are necessary to promote and secure the safety and protection of the civilian population, and with the concurrence of the Council of State, I hereby direct that all public schools close for students effective Monday, March 16, 2020 until March 30, 2020, unless extended beyond that date.

b. Pursuant to N.C. Gen. Stat. § 166A-19.30(a)(1), I hereby direct NCDHHS, the North Carolina Department of Public Instruction, and the North Carolina State Board of Education to immediately work together to implement measures to provide for the health, nutrition, safety, educational needs and well-being of children during the school closure period.

Section 3. Social Distancing

In coordination with the State Health Director and alignment with guidance from the Centers for Disease Control and Prevention, all persons are urged to maintain social distancing (approximately six feet away from other people) whenever possible and to continue to wash hands, utilize hand sanitizer and practice proper respiratory etiquette (including coughing into elbow).

Section 4. Distribution

I hereby order that this Executive Order be: (1) distributed to the news media and other organizations calculated to bring its contents to the attention of the general public; (2) promptly filed with the Secretary of the North Carolina Department of Public Safety, the Secretary of State, and the superior court clerks in the counties to which it applies, unless the circumstances of the State of Emergency would prevent or impede such filing; and (3) distributed to others as necessary to ensure proper implementation of this Executive Order.

Section 5. Effective Date

With the exception of section 2, this Executive Order is effective immediately and shall remain in effect for thirty (30) days or until rescinded or superseded by another applicable Executive Order. An Executive Order rescinding the Declaration of a State of Emergency will automatically rescind this Executive Order.

IN WITNESS WHEREOF, I have hereunto signed my name and affixed the Great Seal of the State of North Carolina at the Capitol in the City of Raleigh, this 14th day of March in the year of our Lord two thousand and twenty.

Roy Cooper
Governor

ATTEST:

Elaine F. Marshall
Secretary of State

Appendix B

Plan B Options A, B, and C

ES=Elementary School, MS=Middle School, HS=High School

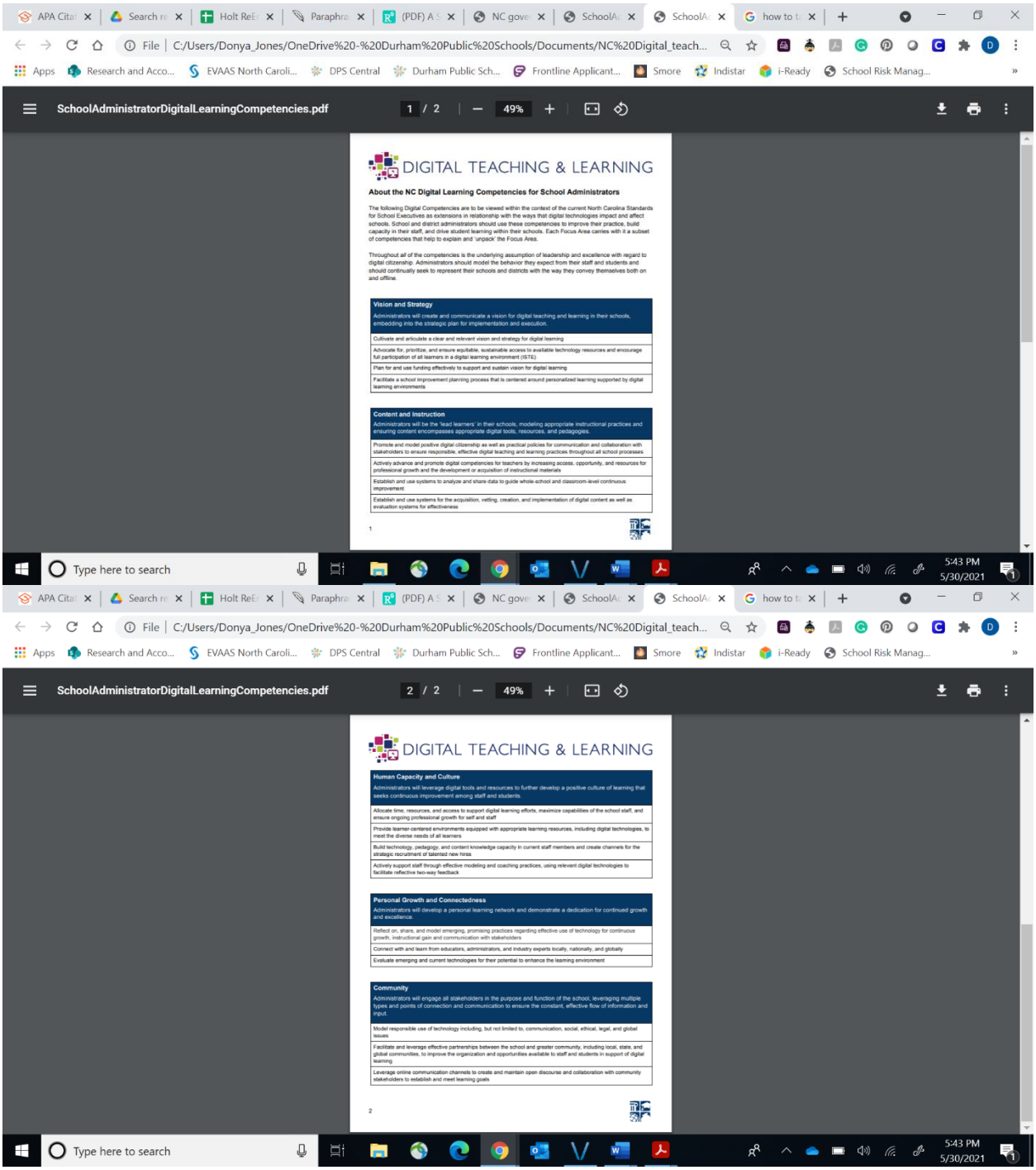
PLAN B SCHEDULING OPTIONS	Description	Examples (not exhaustive)	Benefits/Challenges (not exhaustive)
Option A **By Grade Span** **By Grade Level**	ES and MS students physically attend school for regular school hours and socially distance. ES and MS students use ES, MS, and HS campuses. HS students take all courses through remote learning. HS conducts on campus labs for additional support. Some grade levels attend on-site, others remote.	ES 100% on-site MS 100% on-site High 100% remote _____ K-3 on-site 4-5 remote _____ K-4 on-site 5-8 remote _____ 9-10 on-site 11-12 remote Facilitate remote instruction for any student screened out of on-site instruction due to COVID-19 symptoms or exposure.	This could reduce student density by 50% on campus and on buses. Childcare issues are resolved for ES and MS because all on-site. HS content could be easier to develop into remote learning, in some but not all instances. HS buses could be used to decrease the density of ES and MS school buses. Could also reduce density by having highest need students (based on age or academic needs) on-site while others are remote, even for HS. _____ More teachers would be needed for each grade span if on-site students are assigned different classrooms to limit density in classes. Academic and Social/Emotional needs of HS students will be significantly harder to meet if full remote learning and no on-site teaching and learning. Issues of engagement will also be challenging. Issues of equitable access to resources and excellent content will be a challenge for HS students and courses. Many courses are not suited for remote, such as labs, CTE, sciences, arts, etc. HS building changes for needs of ES and MS; including bathrooms, media resources, playgrounds, desks, table height, etc. may not be easily accomplished. ES and MS school needs may be harder to meet in HS building, especially issues of administration, special circumstances, custody, etc. with unfamiliar staffing. More personnel will be needed to cover students in separate locations.

PLAN B SCHEDULING OPTIONS	Description	Examples (not exhaustive)	Benefits/Challenges (not exhaustive)
Option B ***Alternating Days*** By one day By multiple days *For a long duration or for a shorter time period to ease reopening and implement beginning of processes and procedures effectively.*	• At all grade spans, students could be divided into different cohorts attending alternating days on-site and off-site. • This could be done each day or for multiple days at a time. • *This could be done to decrease density even further, such as one grade-level or cohort of students for each day of the week to reduce to 20% density. This idea may be an option to stagger opening of school to ensure processes and procedures are in place. • Facilitate remote instruction for any student screened out of on-site instruction due to COVID-19 symptoms or exposure.	• A/B Cohorts • Cohort A attends M/W; remote T/TH • Cohort B attends T/TH; remote M/W • Friday is remote for all • Cohort A attends M/T; remote W/TH • Cohort B attends W/TH; remote M/TH • Friday is remote for all • Cohort A attends M/T; remote TH/F • Wednesday is remote for all. • Cohort B attends TH/F; remote M/T	• This could reduce student density by 50% on campus and on buses. • Facilitates direct instruction with opportunities for application of learning. • All students get to be on-site for some days with teachers and other educational staff. • Communication issues with cohort and day; may be confusing for students and families to know their scheduled days. • Childcare issues for off-site days; special consideration for families with multiple students will need to be considered, if possible. • Time with program specialists could be extra challenging. • Staffing assignments for off-site check-in needed; perhaps hire retired teachers for office hours during off-site days.

PLAN B SCHEDULING OPTIONS	Description	Examples (not exhaustive)	Benefits/Challenges (not exhaustive)
Option C ***Alternating Weeks*** By one week By two or more weeks By "track" as with year-round calendar schools	• At all grade spans, students could be divided into different cohorts attending different weeks of on-site and off-site learning.	• By one week: • Cohort A attends on-site weeks 1, 3, 5 … and remote weeks 2, 4, 6 … • Cohort B is on-site weeks 2, 4, 6 … and remote 1, 3, 5 … • By two weeks: • Cohort A attends weeks 1, 2... and remote 3, 4... • Cohort B onsite 3, 4… and remote weeks 1, 2 • To reduce density by 66%, could do three cohorts • Facilitate remote instruction for any student screened out of on-site instruction due to COVID-19 symptoms or exposure.	• This could reduce student density on-site and for transportation by 50%. • Facilitates direct instruction with opportunities for application of learning. • All students get to be on-site on some weeks with teachers and other educational staff. • May better meet planning needs of families for childcare and employment. Children in a family could be assigned to the same on-site times to better support scheduling. • Communication issues of cohort and week; may be confusing t for students and families to know their scheduled weeks. • Childcare issues for off-site week. • Staffing assignments for off-site student support is needed; perhaps hire retired teachers/tutors/teaching assistants/homebound teachers for office hour times for off-site weeks..

Appendix C

Digital Competencies for Administrators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DIGITAL TEACHING & LEARNING
About the NC Digital Learning Competencies for School Administrators
The following Digital Competencies are to be viewed within the context of the current North Carolina Standards for School Executives as extensions in relationship with the ways that digital technologies impact and affect schools. School and district administrators should use these competencies to improve their practice, build capacity in their staff, and drive student learning within their schools. Each Focus Area carries with it a subset of competencies that help to explain and 'unpack' the Focus Area.
Throughout all of the competencies is the underlying assumption of leadership and excellence with regard to digital citizenship. Administrators should model the behavior they expect from their staff and students and should continually seek to represent their schools and districts with the way they convey themselves both on and offline.
Vision and Strategy
Administrators will create and communicate a vision for digital teaching and learning in their schools, embedding into the strategic plan for implementation and execution.
Cultivate and articulate a clear and relevant vision and strategy for digital learning
Advocate for, prioritize, and ensure equitable, sustainable access to available technology resources and encourage full participation of all learners in a digital learning environment (ISTE)
Plan for and use funding effectively to support and sustain vision for digital learning
Facilitate a school improvement planning process that is centered around personalized learning supported by digital learning environments
Content and Instruction
Administrators will be the 'lead learners' in their schools, modeling appropriate instructional practices and ensuring content encompasses appropriate digital tools, resources, and pedagogies.
Promote and model positive digital citizenship as well as practical policies for communication and collaboration with stakeholders to ensure responsible, effective digital teaching and learning practices throughout all school processes
Actively advance and promote digital competencies for teachers by increasing access, opportunity, and resources for professional growth and the development or acquisition of instructional materials
Establish and use systems to analyze and share data to guide whole-school and classroom-level continuous improvement
Establish and use systems for the acquisition, vetting, creation, and implementation of digital content as well as evaluation systems for effectiveness
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DIGITAL TEACHING & LEARNING
Human Capacity and Culture
Administrators will leverage digital tools and resources to further develop a positive culture of learning that seeks continuous improvement among staff and students.
Allocate time, resources, and access to support digital learning efforts, maximize capabilities of the school staff, and ensure ongoing professional growth for self and staff
Provide learner-centered environments equipped with appropriate learning resources, including digital technologies, to meet the diverse needs of all learners
Build technology, pedagogy, and content knowledge capacity in current staff members and create channels for the strategic recruitment of talented new hires
Actively support staff through effective modeling and coaching practices, using relevant digital technologies to facilitate reflective two-way feedback
Personal Growth and Connectedness
Administrators will develop a personal learning network and demonstrate a dedication for continued growth and excellence.
Reflect on, share, and model emerging, promising practices regarding effective use of technology for continuous growth, instructional gain and communication with stakeholders
Connect with and learn from educators, administrators, and industry experts locally, nationally, and globally
Evaluate emerging and current technologies for their potential to enhance the learning environment
Community
Administrators will engage all stakeholders in the purpose and function of the school, leveraging multiple types and points of connection and communication to ensure the constant, effective flow of information and input.
Model responsible use of technology including, but not limited to, communication, social, ethical, legal, and global issues
Facilitate and leverage effective partnerships between the school and greater community, including local, state, and global communities, to improve the organization and opportunities available to staff and students in support of digital learning
Leverage online communication channels to create and maintain open discourse and collaboration with community stakeholders to establish and meet learning goals
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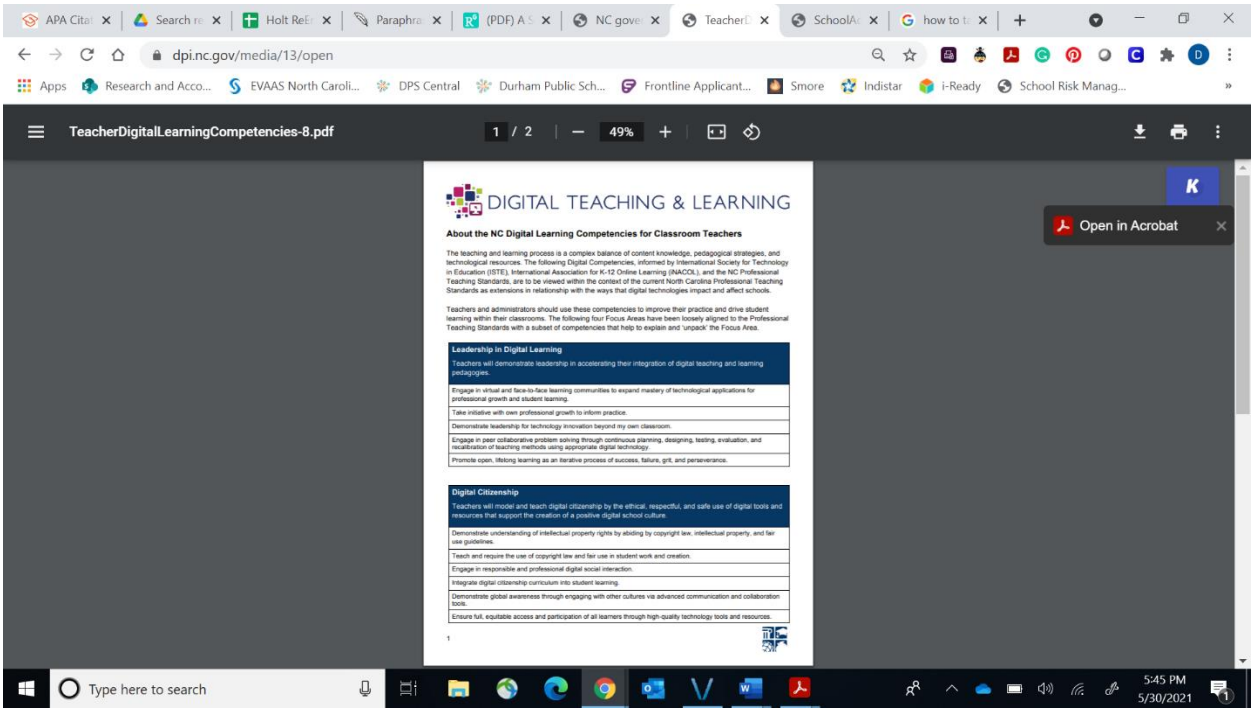
Appendix D

NC Digital Competencies for Teachers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DIGITAL TEACHING & LEARNING
About the NC Digital Learning Competencies for Classroom Teachers
The teaching and learning process is a complex balance of content knowledge, pedagogical strategies, and technological resources. The following Digital Competencies, informed by International Society for Technology in Education (ISTE), International Association for K-12 Online Learning (INACOL), and the NC Professional Teaching Standards, are to be viewed within the context of the current North Carolina Professional Teaching Standards as extensions in relationship with the ways that digital technologies impact and affect schools.
Teachers and administrators should use these competencies to improve their practice and drive student learning within their classrooms. The following four Focus Areas have been loosely aligned to the Professional Teaching Standards with a subset of competencies that help to explain and 'unpack' the Focus Area.
Leadership in Digital Learning
Teachers will demonstrate leadership in accelerating their integration of digital teaching and learning pedagogies.
Engage in virtual and face-to-face learning communities to expand mastery of technological applications for professional growth and student learning.
Take initiative with own professional growth to inform practice.
Demonstrate leadership for technology innovation beyond my own classroom.
Engage in peer collaborative problem solving through continuous planning, designing, testing, evaluation, and recalibration of teaching methods using appropriate digital technology.
Promote open, lifelong learning as an iterative process of success, failure, grit, and perseverance.
Digital Citizenship
Teachers will model and teach digital citizenship by the ethical, respectful, and safe use of digital tools and resources that support the creation of a positive digital school culture.
Demonstrate understanding of intellectual property rights by abiding by copyright law, intellectual property, and fair use guidelines.
Teach and require the use of copyright law and fair use in student work and creation.
Engage in responsible and professional digital social interaction.
Integrate digital citizenship curriculum into student learning.
Demonstrate global awareness through engaging with other cultures via advanced communication and collaboration tools.
Ensure full, equitable access and participation of all learners through high-quality technology tools and resources.
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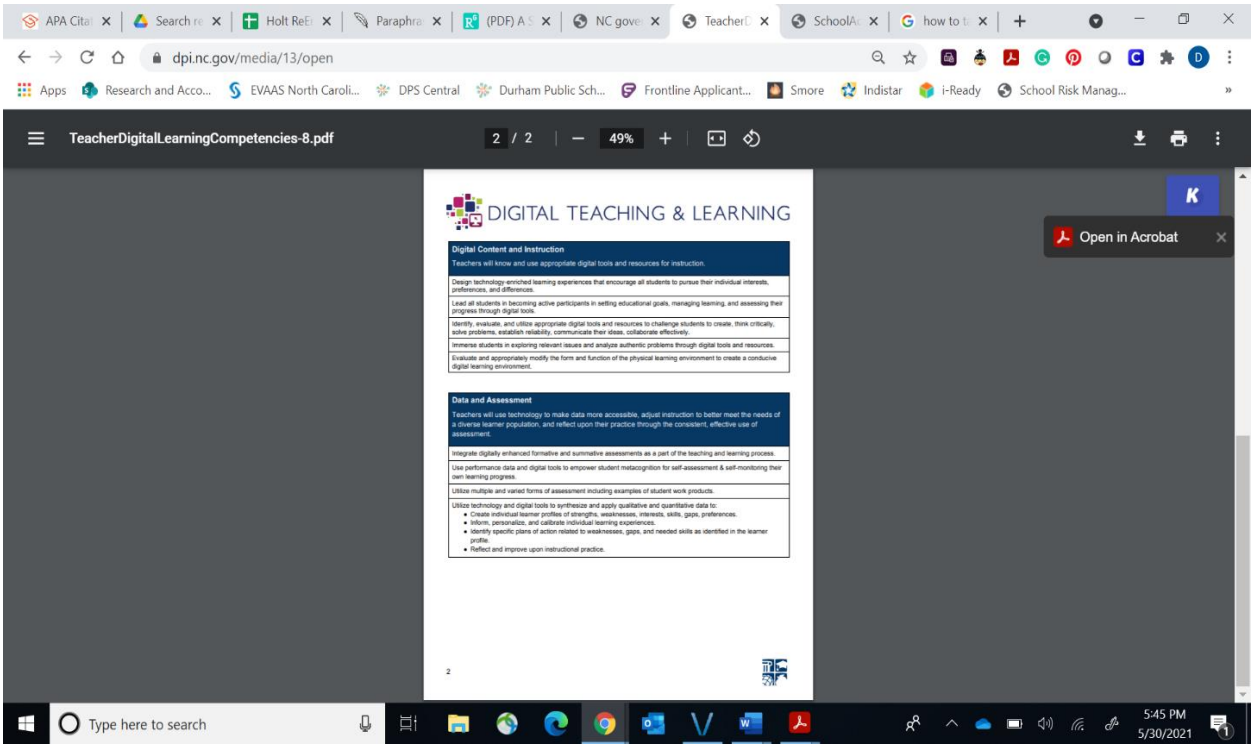
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DIGITAL TEACHING & LEARNING
Digital Content and Instruction
Teachers will know and use appropriate digital tools and resources for instruction.
Design technology-enriched learning experiences that encourage all students to pursue their individual interests, preferences, and differences.
Lead all students in becoming active participants in setting educational goals, managing learning, and assessing their progress through digital tools.
Identify, evaluate, and utilize appropriate digital tools and resources to challenge students to create, think critically, solve problems, establish reliability, communicate their ideas, collaborate effectively.
Immerse students in exploring relevant issues and analyze authentic problems through digital tools and resources.
Evaluate and appropriately modify the form and function of the physical learning environment to create a conducive digital learning environment.
Data and Assessment
Teachers will use technology to make data more accessible, adjust instruction to better meet the needs of a diverse learner population, and reflect upon their practice through the consistent, effective use of assessment.
Integrate digitally enhanced formative and summative assessments as a part of the teaching and learning process.
Use performance data and digital tools to empower student metacognition for self-assessment & self-monitoring their own learning progress.
Utilize multiple and varied forms of assessment including examples of student work products.
Utilize technology and digital tools to synthesize and apply qualitative and quantitative data to:
Create individual learner profiles of strengths, weaknesses, interests, skills, gaps, preferences.
Inform, personalize, and calibrate individual learning experiences.
Identify specific plans of action related to weaknesses, gaps, and needed skills as identified in the learner profile.
Reflect and improve upon instructional practice.
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Appendix E

Canvas Remote Learning

WHAT IS CANVAS?

- Software application for the administration, documentation, tracking, reporting and delivery of educational courses or training programs.
- Provides seamless connection to our student information system (SIS) PowerSchool to support grading, attendance, and communication with families.

CANVAS ONLINE RESOURCES

- External Tools - Learning Tools Interoperability (LTIs)
- Preferred digital tools can still be used:
  - Google
  - Seesaw
  - Edmentum Courseware (6-12)
  - Study Island
  - McGraw-Hill StudySync

CANVAS PARENT RESOURCES

- Parents can register for an *Observer* account to:
  - View Assignment
  - View Grades
  - View Calendar
  - Receive Alerts
  - Receive Announcements

See instructions at https://canvas.dpsnc.net

Appendix F

Research Approval Letter

July 19, 2021

Dear Ms. Jones:

Public Schools recognizes the benefits of participating in relevant, well-designed research studies proposed by qualified individuals. Approval for conducting such studies is based primarily on the extent to which substantial benefits can be shown for Public Schools and its mission of educating students. The purpose of this letter is to notify you of the **approval** of your proposed research study, "Shifts in Education: The Impact of COVID-19 on Face to Face and Virtual Learning" by the Public Schools Research Review Committee based on the following conditions, ***as well as the modifications submitted after approval***, as agreed upon by the researcher and Durham Public Schools.

Conditions:

- The research is approved as written and submitted and is limited to include ten interviews (with questions submitted) with elementary teachers (not within your current assigned school) as well as the analysis of district data regarding virtual learning.
- ***The research may also include the pre-selection survey at identified schools with recruitment emails as submitted. Any substantial changes should be resubmitted.***
- Please submit a signed Letter of Assurance (within the application packet).
- Please note that the zoom recordings must be destroyed as soon as your research paper has been finalized (and consent form must note this information).
- Due to the many demands that teachers currently have, you should anticipate minimal participation. Your communication should be motivating and inspiring or you risk not getting participation. Unfortunately, we will not be able to do continual reminders and communication so please plan accordingly. Participants may be contacted one time via personal email address and one phone call reminder.
- In your communication to teachers, please include the statement that DPS Research and Accountability has reviewed and approved your request to do this research but that participation is voluntary/optional.
- Please provide me a copy of the email solicitation that you will be sending to teachers for recruitment for participation.
- Data from Spring 2020 and Fall 2020 1D/Virtual Surveys will be provided for the sole purpose of this research. Data may not be shared and must be destroyed upon completion of the research paper. All confidential student-level data will be removed from the data set. Please make arrangements with Miranda McDonald in R&A to secure the transfer of the data.

- All data collection must be completed by April 30, 2022.
- Research is pending IRB approval (please send confirmation once received)

Congratulations on the approval of your proposed research study! We look forward to assisting you throughout your approved research partnership.

Sincerely,

Assistant Superintendent –Research & Accountability

Appendix G

Principal Recruitment Email

Dear Principals,

My name is Donya Jones. I am a doctoral student at Gardner-Webb University. My research study is titled, *Shift in Education: The Impact of COVID-19 on Face-to-Face and Virtual Learning*. I will be conducting a survey and an interview for my study. Your school district has selected your school to participate in my research study. The study will focus on the 1. Instructional Practices, 2. Technology Preparedness, and 3. Social-Emotional Well-being of teachers. The intention is to understand teachers' experiences, instructional practices, technology preparedness, and teachers' social-emotional well-being while teaching during COVID-19. I will obtain the email addresses of your teachers from the email system using the teacher's first and last name followed by the school selection. I will send the teachers a link at your school to the survey. Teachers that indicate interest in participating in the interview and are eligible to participate in the interview will be notified upon completion of the survey.

I will collect data during the Fall of 2021 at a time that is convenient to each teacher. The teacher will have the option to choose a face-to-face interview or a Zoom interview; and I will coordinate the logistics of the interview with each individual teacher who agrees to participate in the study.

Feel free to contact me by email or phone if you have any questions about this study. Thank you for your participation.

Sincerely,
Donya Jones

Appendix H

Survey Email With Consent Form

Dear Elementary Teachers,

My name is Donya Jones, I am a doctoral student at Gardner-Webb University. I am kindly requesting your participation in a doctoral research study that I am conducting titled: Shift in education: The impact that COVID-19 had on face-to-face learning and virtual learning. The intention is to understand your teaching experiences, instructional practices, technology preparedness, and social-emotional well-being while teaching during COVID-19.
This study involves completing basic demographic information and a survey which should take approximately 5-7 minutes or less to complete. Please respond to each question based on your knowledge and experiences during COVID-19 as it relates to your instructional teaching practices, your technology preparedness, and your social-emotional well-being during COVID-19.

It is hoped that this information will help me to better understand your teaching experiences, instructional practices, technology preparedness, and social-emotional well-being while teaching during COVID-19. Your responses will be kept confidential and no data will be released or used with your identification attached. DPS research and accountability has reviewed and approved my request to do this research in DPS. Your participation in this research is voluntary/optional. You may choose not to answer any or all questions, and you may stop at any time. There is no penalty for not taking part in this research study. You will be asked in this survey whether you are interested in participating in an interview.
If you would like to participate in the study, please read the Informed Consent letter below. To begin the study, click the survey link at the end. Thank you for your willingness to respond to this survey. Your response and time are appreciated.

You are eligible to participate in this study if you:
(a) Teach at one of two Title I Schools selected for this study
(b) Are employed as a teacher at schools within the school district in DPS
(c) Taught virtually during the pandemic
(d) Are a teacher that is not classified as a beginning teacher
You are not eligible to participate in this study if you do not teach in one of two Title I Schools selected for this study, are not employed as a teacher in the school district, did not teach virtually during the pandemic and are classified as a beginning teacher.

If you meet the eligibility criteria, please continue with the Informed Consent.

Informed Consent (Online Survey)

Shift in education: The impact that COVID-19 had on face-to-face learning and virtual learning

The purpose of this research is to understand your teaching experiences, instructional practices, technology preparedness, and social-emotional well-being while teaching during COVID-19. As a participant in the study, you will be asked
to provide some demographic information and provide examples about your teaching experiences during COVID-19 which will be collected through an online survey. It

is anticipated that the study will require about 30 minutes of your time. Participation in this study is voluntary. You have the right to withdraw from the research study at any time without penalty. You also have the right to refuse to answer any question(s) for any reason without penalty. The information that you give in the study will be handled confidentially. Your data will be anonymous which means that your name will not be collected or linked to the data. There are no anticipated risks in this study. You will receive no payment for participating in the study. You have the right to withdraw from the study at any time without penalty by exiting the survey. Data from this study will be used or distributed for future research studies.

If you have questions about the study, contact:

Researcher: Donya Jones
Telephone: 919-641-6908
Email: djones35@gardner-webb.edu,

Faculty Advisor: Dr. Jennifer Putnam
Telephone: 704-406-2015
Email: jputnam2@gardner-webb.edu

Dr. Sydney K. Brown
IRB Institutional Administrator
Telephone: 704-406-3019
Email: skbrown@gardner-webb.edu

Clicking the link below to continue on to the survey indicates your consent to participate in the study.

Survey Link

https://qfreeaccountssjc1.az1.qualtrics.com/jfe/preview/SV_88NKJlIsUAO1Rrw?Q_CHL=preview

Appendix I

Interview Email With Consent Form

Dear Participant,

My name is Donya Jones and I am a doctoral student in the Curriculum and Instruction program at Gardner-Webb University. I recently emailed you a copy of the consent form that you agreed to digitally. Thank you for agreeing to participate in my research study. The purpose of this interview is to understand the experiences that teachers had while teaching during COVID-19. Your responses will be kept confidential and no data will be released or used with your identification attached. Your participation in this research is voluntary. You may choose not to answer any or all questions, and you may stop at any time. There is no penalty for not taking part in this research study. To protect your identity, I ask you to please refrain from using your name during this interview. I will be recording this interview.

Letter of Consent

You are invited to take part in a research study about teachers' instructional practices, technology preparedness, and social emotional well-being during COVID-19. The researcher is inviting K-5 elementary teachers from Title 1 schools who teach in a North Central, North Carolina school district to be in this study. This form is part of the process called informed consent to allow you to understand this study before deciding whether to take part. This study is being conducted by a researcher named Donya Jones, who is a doctoral student at Gardner-Webb University.

Background Information:

The purpose of this study is to investigate the instructional practices, technology preparedness, and social emotional well-being of teachers during COVID-19.

Procedure:

If you agree to participate in this study, you will be asked to

- You will participate in the interview portion of this study if you indicated yes in the survey by providing a face-to-face interview or an interview through a Zoom meeting.
- You will be interviewed by the researcher during a time that is convenient. The interview will be no longer than 60 minutes. The interview will be audio-recorded and transcribed.
- You may be asked to make comments regarding any needed corrections on the transcription. If there are no comments made, it will be accepted that there are no corrections needed. If you no longer want to participate in this study, any data collected in relation to you will be discarded.

Voluntary Nature of the study:

- This study is completely voluntary. Your decision whether to participate or not to participate in this study will be respected. Additionally, this study is completely anonymous, no one will know if you did or did not participate. If you decide to join the study now, you can still your mind later and any information that you provided will be destroyed. You may stop at any time.

Risk and Benefits in the study:

- Being in this study involves no more than minimal risk. The benefits of this study include voicing your experiences and perceptions about your instructional practices, technology preparedness, and social emotional well-being during the COVID-19 pandemic. This study will also provide your school district insights and information on the needs of teachers and ways to support teachers in the event of another pandemic.

Payment:

- This study is completely voluntary: there will be no reimbursement or payment for time.

Privacy:

- Any information that you provide will be kept confidential. The researcher will not use your personal information for any purposed outside of this research project. Also, the research will not include your name or anything else that could identify you in the study reports. Data will be kept in a secured location on a cloud that will be password protected. The data will be destroyed at the completion of the research project.

Suggested Interview Meeting Locations for Face-to-Face Meetings:

- School libraries (your base school)
- School conference room (your base school)
- School personal office space (your base school)
- The researcher's school base

Contacts and Questions:

If you have questions now or later, you can contact:

- The researcher, Donya Jones, EdD Candidate in the School of Education, Gardner-Webb at 919-641-6908 or via email at djones@35@gardner-webb.edu.
- You may contact my faculty advisor, Dr. Jennifer Putnam, Associate Dean School of Education Graduate Programs, at 704-406-2015 or via email at jputnam2@gardner-webb.edu. and/or
- The Dean of Education, Dr. Prince Bull at 704-406-4402 or via email at pbull@gardner-webb.edu.

You can ask any questions you have before you begin the survey. If you want to talk privately about your rights as a participant, you can contact Dr. Sydney K. Brown, IRB Institutional Administrator at Gardner-Webb University at 704-406-3019 or via email skbrown@gardner-webb.edu.

Voluntary Consent by Participant

I have read the information in this consent form and fully understand the contents of this document. I have had a chance to ask any questions concerning this study and they have been answered for me. I agree to participate in this study. DPS research and accountability has reviewed and approved my request to do this research in DPS. Your participation in voluntary/optional.

_____Date:_____

Participant Printed Name

_____Date:_____

Participants Signature

You will receive a copy of this form for your records.

Sincerely,
Donya Jones

Appendix J

Interview Questions

1. Describe the techniques that you used to teach virtually during COVID-19.
2. What strategies did you gain from teaching online during COVID-19?
3. Describe how you have provided individual instruction and small group instruction while monitoring other students who are completing seatwork while teaching during the pandemic.
4. How prepared were you to teach virtually during COVID-19?
5. What should your school district do to better prepare you to teach virtually?
6. Describe how you have used technology in your classroom during COVID-19.
7. How prepared were you to integrate technology during COVID-19?
8. Explain to what extent technology has changed the way you provide instruction to students during COVID-19.
9. Describe any specific technology professional development that you feel prepared you to implement technology into your classroom during COVID-19.
10. What should your school district do to better prepare you to integrate technology?
11. What was the social emotional impact of teaching virtually during COVID-19?
12. What lessons did you learn about social emotional well-being while teaching virtually?
13. Describe how your district encouraged social emotional well-being during COVID-19.
14. Describe the social emotional well-being activities that you incorporated to cope with COVID-19.
15. What should your school district do to better prepare your social emotional well-being in a time of crisis?

Appendix K

Survey Questions

Before starting the survey, please tell me some information about you.

1. Your number of years teaching
2. Grade Level
3. Your Gender
4. Your Race
5. Your age range (e.g.) (a) 20-30 (b) 31-40 (c) 41-50 (d) 51+
6. Your content area
7. Did you teach between August 2019-June 2021

1. What instructional strategies supported your remote delivery during COVID-19?
2. How prepared were you to provide remote delivery during COVID-19?
3. Describe the technology support provided by your district to support your technology preparedness during COVID-19.
4. What steps should your district take to prepare teachers for technology in future pandemics?
5. What coping mechanisms did you use to support your social emotional well-being during COVID-19?
6. Describe how the district supported your social emotional well-being during COVID-19.
7. If you are interested in continuing to the interview portion of this click this link. https://docs.google.com/forms/d/1p-5srlQ7uXXee66CJZJlarQDWt-a_PKeWnD485Q12T4/edit