3-2022

Professional Development for Educational Continuity in Emergencies: The Response of Two Urban School Districts During the COVID-19 Pandemic

Crystal Amado Kucharski
Lynn University

Justin Arnone
Lynn University

Samantha Butler
Lynn University

Shannon Makowski
Lynn University

Lucas Preble
Lynn University

Professional Development for Educational Continuity in Emergencies: The Response of Two Urban School Districts During the COVID-19 Pandemic

By: Crystal Amado Kucharski, Justin Arnone, Samantha Butler,

Shannon Makowski, & Lucas Preble

A Dissertation

Submitted in Partial Fulfillment of the Requirements for the

Doctorate in Educational Leadership

Department of Education

Lynn University

March 2022

Table of Contents

Tables and Figures

Acknowledgments

Throughout our experience of this educational journey, we have received a great deal of support and assistance from our families, each other, the Dean of Lynn University, Dr. Kathleen Weigel, and our chair Dr. Jennifer Lesh. We would also like to thank the members of Cohort 17 and all faculty in the Ed.D. program for their perspective, contributions and assistance as we ventured into this research topic.

Crystal Amado Kucharski: I am in awe of my co-researchers. I have had the honor to learn and grow alongside you. I cannot go without first thanking the people who instilled in me the importance of love, understanding, and education. I was taught these three things together, or separate, can solve any problem, and those people are my mother, father, Suzanne, and Emily. I am blessed to have such a supportive and loving family led by my husband, Nick. I am grateful for you being my everything on this journey with me. Cannon, my loving son, the joy you bring me is immeasurable; anything is possible if you believe in yourself, stay true to yourself, and live in the moment. I am appreciative of my friends who consistently cheered me on. Cohort 17 and the Go5, we rise together through the power of education, and I am so proud of us. We did it!

Justin Arnone: I vividly remember struggling to complete my application for this doctoral program while simultaneously preparing to open my school as a hurricane shelter. While the application deadline was met, I had no idea that kind of chaos would continue for almost three years. From the onset of a global pandemic, to some of the most trying times of our careers, through love and loss, we carried each other. Words cannot express how grateful I am for the Gang of 5, and the Cohort 17 family. Dad, this is for you.

Samantha Butler: Being one of the youngest of my siblings, yet the first to graduate high school and college, it was always my dream to become a doctor. I fell in love with education at a young age through the foundation of my maternal grandmother and inspiration of my mother. After completing my Master's degree, I knew there was still much work and sacrifice to be made to earn my Doctorate. Life passed on and my goal was steadfast. With my friends, that I now consider family, the journey towards my Doctorate took flight. This family has loved and supported me on this journey and I have know idea how I would have made it with my Go5 and the Cohort 17 family. To my mom, Mary, my sister Donshalina and my precious beautiful intelligent daughter Sophia, my love Kapplen; I thank you for your patience, your grace, your sacrifice and your support through this endeavor. Momma… you have a Doctor in the family now!

Shannon Makowski: I have talked about becoming a "Dr." since I was 11 years old. Thank you to the Gang of 5, my lifelong friends, for putting up with me and working with me for the last three years to make this happen. I wouldn't have wanted to spend my weekends or this pandemic with anyone else. Thank you to my family for supporting and loving me through yet another degree… I promise to take some time off before my next venture.

Lucas Preble: First and foremost, I would like to thank my fellow contributing researchers for welcoming me in friendship. Each class we took was exciting, purposeful and challenging. Having you four there made my weekends these past three years. My wife, Maria, for being ever at my side to support me through this terminal degree, my son Jackson for his constant love and patience, my daughters Josephine and Charlotte for always making me and my cohort smile. My parents and siblings for their words of encouragement, excitement and support.

Abstract

The COVID-19 pandemic is a worldwide disruptor that impacts the foundation of education as professionals know it. The structural soundness and stability of the nation's public education system was on display, exposing the varying antiquated practices in place and the inability of many school districts to pivot to a digital platform as the nation's public schools closed their school buildings to K-12 students. Public K-12 schools did not have readily available systems nor protocols in place to continue educating the nation's kids. Parents, grandparents, older siblings, etc, became the teachers of these children as the teachers attempted to educate via a computer screen. Research dictates that public school districts need to reexamine their educational continuity plans and structure to succeed.

The goal of this research was to study two large, urban public school districts in the Southeastern United States for educational continuity during the COVID-19 Pandemic and employ a product that would lend itself to sustainable educational continuity. Based on the research from this study, quantitative and qualitative results, educators are seeking professional development (PD) to implement tools and best practices as well as a systemic approach to educational continuity. Through research and survey results, Educational Continuity Solutions was formed as a digital resource to develop any school district's varied needs throughout the year to mitigate school disruption by a natural disaster, pandemic, school safety, mass school violence, etc. The model ensures that a system for educational continuity is at the forefront of the planning process.

CHAPTER I: INTRODUCTION

Background

In late February 2020, school districts across the United States made administrative decisions to close their buildings due to the unprecedented COVID-19 Pandemic, of which the catastrophic ramifications had not been felt for 100 years (Decker et al., 2020). This historic circumstance created a domino effect and put into action a myriad of varying school district emergency plans across the country. The purpose of this two-phase action research study was to consider the mitigating response of two large, urban public school districts in the Southeastern United States for educational continuity during the COVID-19 Pandemic and explore the need for professional development for sustainable technology integration that can be used to respond to future crises. This research utilized a constructivism evaluation design to take subjective meanings of participants' experience and develop certain theories (Creswell & Creswell, 2018). The literature review examined research on emergency response, emergency planning, need for continued professional development and prior instances of educational continuity in the event of natural disasters and previous pandemics. The United Nations International Children's Emergency Fund (UNICEF) called the COVID-19 Pandemic the largest disruptor of education in history exposing widening inequalities (Ferguson, 2020). As recently as November 2020, journals provided some insight into the potential effect of COVID-19 school closures, especially given such closures occur unexpectedly and disrupt scheduled instruction (Kuhfeld et al., 2020). It was an objective of this study to develop a digital resource for educators that was grounded in research and provided ways to mitigate the impact of the COVID-19 Pandemic in K-12 education. Additionally, the literature review includes a summary of recent research surrounding

COVID-19. How technology can aid remote learning for educational continuity in school districts was largely unanswered prior to this study.

The two large, urban school districts examined are located in the Southeastern region of the United States. The school districts were identified using the pseudonyms District 1 and District 2. These two districts were selected because of their proximity to each other, similarity in size, and demographics. District 1 has 209,887 students: 25% were White, 24.4% were Black or African American, 43.1% were Hispanic/Latino, 4.7% were Asian, 0.5% were Native American/Pacific Islander/Other, and 2.3% two or more races (FLDOE, 2020). District 2 has 196,331 students, 29.6% were White, 27.7% were Black or African American, 35.9% were Hispanic/Latino, 3% were Asian, 0.9% were Native American/Pacific Islander/other, and 2.8% were two or more races (FLDOE, 2020). Districts 1 and 2 were both deemed A-Rated with graduation rates of 88.4% and 87.1% respectively.

District 1 began a technology implementation program called LaunchED in 2012 with 1:1 device integration at seven pilot schools which included 1 high school, three middle schools and three elementary schools with a goal to be a 1:1 digital learning for all district schools by 2021. Throughout the integration process, District 1 vetted various online learning platforms and devices to determine affordability, versatility, and ease of use. According to the LaunchED timeline, by 2020 159 schools received and implemented 1:1 technology by 2020 with the remaining 44 schools scheduled in 2021 (Orange County Public Schools, n.d.). The onset of the COVID-19 Pandemic caused District 2 to push up their timeline to meet the demands for devices.

District 2 began reviewing procedures to integrate technology while maintaining the focus on human capital. District 2's technology plan was in direct alignment with a five-year strategic plan initiated in 2016, and responds to the evolving needs of the 21st century learner by providing technology in the classroom, upgrading infrastructure, and professional development. Beginning in 2016, District 2 focused on building a capacity for technology implementation in a select number of staff members on each district-operated campus. Over three years, these selected teachers were offered professional development to continue to build their skillset; each year a number of additional staff were selected to participate in the program from each school. The professional development provided by District 2 was called Teaching with Technology Trailblazer program, which launched in 2017 and has included 700 to 800 teachers each year (Brown, 2021). The technology plan sought to increase utilization of classroom technology, including the installation of an Interactive Flat Panel (IFP) device in each classroom at the conclusion of implementation. Prior to the COVID-19 Pandemic, 1:1 device implementation was not a goal of this program (School District of Palm Beach County, 2017).

Significance of the Study

Existing research surrounding educational continuity addresses emergencies at post-secondary and international institutions. While meaning can be ascertained and applied from this research to K-12 institutions, a significant gap in research is evident. Similarly, many studies have been conducted about the benefits and impact of distance learning as an option for education at postsecondary institutions (Gutierrez et al., 2005; Harper et al., 2004; McGuire & Schneck, 2010; McLennan, 2006; Schachter, 2007; SchWeber, 2008; Winters, 2007), however the research for K-12 education was lacking. Disasters such as Hurricane Katrina have been

catalysts to reform education policies in post-secondary institutions to include preparations for school districts, states, and the nation to teach children in the aftermath (Winters, 2007). This study provided further evidence to justify the need for attention in educational policy, practice, professional development, and preparedness for future crises.

Evidence outlined in this study may be of assistance to both policy makers, and educators further facilitating the future mitigation of crisis response to an emergency resulting in school closures. Educators at various levels are able to reference a digital resource to mitigate future crises which affect educational continuity. This research was also significant in that the body of evidence currently surrounding how the COVID-19 Pandemic affected education was fairly limited.

Statement of the Problem

As response plans were developed during the onset of the COVID-19 Pandemic in school districts nationwide, antiquated technology plans and insufficient professional development led to a lack of preparedness for educational continuity (Flores & Clancy, 2020). Teachers were transitioning through a particularly uncertain time in their profession (Allen et al., 2020). The already demanding task of a teacher has been compounded with never before seen challenges that test the limits of even the most experienced educators. Weak systems of support, including lack of professional development on how to integrate computers into instruction, have left teachers less than optimally equipped to teach during the pandemic (Kuhfeld et al., 2020). An internet search for information about education and the COVID-19 Pandemic demonstrates that a significant gap exists between where educators were and where they would have liked to be to meet the needs of their students. Articles and books with titles such as “The Distance

Learning Playbook" (Fisher et al., 2020) or "Teaching in the Online Classroom: Surviving and Thriving in the New Normal" (Lemov, 2020) were examples of the immediate response to the pandemic, however these resources do not address the underlying problems schools face.

While K-12 schools and districts have comprehensive response plans for fires, active shooters, and natural disasters, they tend to lack plans for educational continuity (SSBA, 2015). Plans for pandemics were nonexistent prior to COVID-19. Future crises are inevitable, natural or otherwise, and will require well-rounded educational continuity plans. If a plan is strong and addresses threats from multiple angles, the more prepared individuals will be. A plan that addresses multiple levels is stronger and makes individuals more prepared. As evidenced by past responses to events such as Hurricane Katrina and H1N1 virus, unless educational continuity is addressed by a comprehensive plan, problems will carry over to future instances of natural disasters, crisis-safety situations, and other pandemics. Schools worldwide have a variety of preparedness plans in place to deal with natural disasters, armed violence, flu, and other emergencies, the vast majority have not planned for the prospect of month long or longer school closures due to a pandemic (Anderson, 2020).

Theoretical Framework

Educators and students need consistency and resources to meet the social expectations of a school setting and its goals. Devastating social, psychological, and economic consequences exist in the aftermath of a disaster (Gutierrez et al., 2005). It is the duty of a school to meet the holistic needs of every student therefore educational continuity planning must take the traumatic consequences of a disaster into account (Peek & Richardson, 2010; Tobin, 2019).

The conservation of resources stress theory (COR) developed by Hobfoll (1989-1999)

states that as individuals progress, they attempt to build and retain resources that contribute to self-enhancement. Stress can occur when there is a threat of losing one's resources, such as a disaster or emergency. These resources include material objects, personal conditions, personal characteristics, social constructs, and emotional energy. The effects of stress following a disaster affect individuals uniquely including anxiety, depression, sleep disorders, and post-traumatic stress disorder (PTSD) (Gutierrez et al., 2005). Effects from a stressful event can be felt for up to five years (Gutierrez et al., 2005). While the stress caused by these sorts of events is inevitable, the impact of the stress can be mitigated to allow persons to overcome the challenge to resume their function. Son, Hegde, Smith, Wang, and Sasangohar (2020) conducted a study on the effects of COVID-19 on the mental health of college students and found that 71% of the survey respondents indicated an increase in stress and anxiety due to COVID-19. Another study on the impact of the COVID-19 Pandemic on school-aged children and their families found that providing parents with the resources to manage the emotional needs of their children was augmented by the uncertainty of distance learning and quarantine (Spinelli, Lionetti, Pastore, and Fasolo, 2020).

Many teachers said they had also become "impromptu social workers" for their students, directing them to food banks, acting as grief counselors for those who had family members die of COVID-19, and helping pupils work through their feelings of anxiety, depression, and isolation (Singer, 2020). Students must be supported with their basic needs before they can be expected to perform academically. Considering Maslow's Hierarchy of Needs (1943), basic physiological, safety, and belonging needs must be met before individuals progress to esteem and self-actualization. The common phrase in schools "Maslow's before Bloom's" is important when

planning for educational continuity after a disaster. This phrase is the idea that educators should meet students' basic needs for safety and belonging before turning to challenging academic tasks is one that guides the work of many schools (Berger, 2020). These needs extend beyond the cognitive skills acquired through time spent in the classroom over the years, including the basics such as tools, resources and essentials for classroom engagement (Berger, 2020).

SchWeber (2008) highlighted characteristics that are associated with resilience organizations. These characteristics include bricolage (being creative under pressure), expanding upon existing or obtaining access to resources, and making decisions quickly in unfamiliar contexts. Emphasis is placed on the effectiveness in crisis management so operations are able to resume. The ideal school would operate in some ways as SchWeber (2008) describes resilient organizations, by taking opportunities and challenges as teachable events. In the onset of a crisis, highly resilient schools should be able to continue instructional delivery without significant loss in resources and energy.

It can be argued that organizations that are not resilient have strategic issues including assessing the impact on organization performance, perceived urgency and consequences, and the impact or interdependency of other issues (Koteen, 1997). McGuire and Schneck (2010) highlight that effective strategic management of disasters must focus on all issues and phases of emergency management (mitigation, planning and preparedness, response, and recovery).

Conceptual Framework

Preparedness is necessary across all crises, disasters, and emergency situations (FEMA, 2012). Similar to how professional development practices were designed to prepare educators for crisis events such as fire and safety drills, the comprehensive educational resources,

technological advances, and community expectations necessitate a guided response to educational continuity in K-12 learning environments based on researched best practices. Additionally, the four responses humans experience while enduring crises: emotional, physical, cognitive, and behavioral (Bergh, 2009) are areas that schools have a duty to address prior to the need for educational continuity.

When addressing this research's conceptual framework, it was essential to examine the evolving role of technology integration in the classroom. What began as a streamlined answer to daily administrative duties, such as taking attendance and electronic gradebooks has led to distance learning, blended learning, and video conferencing platforms; educational enhancement made possible by the possession of electronic devices. All of this contributes to the ease of transitioning from brick and mortar to remote learning and back, if necessary.

Purpose of the Study

Research surrounding distance learning, 1:1 device programs, and educational continuity planning continues to grow as technology advances. Throughout the nation, states and districts implemented provisional plans in the spring of 2020 because of the COVID-19 Pandemic that became more permanent as the pandemic persisted. Research on how school systems were managing educational interruption during the COVID-19 Pandemic was continuous. Current data paints a widely varying view of state level responses to educational continuity. With the reopening of schools, the successes and challenges of these specific responses needed to be analyzed. The purpose of this two-phase action research study was to examine two large urban school districts' responses to the COVID-19 Pandemic through their educational continuity

plans. Furthermore a goal of this study was to prepare a digital resource addressing the need for technology integration strategies in preparing plans for future crisis situations at the district level.

Research Questions

1. What do statistical comparisons of publicly available data reveal about the way the digital divide has affected both districts before, during, and after the current pandemic?
2. What policies, procedures, and resources are identified by teachers and administrators in these two districts as effective in mitigating disruption to education?
3. What professional development and technology integration did these two districts put in place to support the success of educational continuity before, during, and after a disaster?
4. What challenges do stakeholders of these districts identify in their implementation of an educational continuity plan?

Assumptions, Delimitations, and Limitations

The assumption of this study was that little to no professional development for emergency remote teaching existed to support educators in response to the COVID-19 Pandemic in two large, urban public school districts in the Southeastern United States. Teachers needed professional development to help them address the challenges of distance learning, especially for teachers who were working with the most vulnerable students (Hamilton et al., 2020).

The limitations of this research include the selected population which consists of teachers, administrators, and school district personnel of two large, urban public school districts in the Southeastern United States. The sample consisted of self-selecting individuals who agreed to participate in the survey through private social media groups. Since participants have

self-selected to participate their answers may be biased. Another limitation was that some participants might have known the researchers and may have answered questions the way they believed the researchers wanted them to answer. Researchers themselves lived the experience of navigating the COVID-19 Pandemic and in their roles as educators had to provide many services discussed in the research. As a result, their bias needed to be bracketed.

Delimitations of this study were populations of private schools, parochial schools, virtual schools, and charter schools and their data was not included in this research. Post-secondary institutions were not included in the population. Students and parents were not invited to participate in the research. Additionally, the research was not limited to 1:1 devices as a solution or to pandemic planning only, the development of a digital resource consisted of a compilation of best practices for educational continuity in any instance in which remote learning is needed.

Definition of Terms

The following terms were defined to help the reader understand the context of each term in this study:

1:1: one technology device per student for academic use

Asynchronous Instruction: a form of education, instruction, and learning that does not occur in the same place or at the same time (The Glossary, 2013)

Blended-Learning: "the practice of using both online and in-person learning experiences when teaching students" (The Glossary, 2013)

Brick and Mortar: education that occurs in a school building

Digital Divide: the gap between students that have access to technology with internet access and those that do not

*Distance Learning: "*the various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students at lecture rooms or on the same premises'' (Holmberg 1989, p. 3)

Educational Continuity: the continuation of education after a prolonged school closure or student absence

Emergency Remote Teaching: "a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances" (Hodges, Moore, Lockee, Trust, & Bond, 2020)

Mitigation: reducing the impact of an instructional interruption

Professional Development: training and education to continue to support educator growth, expertise and skills

Remote Learning: a response to emergency situations to keep students and teachers connected while working from home (Ray, 2020)

Synchronous Instruction: forms of education, instruction, and learning that occur at the same time, but not in the same place (The Glossary, 2013)

Virtual School: online school in which instruction is delivered entirely online via the internet

Organization of the Dissertation

This five chapter dissertation in practice, accompanied by a digital resource, was organized according to the Carnegie Project on the Education Doctorate (CPED) model. Chapter I introduces the problem intended to be reviewed, proposes a strategy for attaining this end, and sets a clear boundary around the scope of this research. Chapter II is a comprehensive review of the literature not only on educational continuity but also on the research behind distance learning and emergency preparedness plans. The literature review expanded on foundational research in

both K-12 schools and supports in which this study has filled this gap in literature. Chapter III covers the research design chosen, methodology used, and specific details of how this study was conducted. Chapter IV provides an overview of the findings and data analysis that drove the product. Chapter V is an Executive Summary that discusses the conclusions, limitations, and recommendations for further research.

Summary

This two-phase sequential action research design observed two large, urban public school districts in the Southeastern United States and their response to educational continuity during the COVID-19 Pandemic. In March 2020, District 1 was approaching the final year in a ten year strategic technology rollout, aiming to provide 1:1 digital devices, and increasing the availability of educational technology in district-operated schools. At the same time, District 2 was in the final ten months of a technology enhancement plan that also sought to increase the availability of educational technology on school campuses, however, it did not include 1:1 devices for students. The aim of the study was to collect data from the response of these two districts during the COVID-19 Pandemic to support the development of a digital resource of best practices for distance learning to support educational continuity of K-12 schools when faced with an emergency situation.

CHAPTER II: LITERATURE REVIEW

Introduction

The United Nations International Children's Emergency Fund (UNICEF) called the COVID-19 Pandemic the largest disruptor of education in history exposing widening inequalities (Ferguson, 2020). Across the United States, school districts closed schools to continue instruction remotely due to the COVID-19 Pandemic to keep all students healthy and safe. Distance learning was launched in many states and counties as a response. School districts and schools held laptop distributions, developed new policies and procedures, and implemented education via online platforms. The urgent demand for educational continuity left limited time for professional development for teachers, students, and parents prior to implementation unless districts were already utilizing these devices in their schools prior to the pandemic. While many schools switched to remote instruction, one-third of students (approximately 463 million) globally lacked access (Ferguson, 2020).

Organization of the Literature Review

The importance of professional development in the area of distance education has become clearer as more states and districts have opted to close their doors to stop the spread of COVID-19. Significant advantages and disadvantages exist with distance learning that affect student achievement, attendance, cost, and teacher pedagogy. This literature review begins with a multi-faceted examination of the logic supporting distance learning as a response to a disaster. Technology continues to grow in the area of education and this history is explored. A consideration often overlooked in K-12 education is the implementation of technology in response to a disaster. This literature review looks at successful implementation in

post-secondary institutions before looking at the training needed to focus on the transition from traditional classroom settings to distance learning. Areas covered include professional development in technological initiatives, methods that meet the diverse needs of students, and curriculum adaptations. The literature review provides extensive coverage on the topic of disaster planning, mitigation, and strategic planning as schools and districts must prepare policies and procedures that address discipline, attendance, and grading in a distance learning setting.

Distance learning has existed since the early 1700s, adapting as technology advances. However, the development of distance learning programs appears to be a work-in-progress, even for highly digital and developed countries (Vishkaie, 2020). Research conducted on its use as a means for educational continuity in the wake of a disaster supports the intended outcomes. This research offers considerations for institutions implementing similar programs to mitigate future disasters which are discussed in the final section of this literature review.

Right to Education & Emergency Education

In 1948 the Universal Declaration of Human Rights required access to learning and support systems by stating, “Everyone has the right to education.” Educators and institutions must plan for interruptions such as wars and natural disasters. ‘Education in emergencies’ refers to education for populations affected by unpredictable circumstances (Sinclair, 2007). Long before that declaration, in the start of the 1918-1919 Spanish Influenza Pandemic, school systems nationwide were faced with closure decisions to control the spread. Los Angeles was the only municipality to use correspondence courses for high school-aged students to continue education at home during the school closure (Stern, Cetron, & Markel, 2009). Another early example of emergency education occurred in France in 1939 during

World War II. The National Centre for Distance Education (CNED) was developed as a temporary way to provide correspondence courses to continue curriculum and instruction. In many cases, changes made during emergencies become permanently implemented. CNED continues to serve over 350,000 students today (Sinclair, 2007). Further, there are significant moral, ethical, economic, and cultural consequences that arise from the interruption of educational services. Stern, et al. (2009) argue that the interruption of schooling reaches far beyond the student and can have a significantly negative impact on families and entire communities.

Early Uses of Distance Learning

Distance learning is an old idea with a new name (Harper et al., 2004). The United States Distance Learning Association's (USDLA) definition of distance learning is the involvement of teaching through the use of telecommunication technologies, which share materials via voice, video, and data. In the early 1700s correspondence was used via mail to exchange assignments, notes, and tests through professors. The popularity of correspondence courses grew in the 1890s as a response to state laws requiring student attendance. By 1928, courses were offered via radio and eventually television (Harper et al., 2004).

Government-funded programs have long supported distance learning initiatives. The Advanced Distributed Learning (ADL) initiative created in 1997 intended to create collaborative projects of new learning technology (Harper et al., 2004). This awareness led to the passage of the Internet Equity and Education Act of 2001 which amended the Higher Education Act of 1965 to include correspondence courses in the recognition of full-time status for federal financial aid. The United Nations declared the internet a human right because it

enables a range of human rights such as “economic, social and cultural rights… the right to education and the right to take part in cultural life and to enjoy the benefits of scientific progress and its applications, as well as civil and political rights.” This declaration parallels views that social and economic inclusion in society increasingly requires access to the internet (Bach et al., 2018). UNICEF states that COVID-19 makes it clearer than ever that reliable access to educational opportunities and the internet should be a universal human right (Ferguson, 2020).

Higher Education & Disaster Response

Limited guidance regarding K-12 educational continuity exists from past emergency planning. Most of the research surrounding emergency remote and distance learning in response to a disaster originates from the higher education setting. Emergency Remote Teaching/Learning (ERT/L) is identified as a temporary shift of instructional delivery method due to a crisis circumstance utilizing fully remote teaching, normally delivered face-to-face, and will return to the original format once the crisis resolves. In contrast, distance learning refers to curriculum planned for online conveyance and is typically delivered by instructors who are experienced in online instruction (Hodges et al., 2020).

The bulk of this research has been conducted in the last decade profiling the response to disasters such as Hurricane Katrina, the H1N1 Pandemic, and numerous seismic events around the globe. Distance learning is an attractive option for higher education as it benefits the students and the institution. Students can choose the time, location, and pace of their education allowing for more diversity. Distance learning offers a reduction of financial

burdens for educational institutions by allowing for remote classrooms to reduce overcrowding and capacity concerns.

In the wake of Hurricane Katrina, a lack of facilities caused a migration of students to neighboring states. Education policy was needed to prepare school districts, states, and the nation to rebuild school systems and teach children until new schools were built (Winters, 2007). Following a series of serious earthquakes in Christchurch, New Zealand in 2010 and 2011, the University of Canterbury shifted to a remote instruction model during a period of time where traditional face-to-face instruction was not possible. Due to significant investments in a blended-learning model prior to these seismic events, all courses were already housed in an online Learning Management System (LMS), allowing for a more comfortable shift to remote learning. In this situation, LMS technology implementation became the central feature of the University of Canterbury's Educational Continuity Plan (Mackey et al., 2012).

Higher education institutions depend on educational continuity for survival. By examining the steps taken and outcomes in a variety of successful implementations, these best practices can be used as a framework for strategic planning. These successful implementations are discussed in the next sections (McLennan, 2006; SchWeber, 2008).

Tulane University

Hurricane Katrina made landfall on August 25, 2005, two days prior to the start of the fall semester at Tulane University. To prepare, they shut down all of their systems (email, website, and Blackboard) and canceled the fall semester on the main campus. An emergency website and telephone number were developed. Experienced online instructors taught during a mini semester. Tulane University utilized a temporary courseware platform to offer these

online courses. Instructors were responsible for rebuilding courses. A temporary help desk was constructed. As a result, Tulane University successfully recreated and delivered 11 online courses post-Hurricane Katrina. Online course offerings continued to be popular since so many students were displaced for months following the storm (McLennan, 2006).

Xavier University

Xavier University in New Orleans was also affected by Hurricane Katrina. The university participated in the Sloan Semester project, a partnership between 153 higher education institutions, the Southern Regional Education Board, and the Sloan Foundation to temporarily provide educational continuity to hurricane-affected students. Approximately 1,700 students registered in 1,345 online courses offered for free by these institutions (SchWeber, 2008). While Xavier's buildings were initially filled with 4-6 feet of water, they were able to reopen in January 2006 with approximately 75% of the fall enrollment (SchWeber, 2008). The success was due to a few key features of their strategic plan. Xavier activated its emergency website located in southern California a few days before the storm and accessed back-up tapes in a data storage facility to enable communication via email and website. Additionally, 40% of the returning fall semester students had enrolled in courses online and one-third of these students took classes through Sloan Semester allowing them to continue their education. The online environment was so effective that the graduate education program was offered completely online in Spring 2006 (SchWeber, 2008).

Theoretical Foundations

When discussing the justification of distance learning for educational continuity in response to a disaster, it is important to understand the theoretical foundations. Devastating

social, psychological, and economic consequences can affect populations exposed to disasters (Gutierrez et al., 2005). It is the duty of a school to meet the holistic needs of every student therefore mitigation, including educational continuity planning, must take these traumatic consequences into account. The following sections discuss theoretical foundations of areas such as disaster research, emergency management, and technological advances that when combined contribute to a foundation for distance learning.

Disaster Research

The Conservation of Resources Stress Theory (COR) developed by Hobfoll (1989, 1999) states as individuals progress, they attempt to build and retain resources that contribute to self-enhancement. Stress occurs when there is a threat of losing one's resources, such as a disaster or emergency. These resources include objects, personal conditions, personal characteristics, and energy. The effects of stress following a disaster affect individuals uniquely including anxiety, depression, sleep disorders, and post-traumatic stress disorder harper(PTSD) (Gutierrez et al., 2005). Individuals can experience effects from a stressful event for as long as five years. Students must be supported with their basic needs before they can be expected to perform academically. Considering Maslow's Hierarchy of Needs (1943), basic physiological, safety, and belonging needs must be met before individuals progress to esteem and self-actualization. Educators often say "Maslow's before Bloom's." This is important when planning for educational continuity after a disaster. While Bloom's Taxonomy encourages higher-order thinking through building lower-level skills, students' basic needs must be met before placing these demands.

Strategic Planning

SchWeber (2008) highlights characteristics commonly associated with resilient organizations involving adherence to several principles: bricolage (being creative under pressure), expanding upon existing or obtaining access to resources, and making decisions quickly in unfamiliar contexts. Emphasis is placed on the effectiveness in crisis management so operations can resume. Identifying strategic issues include assessing the impact on organization performance, perceived urgency and consequences, and the impact or interdependency of other issues (Koteen, 1997). In the wake of Hurricane Katrina, successful cultural changes within the district occurred simultaneously with the structural changes. Structural changes are bureaucratic while cultural change involves the transformation of classrooms and professional learning communities (Beabout, 2007).

Emergency Management

Emergency planning is not one-size-fits-all. During the H1N1 Pandemic many local health officials found that the initial Center for Disease Control (CDC) guidelines did not fit community needs. Federalism in public health means local health officials should feel free to accept, reject, or modify federal guidance (Navarro et al., 2016). However, this also risks opposition from the media and public scrutiny. McGuire and Schneck (2010) highlight that effective strategic management of disasters must focus on all issues and phases of emergency management (mitigation, planning and preparedness, response, and recovery). These phases are examined in more depth in the next sections.

Disaster Response

Because of a heightened emphasis on safety and emergency preparedness due to events like the Columbine High School shooting and the September 11, 2001 terrorist attacks, experts believe schools are better prepared to handle crises (Ash et al., 2009). Additionally, McGuire and Schneck (2010) note that a disaster agent, like a hurricane, does not determine whether an actual disaster occurred. Instead they argue disasters are exacerbated by the capacity of the community to mitigate, address, and cope. Hurricane Katrina is used as a well-known example to demonstrate the failure of government agencies at all levels to protect New Orleans before, during, and after the storm. A complex mix of individuals, organizations, and actions is involved in response to factors outside of community control (McGuire & Schneck, 2010).

Responsive, not reactive, thinking is required. Schachter's (2007) "Flu Pandemic Prep" discusses the University of Minnesota, Twin City's plan centered around 10 main areas of concern including a special planning committee, simulations of flu outbreak, and a comprehensive website. Adequate planning and preparedness among federal, state, and local governments is needed for a variety of situations in addition to a fluid response and recovery plan is needed for a variety of situations.

Trigger Point

The trigger point identifies the moment that any emergency plan must be put into action. This is often one of the most difficult determinations for administrators (Schacter, 2007). In the case of the H5N1 Flu Epidemic, higher education institutions were faced with whether or not to close campuses. They had to consider the travel of every faculty and staff member and student as a mitigating factor (Schacter, 2007). Public perception was also considered. Making the decision

too late would increase risk. Making the decision too early would cause panic. Modeling studies show that school closure is effective to limit community transmission with an early trigger before 1-2% of the population is infected (Schacter, 2007). Identifying an agreed upon trigger point for school closures during outbreaks would help communities better prepare (Carlo & Chung, 2009). In 2007, the CDC released pandemic mitigation guidelines according to a severity scale that included school closures as an important social-distancing strategy, if initiated before growth of an epidemic (Carlo & Chung, 2009). Quantitative measures including student case counts and absentee rates should be considered in decision-making.

School Closures

School closures are considered an effective social-distancing strategy because school-age children have a higher attack rate of seasonal influenza, have a lower preexisting immunity, and are less skilled at handling respiratory secretions (Carlo & Chung, 2009). Additionally, classroom settings have the highest social density settings ranging from 35 to 64 square feet per person (Carlo & Chung, 2009). School closures typically occur when peak absences range from 10% to 30% (Carlo & Chung, 2009). Three different rationales for closing schools are limiting the spread of virus, protecting vulnerable children, and reacting to staff shortages (Klaiman et al. 2011). Most models have found a modest benefit in case reduction around 17-20% if contact rates are limited during school closures (Carlo & Chung, 2009). During the 2009 H1N1 Influenza Pandemic, media and residents gave pushback over a seemingly disproportionate response and rapid shifts in school closure policy (Navarro et al., 2006). Conversely, recent modeling studies of COVID-19 predict school closures alone would prevent only 2-4% of deaths and other less

disruptive social distancing interventions in schools require further consideration if restrictive social distancing policies are implemented for long periods (Viner et al., 2020).

School closures alone are not effective in mitigating disease transmission. Additional restrictions on public gatherings in large scale venues are needed to reduce the spread. Effect on the workforce and economy needs to be taken into account. Consequences include cost to parents for child care or staying home from work (Klaiman et al., 2011; Viner et al., 2020). Cauchemez, et al. (2009) note major concerns in closing schools; in the United States over 29 million children participate in the Free/Reduced Price Lunch Program funded by the United States Department of Agriculture and fulfilled through the schools. School closure disproportionately impacts lower-income households by creating food insecurity, leading to childcare issues, including financial strain and children being left alone to care for themselves. Finally, closure of school can lead to loss of academic momentum, similar to the "summer slide," the academic loss observed in children returning from summer vacation.

School Safety

"A Framework for Safe and Successful Schools" is a joint statement published by the National Association of Secondary School Principals (NASSP) between the American School Counselor Association (ASCA), National Association of School Psychologists (NASP), School Social Work Association of America (SSWAA), National Association of School Resource Officers (NASRO), and National Association of Elementary School Principals (NAESP). This statement includes policy recommendations and best practices for effective school safety that are grounded in research and involve input from key stakeholders. For the purpose of this literature review, the following best practices are highlighted (Cowan et al., 2013):

1. Fund continuous and sustainable crisis and emergency preparedness, response, and recovery planning and training that uses evidence-based models
2. Integrate positive climate and safety efforts to ensure that plans are relevant to school context, reinforce learning, make maximum use of resources, facilitate threat assessment, and are consistently reviewed and practiced
3. Afford the time and resources to sustain change over time
4. Provide relevant and ongoing professional development for all staff
5. Remain grounded in the mission and purpose of schools: teaching and learning
6. Address the range of crises that schools can face with a focus on what is most likely to occur and improve response when the unpreventable occurs
7. Consistently review and practice crisis and emergency preparedness plans

School safety and positive school climate are not achieved by singular actions like purchasing a designated program or piece of equipment but rather by effective comprehensive and collaborative efforts requiring commitment of all school staff and stakeholders (Cowan et al., 2013). This framework is known as a multitiered system of support (MTSS). An approach to this is known as the M-PHAT model involving:

1. Multi-phase: prevention, preparedness, response, and recovery
2. Multi-hazard: accidental death, school violence, natural disasters, terrorism
3. Multi-agency: school, police, fire, EMS, mental health
4. Multi-tiered: MTSS framework

Drills are a crucial component of emergency planning that familiarize students and staff with emergency procedures, provide the opportunity to test procedures, reveal weaknesses,

improve response and coordination, clarify roles, and improve individual performance (NaviGate, 2019). Practicing disaster response procedures has been found to increase the probability of adaptive behavior during a crisis (NaviGate, 2019). Using fires as an example, safety standards and practices have improved so that the last school to lose 10 or more students in a fire was in 1958 when 95 people died at Lady of the Angels in Chicago (NaviGate, 2018). The best and first line of defense for any school emergency is a well-trained, highly alert staff and student body but plans need to be regularly practiced with meaningful purpose to be effective. Additional recommendations relevant to this research include (NaviGate, 2018):

1. De-briefings should be held after every drill to further enhance response
2. Drills should be evaluated with input collected from various drill participants
3. Drills should have communication plans that include long-term follow-up to support sustainability and progression

Need for Implementation

A 2008 study by the U.S. Government Accountability Office found that 95 percent of schools had plans for school closures in the event of a flu pandemic, but may not include contingencies for continuing education when schools are closed for extended periods (Ash et al., 2009). After schools and districts closed in response to the H1N1 Pandemic in 2009, it became clear that education officials need to better understand the nuances of pandemic preparedness while public health officials need a better understanding of the wide range of issues and complications surrounding school closures (Navarro et al., 2016). Most schools are adept at practicing emergency procedures for fire and severe weather but often not for chemical release, self-threats, intruders, or school violence (NaviGate, 2019). Schools prepare emergency

procedures for shelter-in-place, lockdown, evacuations, and family reunification processes but drills for pandemic response are largely absent.

"The scale and speed of school closures are unprecedented globally. It is unclear how long countries can maintain tight suppression measures before behavioural fatigue in the population occurs. Given predictions that social distancing measures might need to be in place for many months or even years, there is an urgent need to identify how countries can safely return students to education and parents to work" (Viner et al., 2020). Distance learning provides a clear alternative to school closures during a pandemic in an arena that is technologically advancing. However, school closures have magnified pre-existing socioeconomic and political disparities within the education system revealing inequities in access to resources and issues related to privilege, power, and control in certain regions of the world (Vishkaie, 2020).

Digital Divide

The term digital divide describes a gap in access and use of Information and Communications Technology (ICT) was studied in the late 20th century and began being used in the early 21st century (Vishakie, 2020). Holland (2018) discussed three gaps created by the digital divide. The access gap describes lack of access at home spanning multiple demographics. Based on recent data from the Pew Research Center, 22% of rural residents do not use the internet at all with access numbers shifting dramatically based on geography and household income (Holland, 2018). The usage gap is created by disparity between the number of computers, internet connections across schools, differences in software, level of support for teachers, and activities that students completed (Holland, 2018). Lastly, the literacy gap is created by students

who lack basic digital skills prior to entering school due to a lack of access to these devices in the home.

Over the last decade, the digital divide in America's public schools has shifted since they have been flooded with devices, software, and high-speed internet connectivity (Herold, 2017). Despite the advances, disparities continue to exist not only for students but also for teachers as well. What distinguishes the most innovative schools is what students and teachers do with the technology they have (Herold, 2017). Using South Fayette Intermediate as an example, teachers are offered support and learning opportunities to continually explore ways to integrate technology. "There is widespread agreement that teachers aren't coming out of college well-prepared to navigate this new digital environment. For teachers already in the workforce, professional development hasn't kept up with the pace of technology change" (Herold, 2017). Citing a Education Week Research Center analysis of survey data from the National Center for Education Statistics, the percent of 4th grade students whose teachers say they've received training on how to integrate computers into their classroom instruction has remained flat since 2009 (Herold, 2017). Additionally, teachers in lower socioeconomic schools are less likely to receive technology-integration training.

Vishkaie (2020) cautions that coupled with COVID-19, there is a potential for a negative impact on the educational landscape and widening of the digital divide. She noted that it is important to support initiatives aimed at narrowing the gap for those who are socioeconomically impacted by the pandemic (Vishkaie, 2020). To do this she argued the following goals must be accomplished:

1. Providing inclusive universal access - including equal levels of service and networks to rural and underserved communities so that all students can participate in remote learning.
2. Developing digital literacy - training and retaining additional and more qualified staff alongside new technologies to promote the best application of these resources.
3. Building resilience into education - problem solving, self-efficacy, empathy, inclusion, and self-awareness in digital tools and systems to enhance student outcomes.

A study by the Digital Impact Group and Econsult Corporation in 2010 estimated annual costs of digital exclusion based on different categories of economic impact such as virtual monitoring of patients, distance learning for continuing education, and telecommuting to reduce travel costs (Bach et al., 2018). The study estimated that total costs are over $55 billion per year. Broadband access is increasingly a requirement of social and economic inclusion (Bach et al., 2018). Many factors contribute to this including costly monthly service fees, additional hardware, installation costs, unexpected billing fees, and the quality of services available in lower income and communities of color (Bach et al., 2018) leading to the argument that increasing connectivity alone will do little to address social and economic marginalization. “Neither digital education nor broadband access alone can promote a more equitable society. Rather it is the critical engagement by and with individuals and groups on issues of social importance and worth” (Bach et al., 2018).

Growth of Technology

Since the introduction of the iPad in 2010, countless schools and districts have integrated iPad devices into their classrooms and curriculums. Before the introduction of the iPad, many schools also adopted a 1:1 model with devices that were often school issued and either followed

a take home model or a classroom shared model. In addition to the arrival of these devices, schools and educational professionals have also developed software and applications designed with the student and teacher in mind (Mainwaring & Bergman, 2006). Electronic portfolios, cloud storage, learning platforms, presentation applications and countless other tools have been introduced in large part because of the increase in the use of electronic devices. The U.S. Department of Education's "Enhancing Education Through Technology" program often associated with the No Child Left Behind Act, motivated many schools to include in their portfolios ways to give students access to technology (Mainwaring & Bergman, 2006).

A shortcoming of many of these schools has been the proper design of how these technologies will be utilized in the curriculum. In a study of how Catholic schools utilized technology in the classroom, one research team identified that teachers who were not provided the proper support and training, grossly underutilized the technology available to them in high performing schools (Gibbs et al., 2008). While the growth of technology is widely observable, the underlying truth is that these resources are constantly being developed, updated, and introduced as if everyone is familiar with their purpose and function.

Messineo and DeOllos (2005) conducted a research survey to determine what students' personal perception of computer competencies were for their education. Surprisingly, findings show that young age and technology literacy do not necessarily go hand in hand with the assumption being that young learners are more tech-savvy than teachers. The National Educational Technology Plan (2017) goal states, "All learners will have engaging and empowering learning in both formal and informal settings that prepare them to be active, creative, knowledgeable, and ethical participants in our globally connected society." It is

imperative that in keeping with the technological advances of our world today, students also have access to technology-savvy educators.

District Technology Implementation Plans

All districts under the Florida Department of Education (2020) follow the National Educational Technology Plan with the idea of closing the digital use divide. This overarching goal is to close the gap for access to technology and the internet from home to school as well as in communities. All students are to graduate from school with 21st-century skills (NETP, 2017). In 2015, Florida Legislature mandated students pass one online class to earn a high school diploma (Florida Legislature, 2015). What follows is an examination of the technology implementation plans of four large urban public school districts in the Southeastern United States herein referred to as District 1, 2, 3, and 4. District 1 and District 2 are the subjects of research discussed in later chapters of this dissertation.

District 1's digital learning program, LaunchED, is a multifaceted digital learning program offered at all its district schools. The goal of LaunchED is to provide students the tools required to be collaborative, connected, creative and innovative, critical thinkers and problem solvers. LaunchED began as a strategic initiative in 2012, followed by a pilot 1:1 technology rollout in 2014, impacting seven district schools. The LaunchEd plan continued with a strategic rollout through the 2020-2021 school year to achieve "digital learning for all." District 1 provided students with age-appropriate devices, home internet access when not available, and Interactive Flat Panel (IFP) classroom displays. As part of the strategic rollout of LaunchED, District 1 improved network infrastructure in all school buildings to support the demands of 1:1 device deployment as well as developed new policies and procedures for student technology use

in the classroom. The LaunchEd plan incorporates training for stakeholders at all levels - teachers and school staff, students, and parents (OCPS, 2020).

The Technology Plan of School District 2 (SDPBC, 2017) is establishing transformative learning with technology by creating innovative learning environments, and classrooms that can network with all different kinds of devices. Initially, the district did not implement 1:1 devices for students. The district did, however, adopt Google Apps for Education (GAFE) as well as Microsoft Office 365. District 2 embraced Google products in their Virtual Schools and blended learning environments. In 2017, the Educational Technology Department within District 2 forged a professional development program opportunity for teachers who were nominated by their principal to become digital experts called Trailblazers. Trailblazers participated in a summer professional development program that aids these selected educators in becoming a Level 1 Google Certified Teacher. Educators had hands-on opportunities to work with and incorporate Google Apps, a SmartBoard, and Google Chromebooks within their classroom. The training provided these teachers with the ability to dive into their content area by working together and learning from each other to become experts with Google Technology (SDPBC, 2017). Since the COVID-19 Pandemic, District 2 has made a shift to providing devices to all students for remote learning and has rolled out SMART Interactive Flat Panels (IFPs) to all classrooms.

District 3's Information & Technology Plan (2014) focuses more on infrastructure and computer refresh than District 2. The district plans to meet the requirements of growing bandwidth needs as well as operational and functional conditions of network traffic across all public schools. They have professional development as a part of their plan to create high-quality instruction by providing a digital classroom peripheral technology upgrade. This professional

development was provided in blended learning areas. Their training focused on the Rotational Model, Flex Model, Enriched Virtual Model, and A La Carte model. A personalized learning experience, District 3 uses Microsoft Teams as their major platform.

District 4's Information Technology Strategic Plan (2014) includes maintaining the present infrastructure and aspiring to improve technology within schools to facilitate teaching and learning by using the newest technology and innovations. District 4 also focused on keeping a secure data warehouse for the protection of information of all of its stakeholders. They, too, focused on professional development with technology to improve student achievement. District 4 adopted Microsoft Teams as their major platform.

In all four school districts, teachers have access to a robust professional development catalog with technology integration. All classrooms are equipped with technology to enhance instruction and WiFi is incorporated throughout each public school building. All four districts support distance learning opportunities that span from enhancing traditional classroom instruction on an occasional basis to offering students the choice of full-time synchronous virtual programs.

Enhancing Instruction

Technology at our fingertips does not warrant for learning to take place, but when used intentionally as an instructional resource, learning outcomes can become more meaningful and foster a deeper understanding of content. Enhancing instruction through Web 2.0 programs and technology are significant factors in today's educational institutions (Baporikar, 2016). Web 2.0, sometimes called "social computing", refers to "the range of digital applications that enable interaction, collaboration and sharing between users" (Redecker, et al., 2009). Technical

Pedagogical Content Knowledge (TPACK) is the ultimate goal for educators to enhance learning in both traditional and non-traditional classrooms (Pamuk et al., 2015).

Wankel and Blessinger (2013) examine the rapid and ever-changing technology integration and instructional strategies used to improve engagement as well as student learning in both blended and e-learning environments is revolutionizing pedagogical practices. Their research states that educators must promote culturally responsive viewpoints and link them by cultivating collaborative and critical thinking online. The deliberate promotion of a working social community to gain a sense of togetherness and a sense that we need each other to learn is an essential factor of virtual learning. For engagement purposes, the educator must have all types of interactions in a virtual learning environment that increase social interaction; therefore, the utilization of synchronous and asynchronous formats are a must to decrease the lack of interest or attrition in a non-traditional school format (Wankel & Blessinger, 2013).

The literature categorizes a combination of identified pedagogies connected to enhancing instruction with distance learning and technology integration applications. The common themes supported by research include: using a variety of teaching methods because overall student achievement is increased when there are frequent, diverse learning activities (Kebritchi et al., 2017; Rogers-Shaw et al., 2018; Tobin, 2014; Wankel & Blessinger, 2013) and student peer interaction, both academically and socially, through collaboration and small learning communities (Young & Bruce, 2011; Xie, 2013; Xie & Kie, 2011). Additionally, instructor presence and relationship with the instructor are positive and with frequent interactions boost engagement (Shea & Bidjerano, 2010; Vayre & Vonthron, 2017). Lastly, instruction is enhanced with understanding, encouragement, and guidance when students understand the reason for the

work they are inspired to take ownership of their learning and when needed, receive help with solutions or content understanding (Broadbent & Poon, 2015; Bernard et al., 2009).

A blended-learning classroom environment can be established through the use of Learning Management System (LMS) software. Existing research has supported that when a LMS is implemented to shift from a traditional face-to-face classroom to a blended learning environment, students have more open communication lines with their instructor and are motivated to work harder. This creation of a student-centered classroom experience allows students to become the constructors of knowledge, but remain connected to their instructor and peers (Grovender, 2010). Google Classroom, a part of the Google Suite for Education, has grown in popularity in recent years as a robust Learning Management System for K-12 use. Used in a blended-learning setting, teachers generally find that its use provides for a better organizational structure for the class and increases the opportunity for, and frequency and quality of teacher-student communication (Azhar & Iqbal, 2018).

Educational Continuity Planning

From the student perspective, academic continuity is critical if access to education is to continue (SchWeber, 2008). Enrollment in school in emergency situations can be constrained by situational problems such as insecurity and poverty (Sinclair, 2007). These factors can in turn affect school attendance and completion. A municipality's capacity for public schooling is correlated with its ability to cope with a crisis (Winters, 2007). The early phases of educational reconstruction are emergency-like, with the need to quickly meet the urgent requirements of a large number of students, despite a lack of buildings and other educational resources (Sinclair, 2007).

Restoring education faces barriers, but education in emergencies can help to provide normalcy through structured activities, restore hope, and provide psychological healing (Sinclair, 2007). Maintaining access to education helps affected children and adolescents see a positive future rather than suffering debilitating depression or seeking aggressive outlets (Sinclair, 2007). In many cases, average student enrollment determines state funding and tax base determines local funding (Winters, 2007). Some laws mandate the number of instruction days schools must provide to receive state funding leaving schools with the option to either reschedule classes or lose a portion of funding (Klaiman et al., 2011).

Post-secondary institutions must maintain student enrollment and provide learning opportunities to continue collecting tuition. The value of online learning has become widely accepted since it's become a widespread component of higher education institution's emergency preparedness (Meyer & Wilson, 2011). A review of twenty instructional continuity plans for major United States universities revealed three common areas of focus: configuration of IT services, faculty readiness, and student readiness (Meyer & Wilson, 2011). With most universities already having some type of existing online learning tool (LMS), institutional continuity requires LMS implementation by all instructors and training for faculty and students. Despite the need for a shift in pedagogy, Ekmekci and Bergstrand (2010), go on to suggest that this is a shift toward best practices that should be utilized by universities year-round.

Watkins (2005) discusses six suggestions for integrating distance education with institutional emergency preparedness planning:

1. Housing technology infrastructure in off-campus facilities not likely to be impacted by emergencies.

2. Utilizing a mirrored infrastructure with multiple server locations.
3. Integrating e-learning to provide timely information and to continue studies.
4. Providing access to all students, faculty, and staff to e-learning infrastructure.
5. Preparing faculty to move to an online format for short and long-term.
6. Preparing students with skills required for successful participation in e-learning.

While specific to post-secondary institutions, these best practices should be gleaned from this research and applied, wherever relevant, to K-12 schools for educational continuity.

Online and Blended Learning Implementations

K-12 online learning was once well contained to a few public and private online entities, but in the last fifteen years the field has exploded to provide diverse educational options for children. In 1997 Florida Virtual School (FLVS) opened its doors to students for the first time. At that time, FLVS was partnered with Alachua County Schools and supported by a $200,000 grant from the Florida Department of Education (Watson & Murin, 2014). At that time, FLVS was staffed by six teachers, four support staff, had seventy-seven enrollments, and offered six courses. Today FLVS has a staff of over 2,200 teachers, offering more than 180 online course options (FLVS, 2018). Since its inception, FLVS has seen 4.1 million semester completions. Based on school year 2018 data, FLVS served 207,367 students, completing 492,507 online semester courses (FLVS, 2018). FLVS remains the largest state virtual school in the nation (Watson & Murin, 2014).

Online schooling is generally defined into the following three categories: full-time online schools, district-led programs, and blended-learning and blended schools. Full-time online schools operate with students who are only enrolled in their single online program. These

students will earn credits and eventually graduate from the online school. These schools typically serve students from multiple districts, sometimes even multiple states (Watson & Murin, 2014). Recognizing the potential for loss of funding as some students shift schooling to online options, many districts have shifted to offer district-led virtual schooling options. These programs have been utilized to support all levels of students, including credit recovery for at-risk students. In many districts, student funding is the same whether students receive online or face-to-face instruction (Watson & Murin, 2014). In Florida, FLVS offers the option to franchise their courses for district use, resulting in districts recouping student FTE dollars that would have otherwise been lost. In 2018, FLVS franchise schools had 167,807 semester completions (FLVS, 2018).

Realizing the benefits of online learning, in terms of finances and student achievement, many districts have begun a shift to blended learning. This shift allowed for an evolution of face-to-face instruction to something that is more flexible for students, increasing the opportunity for individualized experiences, yet still provided students with the synchronous support they need. Blended-instruction schools provide for a level of student control over time/pace/path that is not typical in a “one-to-many” teacher/student instructional model seen in most traditional classrooms. Blended instruction creates a personalized approach that allows for data-driven decisions to be made for individual students (Watson & Murin, 2014).

Culture of Support

Many educators are conducting rote technology use, such as taking attendance or making a slide presentation that is not genuinely facilitating learning. In order to establish a culture of support from educators for technology integration, implementation decisions need to be made with input from stakeholders as well as a clear vision of what the implementation looks like.

Stout and Friebel (2015) noted that much of the literature on 1:1 technology implementation focuses mainly on the actual devices and the types of software, not on the human capital needed to drive the programs. Within post-secondary educational programs across the world, undergraduate education majors are being taught to integrate technology to facilitate learning in the classroom, all while using technology daily to complete their educational requirements (Koch et al., 2012).

Other aspects of creating a culture of support include:

1. Planning for meaningful professional development.
2. Grouping educators by content and/or grade-level.
3. Evaluating professional development training including needs assessments.
4. Providing feedback and, if needed reorganizing to ensure proper implementation occurs.

While building strong culture in traditional and nontraditional settings, and with new initiatives, leadership ought to be flexible and listen to teachers' needs, focus on content for the curriculum, not the software itself, communicate expectations with a progression, and provide adequate access to hardware and software being used (Horton et al. 2017; Koch et al., 2012; Michos et al., 2018; Owen & Demb, 2004). Reed (2007) argues that technology literacy may become its own discipline for school curriculums. This idea is important to consider since technology is here to stay.

Requirements of Professional Development

Ayebi-Arthur's (2017) research analyzed the deployment of a virtual learning environment after the crisis of earthquakes in New Zealand. A recommendation from Ayebi-Arthur's (2017) study was to make technology integration available to all stakeholders

before a crisis through professional development; therefore, stakeholders should already have experience and training with the technology if a state of emergency were to occur. Based on Keengwe and Schnellert's (2012) research, the requirements for professional development to be more effective require involvement in both face-to-face training as well as online training to reinforce the use of the technology. This would develop not only technical skills but would also nurture collaboration with peers.

After the training, educators continue to collaborate in weekly Professional Learning Communities (PLCs). The PLCs are formed around content and technology to create additional support while using technology in building lesson plans, developing content units, and improving instructional strategies to help with challenges and successes within the classroom (Bates et al., 2016).

Professional development must also be continuous and include performance feedback. For professional development to be valuable, the instructional leader provides support by using the coaching continuum with a technology-based observation tool that will reinforce the integration. Five steps that take place after professional development are the key to proper enrichment. These steps include using the technology, setting a goal for the teaching practice, observing instruction, providing feedback and assessing the effectiveness of the methods used, and then continuing the cycle until the teaching practice goal is met or mastered (Rodgers et al., 2019).

Professional Development Content

Mishra and Koehler (2006) are the founding fathers of the Technological Pedagogical Content Knowledge (TPACK) framework. TPACK is currently a piece of the education

system that infuses the use of technology in the classroom, keeps a focus on the content taught, and the instructional strategies used to teach. The three larger underlying areas of professional development in TPACK are content, pedagogy, and technology (see Figure 1). In technology integration and distance learning, the role of the instructor shifts to more of a facilitator of learning providing more student autonomy (Vayre & Vonthron, 2017).

Kurt (2018) deems that in order to create an operational basis for teaching using instructional technology, an educator needs to use the TPACK framework effectively. The recommendations are a variety of technology integration approaches surrounding the following: all instruction uses technology, an array of instructional strategies with technology, instruction is differentiated through technology both by rigor and technological skills, and small learning groups with many collaboration opportunities are utilized all while using technology (Kurt, 2018).

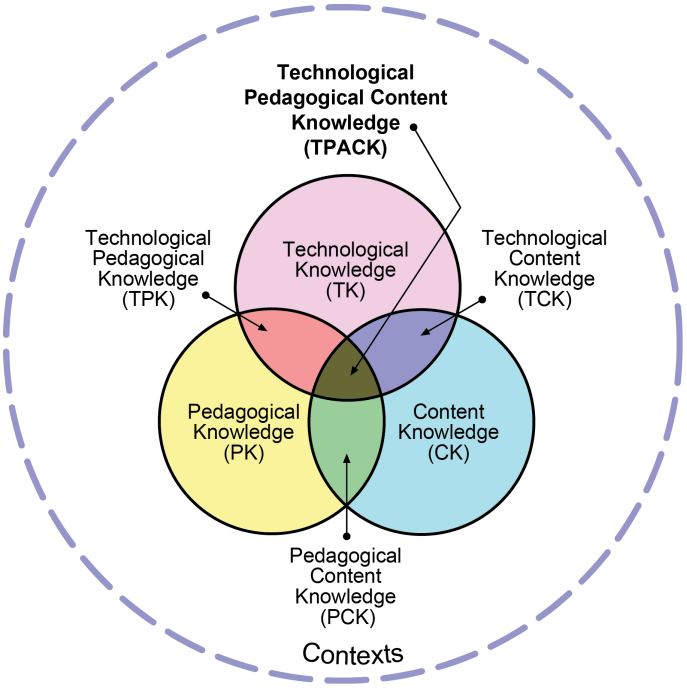

Figure 1(Koehler, 2014)

Additionally, professional development within the distance learning realm needs to train educators to create successful distance learning courses that include integrity, format, and rigor guidance. If distance learning courses are properly designed and delivered, students can learn as much as in traditional courses (Harper et al., 2004).

Lang's (2013) "Strategies for Combating Academic Dishonesty with Distance Learning," places primary focus on creating a sense of self-efficacy, using practical assignments rather than multiple-choice assessments to empower the educator and improve student achievement. Lang's (2013) research identifies that educators who establish academic integrity in their courses become better educators in other ways as well. The instructor needs to be reflective in their teaching, in addition to learning how to configure distance learning, just as much as a traditional classroom with active participation, direct instruction, inquiry coaching, pacing, processing time, feedback, and clear expectations of students (Graziano et al., 2017; Horton et al., 2017; Laurillard et al., 2018; Michos, et al., 2018).

Teacher Professional Development

One article that is particularly poignant as it relates to asking teachers to introduce technologies into their lesson planning, talks about the importance of meeting standards all the while not losing sight of the goal of learning. Pittman (2003) highlights how the kinesthetic experiences young students have in school are hard to replicate in a digital way, she states that "knowing technology and knowing what technology is good for children are two different ideas." Ash et al. (2009) posit that teachers should be prepared for emergencies including knowing what to do and what the district expects of them. Teachers need information and resources about how

to prepare students for a school closing, including how they can communicate in the event of a shutdown. When facing disaster, it is not the time to begin with professional development or developing a plan for educational continuity.

In adopting a new instructional delivery system, school faculty will require a considerable amount of support, assistance, and training before they are able to provide for the educational needs of their students (Houston, 2017). The urgent task is to empower teachers from affected communities through supply of educational materials and in-service training well in advance (Sinclair, 2007). Research suggests that in the face of disaster, an educational institution should be able to shift instructional models within two weeks and sustain efforts for thirty days (Bates, 2013). Bates (2013) goes on to explain that there is a symbiosis between the pedagogy practiced today and the ability of an institution to react in the face of disaster. Educators and researchers who want to improve the teaching environment by utilizing technology have enhanced classes by blending traditional face-to-face with online delivery of their courses (Alebrahim & Ku, 2019). This aforementioned type of delivery is known as a flipped classroom. Alebrahim & Ku (2019) studied how faculty members who received professional development experienced the implementation of a flipped classroom. A top goal of professional development in education is to develop and improve the quality of teaching and learning (Ouimet, 2011).

A disproportionate amount of effort is demanded on the part of instructors, especially with email correspondence (Harper et al., 2004). In addition to the delivery of course content, distance instructors also spend more time supporting students and preparing for teaching. Additional barriers include time to learn and prepare, malfunctioning technology, and monetary costs. Faculty resources should be systematically monitored and recruitment, reward, and

development should reflect the duties and responsibilities performed in distance learning programs (Harper et al., 2004). In the wake of Hurricane Katrina, online instructors at Tulane University were able to assist with the administrative aspects of keeping their course site current (McLennan, 2006). During this time, the Help Desk was reduced from twelve individuals to two. Online instructors previously underwent training for course site administrator functions that allowed them to provide first line help and in turn significantly reduce calls to the Help Desk.

According to Mundy et al. (2012), several teachers do not have a strong proficiency for technology, thus they are unable to take advantage of new technologies that become available, making them unable to bring new technology resources in the classroom. Furthermore, without appropriate targeted training, new implemented technology will remain unused into the classroom. Teachers talk of being frustrated with professional development offered in their school because it was either at a too high or too low level for them to benefit (Walker et al., 2012). How can we implement effective relevant professional development for technology in the classroom and maintain the same level of rigor when remote learning is needed? Gökoglu & Çakiroglu (2017) presented a case study on the effectiveness of mentors supporting the implementation of technology in teacher classrooms. The systems-based mentoring model provided systemic support via mentors that may or may not be digital natives, to assist in determining particular developments and changes in teacher instruction with the use of technology.

Professional Development for Administrators

The importance of administrators to student achievement and overall school success has long been recognized (McLeod & Richardson, 2014). Aside from instructors,

administrators are the school-related factor that has the most impact on student trajectory (Marzano & Water, 2009). In the face of crisis, and a shift in instructional model, the need for effective leadership grows as staff now perform their jobs in "technology-mediated and geographically-independent" environments (McLeod & Richardson, 2014).

A review of the successful implementation at Xavier College discussed several principles that administrators adhered to including communicating quickly and honestly with stakeholders, building upon existing technological systems, collaborating with existing support networks, and revising solutions as the situation unfolded (SchWeber, 2008). Some crises lead to the weakening of local educational administration and some even weaken or destroy the education ministry and its functioning (Sinclair, 2007). Top priority should be given to capacity building for ministry, regional, and district levels of educational management, with provision of needed equipment (Sinclair, 2007). Administrative leadership and involvement with professional development is essential in order to mitigate the confusion and miscommunication that occur with sudden changes in instruction (Sinclair, 2007).

Stakeholders

In "Why a District One-to-One Rollout Is About More Than Devices and Software", the Onslow County School District wanted to shift to a 21st century tech-driven district naming stakeholders impacted by 1:1 technology implementation and integration as teachers, students, community members and administrators (Stout & Friebel, 2015). The Office of Educational Technology's national technology plan discussed 1:1 computing as an opportunity for establishing equity among students (United States Department of Education, 2014). Furthermore, it is recommended that stakeholders commit to working together to use

technology to improve education. Under this premise, it is also important to understand the student perspective, because so many students are already making use of these devices in their personal and educational lives (Khaddage et al., 2015).

Students and Parents

Not all students have the same technological skill set. In addition to the use of software, they need to have a strong foundation in computer technology that allows them to handle errors and crashes (Harper et al., 2004). In a case study examining the technology literacy of university students, a staggering discovery showed that students do not feel as tech-literate as teachers give them credit for. The surveys showed that teachers assume students know more about technology than they do and thus do not spend time giving the proper support students need (Messineo & DeOllos, 2005). With standardization of course delivery and well-defined tutorials and instructions, students' technology problems can be alleviated (Harper et al., 2004). The ultimate goal is to prepare students with skills that are transferable to different courses to reduce technical issues. If students do not perceive the technology as useful, they will not be receptive to distance education (Harper et al., 2004).

Student stress levels also increase after a disaster. During a study at Valencia College, 48.6 percent of students indicated they were stressed out at the start of the fall semester but after Hurricane Frances struck, this rose to 72.9 percent (Gutierrez et al., 2005). Instances like this make it clear that support is needed beyond the technological and technical areas of distance learning. Good faculty and student interactions are often recognized as critical to the success of distance learning, the importance of student to student interactions are often overlooked (Harper et al., 2004). Successful delivery of online courses allows for student to

student interaction, engages students in regular assignments to monitor progress and intervene, provide support to students with low-levels of self-directedness, and help students become more self-directed (Schott et al., 2003).

Changes in Pedagogy

Bell (2006) describes the reluctance some teachers can have toward the implementation of new technologies. Technophobic teachers have prevailed in an age where technology integration seems so prevalent (Bell, 2006). One of the many challenges that face 1:1 learning environments are the varying pedagogies. Educators face attitudinal, sociocultural, and pedagogical barriers to technology integration in spite of its positive impact on academic achievement (Durff & Carter, 2019). A teacher's pedagogy can be deemed a "second order" barrier with the implementation of technology. Instead of learning how to use mobile devices in education, we should examine the pedagogy and consider how 1:1 devices would be adopted to support the pedagogy (Ting, 2012).

Weston and Bain (2010) support technology integration but maintain that innovative teaching is what will make a positive effect on learning. Pedagogical design and personal preference can be seen as a pitfall to 1:1 devices. When a teacher is somewhat reluctant to use technology or views it in a negative way, pedagogy may suffer (Harper et al., 2004). There are questions regarding what design principles and frameworks teachers should follow in creating 1:1 learning environments, and what instructional strategies can best be deployed to enhance student learning (Khaddage et al., 2015).

There is a paradigm shift required for teachers to effectively integrate 1:1 devices (Khaddage et al., 2015). In a case study evaluating technology leadership in a high school,

researchers Hughes, Boklage and Ok posit (2016) that a successful implementation of a 1:1 educational model relies on three goals: a starting point for what the curriculum is, anticipation of how this will affect the culture of the school, and a technology education support plan. If we make student-centered pedagogy a common practice in 1:1 learning environments and we help teachers distinguish what to focus on when implementing instruction, our students have much to gain (Sadera & Parrish, 2018).

Changes in Motivation and Engagement

When school and district leaders recognize the importance of this dual focus on 1:1 technology and student-centered pedagogy, we see evidence of positive results (Sadera & Parrish, 2018). One finding by Albion and Ertmer (2002), suggests that simply having the presence of technology will not motivate students. They suggest that teachers' expertise and confidence in technology is an essential part of having a successful application of technology in the classroom. Walker et al. (2012) discussed the implementation of Apple laptop computers via the Main Learning Technology Initiative (MLTI). One of the key findings of this particular case study was the level of use of technology in the classroom. From the interviews in the qualitative study, it was estimated that for a school to have a culture of technology built into learning at the school, about 85% or more of students must regularly show up to class with their computers (Walker et al., 2012). Student-centered pedagogy can also be facilitated through the implementation of a Learning Management System (LMS). Research has shown that students working in blended instructional models perceive increased levels of self-motivation and work ethic due, in part, to the community-nature of

blended-learning. Students note that they work harder because they know their peers see their responses to class discussions and blogs (Grovender, 2010).

Issues Arising from Implementation

Attitudes and beliefs about both educational technology and pedagogy in general will ultimately influence how teachers implement technology (Johnson et al., 2016). Mouza (2008) conducted a study on the implementation and outcomes of laptop use in a low-income school. Findings from focus groups indicated that all students perceived computers to be important tools because they serve as an information resource, are useful for future employment, and assist in the learning process (Mouza, 2008). In reviewing the research, the one resonating issue with the implementation of technology in a school for brick and mortar learning or remote learning is how it is integrated within the learning process. Off-task behavior among students and the resulting challenge it presents for teachers was by far the most often cited downside of the 1:1 programs, even among schools that block all social media sites (Walker et al., 2012).

Types of Supports Needed

Distance education resources can be utilized to provide stable and consistent learning platforms even when campus-based services are suspended (Watkins, 2005). The National Education Technology Plan Update (2017) states that districts should take inventory of and align all learning technology resources to intended educational outcomes. The availability of laptop computers can make a big difference when schools are closed (Ash et al., 2009). Schools have an advantage if they have a 1:1 device program in place but it should be noted that technology alone

is not the answer. Utilizing e-learning technologies should be an integrated element in the emergency and disaster planning for any educational institution (Watkins, 2005).

Peterson & Scharber (2017) researched the use and impact of Student Technology Teams (STT) in 1:1 technology implementation in secondary schools. The use of such a team could reduce the costs tremendously with ever-changing technology. While Student Technology Teams can help to manage support needs at a single school site, according to Stout and Friebel (2015), 1:1 technology implementation success is dependent upon district-wide strategic planning. Stout and Friebel (2015) suggest that three main systems must be in place for long-term success:

1. Establish a robust system for collaboration - teachers and students connect.
2. Track district readiness - teachers and administrators track what is working.
3. Outline a manageable rollout program.

As we move forward, the following questions can assist with reflecting upon how to support a move toward 1:1 technology implementation:

1. Do we have a system in place for ongoing meaningful professional development geared towards the needs of staff in varying levels?
2. Do we have a collaborative piece built in for students and parents?
3. Is our district in a place to move toward 1:1 technology?
4. What does our distribution and maintenance plan look like?

Policies and Procedures

Across the nation, institutions are expected to create learning environments that include technology to facilitate learning and increase student achievement. 21st-century skills

are an essential part of education, globalization, and distance learning through networks and processes that affect educational policy and procedure (NETP, 2017). In the event that these new learning environments must be created in the face of emergency, research suggests that maintaining a focus on special populations within the institution, such as special needs and English Language Learners (ELL), is critical. Special population students are most heavily impacted by interruption to education. Further, when shifting to remote learning in K-12 education, it's important to recognize the limitations that exist with home-based learning; institutions should not try to recreate school in its entirety at home (Reich, et al., 2020).

Learning Policy Institute Webinar

On October 6, 2020, a webinar was hosted by the Learning Policy Institute that presented findings about restarting and reinventing schools during the COVID-19 Pandemic. This webinar included a panel of experts including John B. King, CEO of The Education Trust, Richard A. Carranza, Chancellor of NYC Department of Education, and Randi Weingarten, President of the American Federation of Teachers.

During the webinar, a topic discussed was that COVID-19 has brought on the largest economic disparities since 1929. Equity chasms have drawn attention to systemic racism and inequalities. There has been inadequate action to address the health, safety and economic effects of the pandemic. Schools are one of the few safety nets available to many hard-hit communities providing resources like food and devices. The school system in use today was invented in the 1920s and there have been little changes to it then in terms of scheduling, practices, and policies. In figure 2, a framework for restarting and reinventing schools addresses three key areas: closing the digital divide, strengthening distance and blended

learning, and addressing what students need (Darling-Hammond et al., 2020).

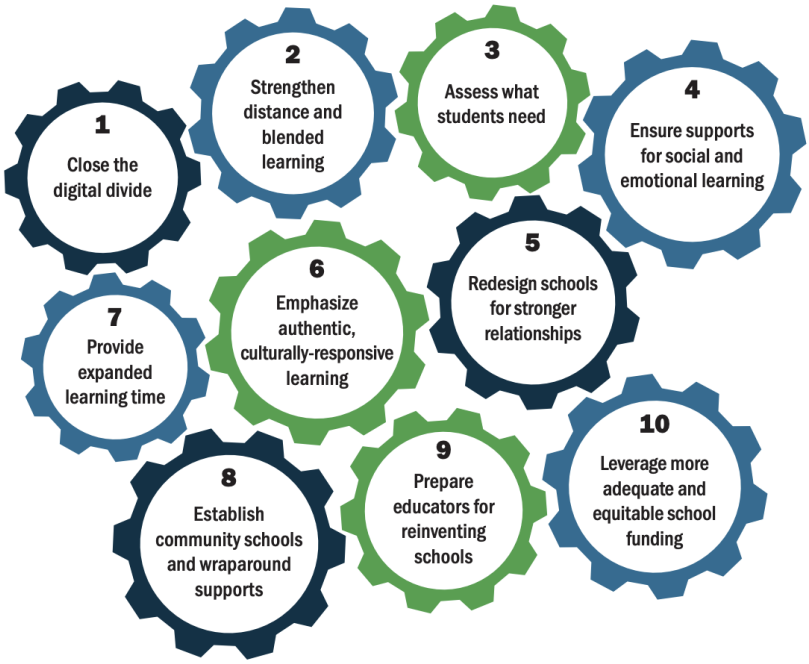

Figure 2 (Darling-Hammond et al., 2020)

This transformation of teaching and learning provides some support not previously highlighted: ensuring support for social and emotional learning (SEL), redesigning schools for stronger relationships, and emphasizing authentic and culturally responsive learning as well as preparing educators for reinventing schools. As a result, this requires the rethinking of time and resources including expanded learning times, wraparound supports, and more adequate and editable school funding.

Accounting for Missing Students

Children and youth who are displaced from school for extended periods because of disaster tend to have higher dropout rates, increased criminal activity and lower grades, and may suffer from other educational, physical, psychological, and behavioral problems (Tobin, 2019). It

is imperative that school districts create and practice both emergency operations and continuity plans to limit the number of school days missed after a disaster (Tobin, 2019).

As a result of the COVID-19 Pandemic, the way education defined attendance changed. Attendance data included phone calls, logins to a virtual platform, and assignment completion. Districts collected some form of attendance data, but how frequently and what constitutes attendance varies (Gaudiano, 2020). Flexibility of attendance also included expanding excused absences, increasing support, and waived instructional time requirements (Gaudiano, 2020). At the onset of the COVID-19 Pandemic, many states lacked a clear definition of remote learning attendance, more than half of states did not have a mandate to take daily attendance, and chronic absences (10 percent or more of students absent) were not always calculated (Gaudiano, 2020).

According to a report released by Bellwether Education Partners, about 3 million of the most at-risk students may not have gotten any formal education, virtual or in-person, since schools shut down in March 2020 equating to about 6 percent of public school students nationwide (Korman et al., 2020; Gaudiano, 2020; Jacobson, 2020). Bellwether Education Partners estimated absences by calculating a likely percentage of at-risk groups not in school, based on media reports and available data (Korman et al., 2020; Gaudiano, 2020). “If even one in four students with disabilities, English learners, students in foster care, migrant students, and homeless students have been shut out of education for months, that adds up to over three million students, as if the entire school-aged population of the state of Florida dropped out of school” (Korman et al., 2020). Bellwether Education Partners identified two distinct groups of students: missing students that haven’t logged on but would participate if they had the opportunity and

those who are gone, which they defined as having “made a transition away from school engagement in ways that could be permanent” (Korman et al., 2020; Jacobson, 2020).

Jacobson (2020) states the five high-risk groups that have likely had the most difficulty connecting to school virtually are homeless students, children with disabilities, migrant students, English learners and those in foster care. Many factors have been cited for education disruption and chronic absenteeism. A Civis Analytics survey in September found that 38 percent of parents of K-12 students nationwide said they disenrolled their kids from the school they were originally supposed to attend this year in response to reopening plans (Jacobson, 2020). A new digital equity report by the National Education Association found that 25 percent of school-age children live in households without broadband access or a web-enabled device (Gaudiano, 2020) Additionally, health, housing and economic challenges are all affecting kids’ ability to attend school (Gaudiano, 2020). The COVID-19 Pandemic has isolated children and youth experiencing abuse, neglect, or acute mental health needs, cutting them off from teachers and other school staff trained to spot warning signs (Korman et al., 2020).

As a response, districts have taken on efforts like Robla School District in California, which has on average 200 students missing instruction per day. “First, the teachers reach out, calling and sending messages. Then school principals try to make contact -- calling again, sometimes seeing if there is a brother or sister in a different class to let them know what's going on. And if all that fails to reach the children and their parents, teams of social workers take up the case, to see what can be done to get students back to class” (Golodryga & Pomrenze, 2019). Many districts have also tried to fill in the gaps of the digital and access divide by providing devices and WiFi solutions.

A report from Northwest Evaluation Association (NWEA) analyzed the results of tests given to nearly 4.4 million U.S. students in grades three through eight in fall 2020 and found that most scored an average of 5 to 10 percentile points behind students who took the same test in fall 2019 (Einhorn, 2020; Turner, 2020). Black, Hispanic, and students attending high-poverty schools experienced higher declines leading to the suggestion that the pandemic has exacerbated long-standing educational disparities (Einhorn, 2020). Mirroring attendance concerns, NWEA's study was limited by the fact that 1 in 4 students who typically take the MAP assessment in the fall didn't take it this year (Einhorn, 2020; Turner, 2020). The researchers cite a host of possible reasons these students weren't able to take the latest test, including a lack of technology or internet access at home as well as the possibility that some children have disengaged from school more broadly (Turner, 2020).

"Studies show chronic absenteeism can lead to third graders unable to master reading and ninth graders dropping out of school altogether, according to Attendance Works, a non-profit advocacy and research group" (Golodryga & Pomrenze, 2019). Students who were already at an educational disadvantage will lag even further behind their peers who had access to education during this time (Korman et al., 2020). These educational effects of the pandemic will be compounded by the effects of increased job loss, housing instability, and adverse health consequences of COVID-19, all of which fall harder on low-income families (Korman et al., 2020). Additionally, mandatory state testing was not suspended for 2021 in many states like Texas where the STAAR exam in spring can affect whether poor-performing students advance to the next grade, and scores are used to evaluate teachers and grade schools (Einhorn, 2020).

The Future of this Literature Review

Research surrounding distance learning, 1:1 programs, and educational continuity planning will continue to grow as technology advances. Throughout the nation, states and districts implemented provisional plans in the spring of 2020 that have slowly become more permanent fixtures in the education system. Research on how school systems are managing educational interruption during the COVID-19 Pandemic is already underway. Data being compiled paints an incredibly varied view of state level responses to educational continuity. More research has been conducted since schools have reopened and shifted to blended learning; the successes and challenges of these specific programs need to be analyzed.

Societal and organizational changes will undoubtedly occur as a result of the shift in culture. Staff development before, during and after implementation, and establishing clear policies and procedures were at the forefront of the purpose of this research. Through targeted research and involvement of key stakeholders, our proposal was to create a digital resource that can be used as a guide of best practices to outline steps school districts can take now to better prepare themselves for educational continuity in the face of potential future disasters or emergency situations.

CHAPTER III: METHODOLOGY

Introduction and Overview

Through two-phase sequential action research, this study considers the unprecedented implementation of remote learning in two large, urban school districts in the Southeastern United States for educational continuity during the COVID-19 Pandemic and explores the need for teacher professional development for sustainable technology integration. In an article published in March of 2020, "remote learning" is defined as a response to emergency situations to keep students and teachers connected while working from home (Ray, 2020). It is the researchers intention to consider ‘remote learning’ as such throughout this study. When comparing traditional brick and mortar schools to virtual schools, the curriculum structure varies vastly in a myriad of ways. Whereas virtual schools were designed with a curriculum and structure meant for “at home learning”, brick and mortar schools were forced into a virtual format and were not given the opportunity to convert their curriculums for a shift. Remote learning is dependent on preparedness, technology tools, or overall student support infrastructure to adhere to as many state and local requirements as possible (Ray, 2020). Additionally "educational continuity" is a critical component of school emergency management that ensures continuing education in the event of a prolonged school closure (REMS, 2020). The school closures of March 2020 demonstrated the various shortcomings in educational continuity plans, previously not considered.

Limited research exists surrounding remote learning implementation in primary and secondary public brick and mortar schools for educational continuity. The researchers in this study compared two districts, one that implemented 1:1 technology before the COVID-19

Pandemic and one that did not, although both had a robust technology foundation. UNICEF calls the COVID-19 Pandemic the largest disruptor of education in history exposing widening inequalities (Ferguson, 2020). During the COVID-19 Pandemic, states, districts, and schools had varying response plans, resulting in an opportunity to analyze differing plans' successes and failures. The data collected in this study demonstrates that a lack of professional development and overall preparedness resulted in a less than favorable educational experience during the pandemic. In addition to significant shortcomings in preparedness for school closures surrounding lower socioeconomic communities, English Language Learners (ELL), and students receiving accommodations, this research also demonstrates preparation plans fail to anticipate student and staff needs as they relate to emotional wellbeing and basic computer skills and etiquette.

Research Design

This two-phase sequential action research design will be used to enhance systems, procedures, and instruction through remote learning in emergency situations (Creswell & Creswell, 2018). The research consists of a review of the existing studies, news reports, an examination of two large public urban Southeastern United States school district usage reports, and an overview of plans from similar size districts in the Southeastern United States. The two phases of the research design include, Phase 1: Likert scale survey administered to current school and district employees made up of structured questions and four open-ended questions; Phase 2: focus group with semi-structured questions to triangulate findings. The research team selected the two school districts in this study due to the proximity and similarity in demographics: relative size, diversity, test scores, and attendance. Despite these similarities, both districts deployed

differing technology plans prior to the pandemic. Table 1 compares the two school districts by enrollment by race/ethnicity.

District	Total Enrollment	White		Black or African American		Hispanic/ Latino		Asian		Native Hawaiian or Other Pacific Islander		American Indian or Alaska Native		Two or More Races	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
STATE	**2,858,949**	**1,054,650**	**36.9%**	**618,792**	**21.6%**	**986,891**	**34.5%**	**79,522**	**2.8%**	**4,862**	**0.2%**	**7,769**	**0.3%**	**106,463**	**3.7%**
District 1	209,887	52,405	25.0%	51,259	24.4%	90,547	43.1%	9,772	4.7%	700	0.3%	428	0.2%	4,776	2.3%
District 2	196,331	58,210	29.6%	54,439	27.7%	70,454	35.9%	5,966	3.0%	261	0.1%	1,486	0.8%	5,515	2.8%

Table 1 (*Total Enrollment/Membership by District by Race/Ethnicity*, 2020)

The dissertation concludes with chapters IV and V, along with a staple of the CPED dissertation in practice model, a product that can be accessed and referenced in future situations that mirrors the content of this study. Chapter IV triangulates findings from the survey and focus groups using a logic model and themes, analyzed and compared from data on surveys and existing literature. In Chapter V, a summary of the results demonstrates how these findings lead the researchers to develop a digital resource of best practices for transitioning into remote learning and blended learning, ensuring educational continuity in the event of a prolonged school closure. The digital resource is a website that demonstrates the best practices of an educational continuity plan with tools to help any school site or district as a whole adopt these practices to their existing plan. The website is publicly available and accessible at www.educationalcontinuity.solutions. This digital resource was created by data gathered and evaluated by the survey response of two large urban public Southeastern United States school districts, focus groups anecdotes from district employees, and first-hand accounts of the researchers (Creswell & Creswell, 2018).

Research Questions

The primary research questions for this study are:

1. What do statistical comparisons of publicly available data reveal about the way the digital divide has affected both districts?
2. What policies, procedures, and resources are identified by teachers and administrators in these two districts as mitigating disruption to education?
3. What professional development and technology integration did these two districts put in place to support the success of educational continuity before, during, and after a disaster?
4. What challenges do stakeholders of these districts identify in their implementation of an educational continuity plan?

The researchers believe that through an analysis of surveys and focus groups with stakeholders, plus a collection of artifacts and documents used to support remote learning efforts during a pandemic, these research questions captured the experience behind educational continuity in any crisis or state of emergency.

Participant Population and Characteristics

In order to create an influential long-lasting digital resource, this study's target population consists of teachers, instructional leaders, school-based administrators, and school district personnel. For the purposes of this study, the participants originated from one of two large urban public school districts in the Southeastern United States affected by remote learning during the COVID-19 Pandemic. Each of these two schools approached the challenges of the COVID-19 Pandemic with different mitigation plans. A purposeful, convenient, and self-selected sample was used for this research (Creswell & Creswell, 2018). This sampling method allowed for a

decision about who or what is representative of the phenomenon being studied and how many needed to be included in the study to explore the research problem (Creswell & Creswell, 2018).

Gatekeeper Access

The researchers in this study created a private social media group and attracted qualified members to the group. To join the private social media group, interested social media users were approved by the researchers. From this private social media group, the researchers solicited members to participate in the research study by posting a flyer with call to action instructions (Appendix A). The flyer included a unique link and QR code to the survey on Survey Monkey's platform. Survey Monkey tracked survey completion status through the aggregate survey completion tool and reminded users to complete the survey while hiding participant names from the researchers. The last question of the survey asked participants if they were interested in participating in a focus group. The focus group was used to check findings and develop a digital resource product. Data synthesized from the social media group, survey and focus groups directly informed the findings of a website of best practices.

Delimitations

This research did not study populations of private schools, parochial schools, virtual schools, or charter schools. Post-secondary institutions were not included in the population. Students and parents were not invited to participate in the research. Additionally, the digital resource was not limited to 1:1 devices as a solution or to pandemic planning only, but rather a compilation of best practices for educational continuity in any instance in which remote learning is needed.

Limitations

An inadequate number of responses would affect the sample size and is a possible limitation to the research; therefore, the research team set a goal for equal distribution of responses in each demographic variable of teacher, school administrator, and district personnel. Reminders to complete the survey by reposting the flyer to private social media groups helped reach this goal. Additionally, any survey responses that only include answers to Likert questions or open-ended questions were noted in the researchers' findings and included in the data, despite their limited contributions to the data.

Equipment malfunctions were also a possible limitation to the research. SurveyMonkey was used for collecting responses to the initial survey for the focus groups. All data was backed up to a secure Google Drive and a password-protected external hard drive. The SurveyMonkey platform was actively monitored daily during the month-long period that the survey was open in the event of any malfunctions.

Researcher bias was also a potential limitation. At the time of this research, all researchers had a background in the implementation of remote learning at their respective school sites as a school administrator. Researchers also actively utilized remote learning during the pursuit of a doctoral degree. This bias was bracketed. The theoretical framework and the belief of the research team is that the duty of school districts, through individual schools, is to meet the holistic needs of every student therefore educational continuity planning must take place. A pilot study was conducted of the open-ended questions in the survey to ensure questions were easy to understand and unbiased. Researchers coded themes individually and then reduced to common themes to eliminate bias as well. After focus groups, "member-checking" will be used to ensure

accurate transcription of findings to eliminate bias. Member checking is a technique for exploring the credibility of results (Birt, Scott, Cavers, Campbell, & Walter, 2016).

Phase 1 – Survey

Phase 1 – Survey Pilot Studies

"Pilot studies" are preparatory studies designed to test the performance characteristics and capabilities of study designs, measures, procedures, recruitment criteria, and operational strategies that are under consideration for use in a subsequent study (Moore et al., 2011). Moore et al. (2011) recommend at least 12 participants for pilot studies with the primary focus of estimating average values and variability for planning larger subsequent studies. Pilot studies of two open-ended questions were conducted with participants consisting of doctoral students, teachers, school and district administrators. These individuals were not used in the official survey and focus groups. Questions used in the official study were modified based on the feedback.

Phase 1 – Survey Instrumentation

Current teachers, instructional leaders, school-based administrators, and school district personnel who had self-selected to join a private social media group were asked to complete a survey. The SurveyMonkey survey (Appendix C) consists of structured and semi-structured questions posted in the private social media group for all members to answer. Answers to semi-structured questions were analyzed by each researcher using a coding rubric of 3-5 emerging themes. The information collected was triangulated with field notes, statistical analysis of the public data sets within the two districts, and used to finalize the digital resource.

Phase 1 – Survey Procedures

Admittance into the private social media group, "K-12 Education & the COVID-19 Pandemic - Strategies for Success" (Appendix B) was the responsibility of the researchers to attract educators. The researchers also joined other private social media groups with a similar purpose in order to broaden the number of survey participants. In the private social media group, the research team introduced themselves and an overview of the goals and purpose of this research.

Members of the private group saw a link to register and participate in the SurveyMonkey survey (Appendix C) posted on the group page as a unique link and QR code. The first question of the survey secured an informed consent (Appendix B) to participate in the study.

The link to register for the survey on SurveyMonkey (Appendix C) remained open for one month. Reminders to complete the survey were posted on the private social media page (Appendix B) to complete the survey after one, two, and three weeks. Additionally, SurveyMonkey tracked survey completion in aggregate from. Attempts to recruit additional participants were made during the month that the survey was open via further social media posting. The posts to recruit survey participants included an introduction of the research team, an overview of the research purpose and goals for conducting the research, along with a copy of the informed consent which was a part of the SurveyMonkey survey (Appendix C). All researchers adhered to the agreed protocols for conducting surveys outlined in the Ethical Considerations section of this chapter.

Upon completing the survey, research team members separately coded the open-ended questions in the survey to formulate themes. These themes were then compared and reduced to

3-5 themes. SurveyMonkey was also used to analyze Likert scale (strongly agree, agree, neutral, disagree, strongly agree) questions for inferential statistics such as:

1. Prior to the COVID-19 Pandemic, I received adequate training to incorporate technology into my instruction.

   strongly agree, agree, neutral, disagree, strongly agree

2. Since the COVID-19 Pandemic, I have received adequate training to incorporate technology into my instruction.

   strongly agree, agree, neutral, disagree, strongly agree

3. Prior to the COVID-19 Pandemic, my computer and technical skills were adequate to conduct classes involving technology.

   strongly agree, agree, neutral, disagree, strongly agree

4. Prior to the COVID-19 Pandemic, teachers received adequate administrative support to integrate technology into classroom practices.

   strongly agree, agree, neutral, disagree, strongly agree

5. Since the COVID-19 Pandemic, teachers received adequate administrative support to integrate technology into classroom practices.

   strongly agree, agree, neutral, disagree, strongly agree

This data was triangulated with information obtained from field notes, survey questions, statistical analysis of public data sets, existing literature from prior research, forums, social media posts, and remote learning plans from districts with similar demographics to develop a digital resource of best practices for technology integration as an approach for emergency

educational continuity. The researchers then proceeded with remote focus group discussions informed by the data mentioned above.

Phase 1 – Survey Anonymity

Informed consent (Appendix D) was the first question in the survey (Appendix C), along with a notice that participants could withdraw at any time. Demographic questions were limited to the role of participant (teacher, school administrator, district personnel), age range, zip code of employment during the 2019-2020 school year, and years of education experience. If at any time the participant felt uncomfortable they could exit out of the survey without consequence and without impact on their relationships with the researchers or their employment. No identifying information was noted on the survey and all identities remained anonymous. These were the last questions in the survey prior to a question about an interest in participating in a future, remote focus group and a question about a personal email address to be reached about the focus group.

Phase 1 – Likert Scale Data

Cronbach's alpha was used on all survey questions to determine validity and reliability of the Likert scale questions. Frequency charts were used to determine the number of times a certain answer is given for a question on the survey and if the data set is evenly distributed. Descriptive statistics were run (i.e. mean, mode, median, standard deviation). To find the difference in the survey variables from the two districts, the variable command in the Statistical Package for Social Sciences (SPSS) was run. Lastly, a Multivariate Analysis of Variance (MANOVA) command was run to determine statistical significance between answers from individuals from both school districts.

Phase 1 – Open-ended Survey Questions

The survey created was a Likert scale survey with open-ended questions resulting from the researchers' pilot study. The Likert scale questions were first analyzed on ordinal and interval levels. Then descriptive statistics were used to summarize the data as interpretations were made about the results of the surveys; 3-5 themes will emerge that will determine the patterns, similarities, and relationships of the data. Initially, each researcher read through the text and made notes in margins to form initial codes. These codes were compared and reduced to 3-5 themes.

Phase 1 – Public Data Sets

Two large urban school districts were studied. The two districts were selected on the following criterion: relative size, diversity, test scores, attendance, and differing technology plans prior to the COVID-19 Pandemic. As the research developed, data sets were analyzed and compared based on elements for student achievement on state exams and tests, attendance (in person and remote), and engagement by daily technology usage. Data analysis commands included Florida Standards Assessment (FSA) scores, SAT and ACT scores, public COVID dashboard data, attendance, and discipline data as reported for School Environmental Safety Incident Reporting (SESIR) purposes to the Department of Education.

Phase 1 – Field Notes

The field notes included each researcher’s impressions about the surveys, focus groups (Phase 2), experiences, and impressions of observations during this research study (Phillippi & Lauderdale, 2018). The field notes aided in the understanding of remote learning and were both reflective and descriptive. Field notes were transcribed by the researchers and had a systematic

approach when studied. The research team discovered the contextual information necessary for this study. Included in the field notes were forums, blogs, vlogs, social media information, as well as new studies produced during the time of this research.

Phase 1 –Survey Data Triangulation

The researchers also reviewed each school district's emergency readiness plans and public domain data sets such as the SDPBC Digital Inclusion Project. Several methods of qualitative data collection were used to conduct the research. Through the use of public data sets, survey data, field notes, a clear picture of existing research was obtained. Publicly available data regarding student attendance, student discipline, test scores on Florida Standards Assessment (FSA), SAT, and ACT in each district. The similarities in data in all areas between District 1 and District 2 further confirmed the decision to study these two districts which were alike in many ways except the educational continuity plan for COVID-19. Likert scale survey questions developed on the SurveyMonkey platform later drove a needs assessment to create the digital resource. This data collection and recording method is supported by the research presented by Creswell & Creswell (2018). The recommended three data analysis strategies are: review all information including survey data, observation checklists, field notes, and school documents; allow researchers to review and verify collected information; fine-tune and focus the data to develop codes and categories of information.

These themes were compared to the inferential statistics developed from the Likert scale questions in the survey. This inductive process illustrated working back and forth between the themes and the database until the researchers had established a comprehensive set of themes (Creswell & Creswell, 2018). Inferential commands were run through SPSS to determine the

linear relationships between questions on the survey dealing with before and during the COVID-19 Pandemic. These results encouraged a 'needs assessment' that helped develop the focus group questions.

Phase 1 – Validity & Reliability

Throughout each phase of this research, there were multiple validity procedures through research member checking, triangulation of both the surveys and focus groups (Phase 2) as well as identifying the biases of each researcher (Creswell & Creswell, 2018). The reliability of this research for the data analysis was conducted in a precise, consistent, and exhaustive manner through inferential statistics in systematizing, recording, and disclosing each step of analysis repeatedly (Nowell et al., 2017). To further ensure the reliability of this research, all researchers used specific protocols for recording data, analyzing the information through multiple steps of analysis (Creswell & Creswell, 2018).

Phase 1 – Survey Risks & Benefits

There were minimal to no risks to participants. Research participants could exit the survey at any time or withdraw from the survey without penalty. There were no benefits to participating in the research; however, participants may have enjoyed sharing their experiences and being involved in educational continuity plans for future crises.

Phase 2 – Focus Groups

Phase 2 – Focus Groups Instrumentation

Focus group questions were derived from the triangulation of the data in Phase 1 (Appendix H). Focus groups were conducted homogeneously and divided by school district. The

focus groups were hosted on the Zoom video conferencing platform and were recorded by a moderator.

Researchers transcribed focus group recordings and the transcriptions were sent to participants via personal email addresses. The participants were given two weeks to check for accuracy and revisions before distribution. If a participant did not provide a response, the researchers assumed it indicated agreement of accuracy. The transcriptions collected were organized into codes to finalize the 3-5 themes that were used to develop a digital resource. All recordings will be destroyed after the research is finalized. The total duration of each focus group was noted and placed in the data for transparency of information.

Phase 2 – Focus Groups Procedures

Remote focus groups via the Zoom video conferencing platform were conducted after the analysis of survey data. Two weeks before the study, research team members emailed the participants' personal email addresses with the team's contact information and biography (Appendix G), an overview of the research purpose and goals for conducting the research, and a copy of the informed consent (Appendix E). One week before the focus group, team members sent out a reminder of the focus group date and time, a copy of the focus group questions (Appendix H), a copy of the consent form (Appendix E), a link to access the Zoom video conferencing platform, and an attached calendar invitation. Participants were invited to the focus group based on their answer to the survey question about the zip code of their place of employment during the 2019-2020 school year, creating two separate focus groups. The researchers interviewed the focus group participants about survey findings to clarify interpretations.

Specific focus group questions were developed after the analysis of the triangulated survey results and public domain data. Each focus group received the same set of questions. The researchers attempted to have equal participation among the respondents in the groups. At the beginning of each focus group, the procedure protocols were followed, including the researcher's introduction, review of the informed consent, informing the participants that the session will be recorded, and a reminder of the right to withdraw from the process at any time. The research team member also informed participants that confidentiality was to be maintained and asked that all participants do the same. The participants and their schools were given pseudonyms. The participants were reminded that the transcripts were to be sent to them individually before the publication of the research for approval.

The data collected through the focus group were reported by video recordings and transcribed by the researchers. In addition to the Zoom recording, a backup recording was conducted on an iPad. Transcriptions were taken using the Otter and Dragon Anywhere apps. These transcriptions were sent to participants via email one week after the focus groups. Participants were given two weeks to check for accuracy and revisions. If the researchers did not receive confirmation or edits from focus group participants after two weeks, they assumed the participants would agree with the transcriptions.

Phase 2 – Focus Groups Confidentiality

Informed consent forms (Appendix E) for focus groups were sent out via email before receiving login information for the Zoom video conferencing platform. Each focus group was homogeneously divided by school district. The researcher will introduce themselves and briefly explain the focus group process. The objective was to gain information from participant

experiences with remote learning and clarification on survey findings. The focus groups were reminded that the sessions are recorded and transcribed verbatim. The transcriptions will be sent to participants for accuracy confirmation and edits. The consent form was reviewed before commencing with the focus group. Team members reminded participants that personal information was to be removed during transcription and they would be assigned a non-descript identifier. If at any time the participant feels uncomfortable they could withdraw from the focus group without consequence or impact on their relationships with the researchers or their employment.

Data and informed consent from focus groups was stored on password-protected computers of the researchers with password-protected access to Google Drive. Data was also stored on an external hard drive, securely stored. Data will be kept for five years until May 2027, in the event it is needed for further research, and then it will be destroyed by permanently deleting the files by reformatting the hard-drive and rewriting over the hard drive.

Phase 2 – Focus Groups Data Processing & Analysis

One of the most important processes of this research study was analyzing the data collected through public data sets, field notes, surveys in Phase 1, and focus groups in Phase 2. In this section, the research team described each data source, the data process, and how it was analyzed in the order it was collected.

Phase 2 – Trustworthiness

Creswell & Creswell (2018) states that data analysis must be credible, believable, and verified to gain trustworthiness. Informed consent (Appendix C) for focus groups will include a statement ensuring that identifying information will be concealed. Research participants can

withdraw from the focus group without penalty and are included in the interpretation of data for precise understanding.

The components imperative to this research involving trustworthiness include a methodically organized review protocol, with a focus on application in the development of our research questions, the two stage data review process with checks and balances along each step, critical evaluation of literature, multiple perspectives from stakeholders as participants of this study, development of data coding techniques, data synthesis, and reporting the findings in a concise, understandable, usable format (Hancock et al., 2016).

Phase 2 – Focus Groups Risks & Benefits

There are minimal to no risks to participants. Research participants could withdraw from the focus group without penalty. While there are no explicit benefits to participating in the research, participants may enjoy sharing their experiences and being involved in educational continuity plans for future crises.

Product Development

Based on all results of each data set in both Phase 1 and Phase 2, the researchers used the culminated data to create a useful digital resource for school districts to mitigate future crises resulting in a remote learning environment. This resource consists of a website based platform that allows all educators to review the research findings supporting best practices and connect with the researchers of this study to collaborate on educational continuity plans for future crises.

Biases

In this research and throughout the researcher's data analysis, biases were avoided by multiple researchers coding, including computer-aided data analysis via SurveyMonkey, and

triangulation through multiple data sources. Additionally, participants were asked to review the data to ensure interpretation and representation are accurate to feedback given during focus groups. To eliminate the effect of "backyard research" and influence of an imbalance of power noted by Glesne & Peshkin (1992), the immediate work setting of each researcher was eliminated from the population (Creswell & Creswell, 2018). In addition, the researchers' Lynn University Chair reviewed the data synthesized to ensure an unbiased perspective on the data analysis is achieved (Creswell & Creswell, 2018).

Ethical Principles

In the field of research, ethical considerations and norms help to maintain the rights and well-being of all participants. In this research, ethical principles included a responsibility to:

1. Declare the purpose of the research to stakeholders, provide, and obtain informed consent from all involved.
2. Ensure information recorded has been accurately represented, including giving participants an opportunity to review transcriptions.
3. Respect participants by accommodating their availability and willingness to participate.
4. Ensure that confidential data is not shared or disclosed.
5. Ensure that data obtained for this research is not used for professional or business benefit.
6. Ensure that an imbalance of power does not occur by avoiding participants from direct work sites of the researchers.

Summary

The two-phase action research methodology was chosen and data collected allowed district employees to participate in focus groups after participating in educational continuity

efforts during the COVID-19 Pandemic. The research team was able to ask specific open-ended questions about the challenges and successes of these stakeholders through the use of focus groups. The study of the data collected allowed for the influential and innovative best practices digital resource for educators and districts to use in the event of a crisis resulting in a remote learning environment. The team championed the use of collaborative cloud-based technologies and an external hard drive to securely and easily collect, store, and analyze data in this action research.

Methodological decisions made in the design and execution of this study were expressly connected to the researchers' work as practitioners in the field of education during a firsthand account of remote learning, school administrators, and Ed.D. students. In a constructivism evaluation design, subjective meanings of participants' experience are developed and directed toward certain objects or theories (Creswell & Creswell, 2018). The varied and multiple meanings lead researchers to look for the complexity of views with the goal of relying as much as possible on the participants' views of the situation (Creswell & Creswell, 2018). For this reason, the constructivism design was selected for the purpose of this two-phase research methodology.

While surveys can provide evidence of patterns amongst large populations, interview data from focus groups can gather more in-depth insights on participant understanding, attitudes, and actions (Creswell & Creswell, 2018). Bogdan and Biklen (2007) describe focus group sessions as "purposeful conversations," therefore, a semi-structured format will be used with open-ended questions designed to elicit opinions and perspectives about the experience of remote learning

during a pandemic. This method allows new ideas to be established as a result of responses, thus allowing the researchers to prepare focus group questions (Richards, 2014).

It is the expectation of the researchers that this study will assist schools in developing a well organized remote learning plan for the next crisis. This was manifested in a comprehensive best practices resource thoroughly prepared, backed by research and supported by industry input. The research and methodology are unequivocally a practice and practitioner-oriented epistemology as detailed through the CPED framework (Shulman et al., 2006).

CHAPTER IV: FINDINGS OF THE STUDY

Purpose

The purpose of this two-phase action research was to study the mitigating response of two large, urban public school districts in the Southeastern United States for educational continuity during the COVID-19 Pandemic and to explore the need for professional development for sustainable technology integration that can be used to respond to future crises. These future crises include but are not limited to natural disasters, pandemics, school violence, or any other event resulting in the closure of a school or school district. The methodology consisted of a Phase 1 (Likert scale survey) and Phase 2 (Focus Groups) to understand educators' perspectives and knowledge relative to their professional experiences prior to and during the COVID-19 Pandemic. This chapter triangulates the findings from the survey and focus groups using a logic model and themes, analyzed and compared from data on surveys and existing literature.

Research Questions

The following research questions guided this two-phase action research study:

1. What do statistical comparisons of publicly available data reveal about the way the digital divide has affected both districts before, during, and after the current pandemic?
2. What policies, procedures, and resources are identified by teachers and administrators in these two districts as effective in mitigating disruption to education?
3. What professional development and technology integration did these two districts put in place to support the success of educational continuity before, during, and after a disaster?
4. What challenges do stakeholders of these districts identify in their implementation of an educational continuity plan?

Phase 1: Survey Data Procedures and Analysis

The researchers' target population consisted of teachers, school-based administrators, and school district personnel from two large urban public school districts in the Southeastern United States affected by remote learning during the COVID-19 Pandemic. Each of these two public school districts approached the challenges of the COVID-19 Pandemic with contrasting mitigation plans. The participants were self-selecting individuals who agreed to participate in the survey through a private social media group via a link for SurveyMonkey (Appendix A) posted on the private social media page. The survey's first question secured informed consent (Appendix B) to participate in the study and outlined the purpose of the research and their involvement.

At the close of the survey period, there were a total of 500 responses. The first question in the survey asks, "Do you wish to participate in this study?" in which two participants answered no. Those two participants were removed from the data set. The following survey participants were also removed from the data set: 11 indicated they worked in a charter school, 9 selected “other” for type of school, 6 were in the parochial sector, and 12 were from the private education sector. 258 participants were also removed from the data set who provided zip code responses outside of District 1 and District 2. 39 participants indicated that they lived in a zip code within District 1. In order to randomly select the remaining 163 District 2 participants, the data was sorted by respondent ID, a number 1-4 was randomly assigned to each respondent, and the first 39 respondents who were assigned the number 4 were kept in the data set.

One Likert question response was left blank and was thus assigned the “Neutral” value response. Six participants (3 from District 1 and 3 from District 2) answered “Other” for their role during the 2019-2020 school year and responded Instructional Coach, Curriculum Resource

Teacher, Media Specialist, Guidance Counselor, School Level Instructional Support, and Speech Language Pathologist. These participants were assigned the role of "Teacher" for the purposes of this research. Two participants indicated that their grade levels of instruction during the 2019-2020 school year were "Other" providing K-12 and 6-12 as explanations. For the purposes of this research, these answers were re-coded as "elementary" and "high school" respectively. Additionally, the average age (43.2) was assigned to 3 participants who did not indicate an age. Values were then assigned to Likert scale questions and demographic data before running inferential and descriptive statistics in Statistical Package for the Social Sciences (SPSS). Chronbach's Alpha was conducted on the 78 survey results (39 from District 1 and 39 from District 2) with a reliability report of 0.822.

Survey Respondents' Demographic Profile

The following tables are based on the 2019-2020 school year and participants' answers to the survey after processing the data through SPSS. Table 2 represents participants' role in their school district. Teachers represented 86% of all respondents.

Table 2 Descriptive Statistics of Educators' Role

Variable	**Category**	**n**	**Percent**
Role	Teacher	67	86%
	School Administrator	8	10%
	District Personnel	3	4%

Table 2 (*Descriptive Statistics of Educators' Role)*

Table 3 represents the participants highest level of education. More than half the participants had advanced degrees.

Table 3 Descriptive Statistics of Educators' Highest Level of Education

Variable	**Category**	**n**	**Percent**
Level of Education	Bachelor's	28	36%
	Master's	44	56%
	Specialist	4	5%
	Doctoral	2	3%

Table 3 (D*escriptive Statistics of Educators' Highest Level of Education)*

Table 4 demonstrates the participants' tenure in teaching. More than half the participants had been teaching for 16 years or more.

Table 4 Descriptive Statistics of Educators' Total Teaching Tenure

Variable	**Category**	**n**	**Percent**
Years of Teaching Tenure	0-5 years	7	9%
	6-10 years	19	25%
	11-15 years	8	10%
	16-20 years	20	26%
	21-25 years	12	15%
	25+ years	12	15%

Table 4 (D*escriptive Statistics of Educators' Total Teaching Tenure)*

Table 5 represents the participants' worksite. The majority of participants tended to be from either elementary or high school sites.

Table 5 Descriptive Statistics of Educators' Work Site

Variable	**Category**	**n**	**Percent**
Work Site	Elementary	25	32%
	Middle	20	26%
	High	30	38%
	District	3	4%

Table 5 (*Descriptive Statistics of Educators' Work Site)*

Table 6 demonstrates the participants' age range. The median age was mid 40.

Table 6 Descriptive Statistics of Educators' Age Range

Variable	**Category**	**n**	**Percent**
Age Range	25-35 years	20	26%
	36-45 years	25	32%
	46-55 years	27	34%
	55+ years	6	8%

Table 6 *Descriptive Statistics of Educators' Age Range*

Phase 1: Results

In the table below, District 1 was less receptive to technology than District 2 prior to the COVID-19 Pandemic, however District 1 reported feeling more receptive than District 2 after the COVID-19 Pandemic. Based on information shared in focus groups and research conducted on District 1, the researchers feel that this receptiveness increase may have been out of necessity because of implementation of technology.

Table 7 Technology Receptiveness by District

Prior to the COVID-19 Pandemic, the teachers in this school were generally receptive to technology integration. Since the COVID-19 Pandemic, the teachers in this school are generally receptive to technology integration. * County

County		Prior to the COVID-19 Pandemic, the teachers in this school were generally receptive to technology integration.	Since the COVID-19 Pandemic, the teachers in this school are generally receptive to technology integration.
1	Mean	2.82	3.82
	N	39	39
	Std. Deviation	.997	.683
2	Mean	3.15	3.49
	N	39	39
	Std. Deviation	1.159	.885
Total	Mean	2.99	3.65
	N	78	78
	Std. Deviation	1.087	.803

In the table below, findings regarding using technology to enhance instructional delivery were not statistically significant. This meant that it did not matter whether the district had 1:1 devices and technology implementation in place prior to the onset of the COVID-19 Pandemic. Teachers and administrators in both District 1 and District 2 felt relatively similar about using technology to enhance instructional delivery prior to and since the COVID-19 Pandemic.

Table 8 Comfortability Using Technology by District

Prior to the COVID-19 Pandemic, I felt comfortable using technology to enhance instructional delivery. Since the COVID-19 Pandemic, I felt comfortable using technology to enhance instructional delivery. * County

County		Prior to the COVID-19 Pandemic, I felt comfortable using technology to enhance instructional delivery.	Since the COVID-19 Pandemic, I felt comfortable using technology to enhance instructional delivery.
1	Mean	3.49	4.10
	N	39	39
	Std. Deviation	1.048	.788
2	Mean	3.87	4.28
	N	39	39
	Std. Deviation	1.005	.724
Total	Mean	3.68	4.19
	N	78	78
	Std. Deviation	1.038	.757

In the table below, findings regarding technology enhancing student work were not statistically significant. This meant that it did not matter whether the district had 1:1 devices and technology implementation in place prior to the onset of the COVID-19 Pandemic. Teachers and administrators in both District 1 and District 2 felt relatively similar about whether technology has enhanced the quality of student work.

Table 9 Comfortability Using Technology by District

Technology integration as a response to the COVID-19 Pandemic has improved the quality of my students' work. * County

Technology integration as a response to the COVID-

County	Mean	N	Std. Deviation
1	2.67	39	.955
2	2.46	39	.969
Total	2.56	78	.961

The researchers coded the survey into themes based on the open-ended questions. The two main areas were technology and the support needed. The open-ended question related to technology was, “Briefly describe how you used technology in your job prior to the COVID-19 Pandemic.” The researchers individually coded the responses for themes and then collectively redacted these themes to five: 1. limited 2. engagement (delivery), 3. devices, 4. administrative usage, and 5. in-house experts. The open-ended question related to support was, “What support would have been beneficial to you prior to the COVID-19 Pandemic?” Again, the researchers individually coded responses for themes and then collectively reduced the themes to five overall: 1. program/specific training (school site goals), 2. student platform training, 3. student engagement, 4. mental health attention, and 5. professional development. After analyzing and synthesizing the data, the central theme was coded as professional development. These themes helped the research team formulate the questions for the focus groups to construct more insight to help with the product of this research.

Phase 2: Focus Group Data Procedures and Analysis

Participants were invited to the focus group based on their answer to the survey question about their place of employment zip code during the 2019-2020 school year, creating two

separate focus groups. The research team members informed participants that confidentiality will be maintained and asked that all participants do the same. The participants and their schools were given pseudonyms. The participants of the focus groups were reminded that the transcripts will be sent to them individually before the publication of the research for approval. One week prior to the focus groups, the researchers sent out a calendar invite and reminder of the focus group date and time, a copy of the focus group questions (Appendix H), a copy of the consent form (Appendix E), and a link to access the Zoom video conferencing platform. The researchers interviewed the focus group participants about survey findings to clarify interpretations.

Prior to the start of each focus group, the procedure protocols were reviewed, including the researcher's introduction, review of the informed consent, notification that the session will be recorded, and a reminder of the right to withdraw from the process at any time. Each focus group received the same set of questions. The focus group questions were displayed on the screen during the Zoom call. All participants were asked to remain muted, virtually “raise their hand” indicating they would like to speak, and then unmute when called on. The researchers kept track of the order of hand raises using a shared document and called on participants in order. Participants were asked to limit their responses to less than two minutes to allow time for all to respond. In addition to the Zoom recording, backup recordings were conducted on a separate iPad and transcriptions were recorded on the Otter.ai and Dragon Anywhere app. Participants were given two weeks to check for accuracy and revisions. If the researchers did not receive confirmation or edits from focus group participants after two weeks, they assumed the participants agreed with the transcriptions. All recordings were stored on a password-protected

hard drive and will be deleted after publication of this research. Transcriptions will be kept for five years on the password-protected hard drive, then destroyed.

The questions asked in the focus groups were the following:

1. Share an aspect of your work experience that has brought you here today.
2. Educators in your district disagreed with the statement, "Prior to the covid-19 pandemic, teachers received adequate administrative support to integrate technology into classroom practices." The responses only slightly improved after the pandemic. Why do you think this is?
3. Educators in your district indicated in their survey responses that they would have preferred more professional development; briefly share the professional development you received prior to the covid-19 pandemic. Was it helpful? Why or why not?
4. Survey results indicate that the level of comfortability with using technology to enhance instructional delivery has increased since the pandemic. What do you attribute to that?
5. Educators in your district had a strong agreement with the statement "technology integration as a response to the covid-19 pandemic has improved the quality of my students' work." Do you agree? Why or why not?

Phase 2: Results

Transcriptions for District 1 and District 2 were individually run through the MaxQDA software, designed to analyze qualitative data. After reducing the open-ended questions from survey to themes, the researchers further reduced these to four agreed upon themes: Mental Health Attention, Student Engagement, Student Platform Training, and Program/Specific Training (School Site Goals). These four themes were entered into the MaxQDA software and

quotes from focus groups were individually coded by a researcher for each of the four themes. The following tables reflect a summary of these results organized by district and grouped with the corresponding theme. Table 7 represents data harvested from District 1.

Table 8. Summary of Results coded by theme (District 1)

Themes	**Codes/Quotes**
Mental Health Attention	"I think because well we're still in a pandemic, but I think everything is just like putting band aids on things. I think everyone's extremely stressed out."
Student Engagement	"allowing technological integration for all of these students allows them to build a piece of creativity back into all of their daily classwork and projects and schoolwork."
Student Platform Training	"I think most students lost education during that point in time because they didn't show up - because they didn't know how to do things
Program/specific Training (school site goals)	"By the end of the school year, I had 10 students still online and seven in person. And there was positive and negative for both. And I believe that there needs to be some change there. Even with being back to face to face, there needs to be some changes too."
	"I definitely think it is district-level. They did not prepare us. They are still not prepared. We had a training this morning. And it is obvious that they are still not prepared."
	"I went I went to Facebook instead of TikTok...we were really, you know, kind of “Apollo 13ing it,” just figuring it out as we went - because no one had a full training, right? We each it seemed like we each had these little pieces. And together, we were figuring out how it works with everyone putting their pieces together."
	"I am totally comfortable, if I ever have to pivot again, that I could keep on going on with what I'm doing virtually just because I had to figure it out so quickly. And I ended up becoming, I feel rather successful with it."
	"Just because our district went 1:1 doesn't mean they were being utilized the way that was intended. I would say that a majority of the district, and I'm speaking from having been in three schools since the implementation, were not using 1:1 devices the way that we've had to use them since the pandemic."

Table 8. Summary of Results coded by theme (District 1)

Table 9 represents data harvested from District 2.

Table 9 Summary of Results coded by theme (District 2)

Themes	**Codes/Quotes**
Mental Health Attention	"Not only was it education that we were trying to implement, we were also dealing with all of the family crises that were going on for the students and the whole life changes"
Student Engagement	"Teachers are going to do whatever they can to make students successful... even if teaching on that type of platform terrifies you, if it means that I'm going to reach my students who are at home... teachers will do it for their students"
	"So instead of them learning just one way, there's so many ways that they can learn these

	different things"
Student Platform Training	"So how do we expect our students to master it unless we take the time to dive into it ourselves or teach ourselves... you've got to have a teacher take the time to teach that to you. And time is always the barrier."
Program/specific Training (school site goals)	"There was so many different products coming out from all kinds of different directions, and you had people kind of teaching themselves, how to use these different things and integrate them in the classroom."
	"I guess some of my frustration is that the professional development seems to come in either two forms...there's no in between for someone who just kind of needs the basics or a little bit more than the basics or wants to, to learn a little bit more than the basics, but they don't want to."
	"I truly believe that the majority of us that were kind of lost in the beginning, we kind of reached out and found ourselves a buddy that could help us with everything."
	"I think the problem with technology in general is they haven't decided what programs they want to use. There's so much out there. I think the district needs to say with their curriculum staff and their leaders need to say become the professionals within ELA, within math and they need to really identify what they want to use, become masters of it first...rather than being the jack of all trades and the master of none."
	"What the district needs to do is kind of come in and say, “This is what we're going to use this, this is what we're going to use for that.” Other than that it's just kind of kind of all all over the place."
	"I'm not sure that my kids' work was any better. But I think my teaching was actually a little bit better. Because I have what we support to be more organized."

Table 9. Summary of Results coded by theme (District 2)

Discussion of Findings

The findings in this research represent the resilience in educators and their willingness to ensure students learn. As evident from the themes identified, the educators surveyed in the study demonstrated an appreciation for the students’ emotional status during the pandemic, the need for training on various student-centered initiatives, and an interest in their school sites’ mission and goals. This two-phase action research answered the research questions quantitatively and qualitatively. Comparisons of publicly available data revealed nothing statistically significant about how the digital divide, either as 1:1 prior or not, had affected the two school districts. The policies, procedures, and resources identified by teachers and administrators in these two districts

as effective in mitigating disruption to education were that both districts were evolving as the needs of the stakeholders evolved.

These two districts' professional development and technology integration had two completely different supports in place. District 1 went 1:1 as a school district prior to the pandemic but changed learning platforms a few times amid virtual instruction. Shortly after the pandemic, District 2 went 1:1 but stayed true to the learning platform used prior. The success of professional development in each district was lacking, although they had some wins based on their different synchronous and asynchronous instruction. In focus groups, teachers and administrators in District 1 and 2 shared that networking was the top way to learn. In this study, the stakeholders revealed that District 1 and District 2 identified the lack of professional development being the principal challenge in their school district's implementation of an educational continuity plan. Teachers and administrators in both districts were able to identify policies, procedures, and resources as ineffective in mitigating disruption. The lacking professional development had the most notable challenging influence, and then as the pandemic endured and technology was somewhat learned, the focus on the following themes would have made instruction virtually implemented better if educators had better skills in program-specific training, student platform training, student engagement, and mental health attention.

Statistical Comparisons of Publicly Available Data

Publicly available data for District 1 and District 2 was analyzed in the areas of attendance and test scores on the Florida Standards Assessment (FSA), Scholastic Aptitude Test (SAT), and American College Test (ACT). The researchers recognize that in 2020, the COVID-19 Pandemic caused many school closures, interruptions to test schedules, and

irregularities in reporting assessment results. As such, the data used was from FY19, FY20, and FY21 school years in order to provide a clear picture before, during, and after the COVID-19 Pandemic.

District 1 and District 2 were selected because of their geographic location and their similar size and demographics. Districts 1 and 2 are both deemed A-Rated with graduation rates of 88.4% and 87.1% respectively. While looking at ACT scores for FY17 and FY18, District 1 and District 2 average scores in all four subtests were within 0.4 points. SAT average scores for FY17 and FY18 for both districts were within 10 points as well. These test scores were used to further validate the decision to compare both districts in the study.

Table 10 District 1 and District 2 FSA ELA Results

	Grades 3-10 FSA English Language Arts % Level 3 or Above		Grades 3-5 FSA English Language Arts % Level 3 or Above		Grades 6-8 FSA English Language Arts % Level 3 or Above		Grades 9-10 FSA English Language Arts % Level 3 or Above	
District Name	**2019**	**2021**	**2019**	**2021**	**2019**	**2021**	**2019**	**2021**
STATEWIDE	**55%**	**52%**	**57%**	**53%**	**54%**	**51%**	**54%**	**50%**
DISTRICT 1	53%	51%	56%	53%	51%	50%	51%	50%
DISTRICT 2	57%	53%	59%	54%	56%	52%	55%	52%

Table 11 District 1 and District 2 FSA Math Results

	Grades 3-8 All Mathematics (FSA and EOCs) % Level 3 or Above		Grades 3-5 All Mathematics (FSA and EOCs) % Level 3 or Above		Grades 6-8 All Mathematics (FSA and EOCs) % Level 3 or Above	
District Name	**2019**	**2021**	**2019**	**2021**	**2019**	**2021**
STATEWIDE	**61%**	**51%**	**62%**	**52%**	**59%**	**50%**
DISTRICT 1	58%	51%	61%	51%	55%	51%
DISTRICT 2	64%	49%	66%	49%	62%	49%

Policies, Procedures, and Resources Mitigating Disruption in Education

Based on the findings within this research, there are many policies, procedures, and resources needed to mitigate the disruption and allow for a smooth transition to educational continuity to happen as seamlessly as possible. The triangulation of data from the survey, by coding the open-ended questions from the survey and the coding of focus groups transcriptions, revealed that professional development is the number one theme throughout the data collected. Professional development prior to, during, and after the disruption caused by the COVID-19 Pandemic is where the focus of this research lies. Ensuring that policies, procedures, and resources surround professional development is how school districts alike mitigate disruptions in the future. The other themes in this study all fall under professional development that includes the district program/specific training (school site goals), student platform training, student engagement, and mental health attention.

One of the first procedures to mitigate disruptions is to define the different types of disruptions a district may face. For example, an emergency can be small yet urgent, a disaster is critical and widespread in a community, and a crisis can be potentially overwhelming to existing resources and critical. A pandemic is all three: critical, overwhelming, and widespread. A best practice for districts is to have procedures in place to plan for educational continuity and familiarize everyone with the remote learning tools at hand including but not limited to a learning management system, video conferencing platform, online assignment hub, and digital content platforms. Once the infrastructure has been established, setting clear roles and expectations for all stakeholders is next. A successful educational continuity plan must break

down the school's expectations for each important group and provide ongoing professional development to staff members.

Successful Professional Development and Technology Integration Support

Support needs to be implemented in content area knowledge, technical knowledge, and pedagogical knowledge including platform training, program-specific training, student platform training, and student engagement resulting in robust and continuous professional development support. Most instructors and administrators recognize the benefits technology can have in the classrooms, whether preparing students for a technology-driven world or helping to simplify grading, school, and district management. However, digital tools alone will not improve education; it is how the educator uses it and knows how to enhance instruction for students. Practical professional development activities with significant job-embedded knowledge and skills help improve classroom practice, focus on content knowledge to increase student achievement, and opportunities for active learning.

The overarching theme from these findings was a need for purposeful professional development. The development of a website that supports the aims of this study would be unattainable without the proper two-phase sequential action research conducted heretofore. While the survey received 500 responses from qualified educators from around the world, our sample size was limited to 39 participants from District 1 and District 2 (78 responses in total), based on the maximum number of valid responses collected from District 1 employees. The small sample size, combined with the varying levels of comfortability with educational technology prior to the onset of the COVID-19 Pandemic creates limitations on the findings in their application in other school systems with different demographic makeups. The researchers

also recognize that the advertisement of a survey about educational technology as well as utilizing social media as a means of advertisement may have attracted participants who not only enjoy education but also are more comfortable with educational technology.

Implications for Further Research

The data collected through this study presents a number of opportunities for future research in the areas of educational continuity, the impact of the COVID-19 Pandemic on student achievement, and professional development. Specifically, the researchers wish to further examine both “digital natives” and “digital immigrants” and their perceptions of support during the emergency closure of school buildings in March 2020 and distance learning that followed. This is a direct result of the findings in this primary study that “digital natives” felt less administrative support, including younger and older teachers as well as those with more or less teaching experience. The researchers also preserved the dataset for survey respondents not belonging to District 1 or District 2 and conducted an independent focus group for those individuals. This was done to examine the experiences of educators from other parts of the world with hopes of extrapolating the research findings beyond the two Southeastern United States school districts that are the subject of this study.

CHAPTER V: EXECUTIVE SUMMARY

Introduction

School districts have grown accustomed to developing fire safety, active shooter, and natural disaster protocols for their schools, taking into consideration the safety of students, staff and faculty at the school site. The burden of creating these plans typically falls on the shoulders of district personnel with plans ultimately tested in the aftermath of disaster. Schools that are fortunate enough to adopt plans and protocols without suffering the firsthand experiences of disasters, have done so only because some school, somewhere, endured the disaster in their stead. When the COVID-19 Pandemic forced schools around the world to close in March of 2020, school systems were faced with the new and daunting task of developing action plans that considered how schools would account for a disaster with an impact that this generation had never experienced. Additionally, the technology available to schools contributed to the perception that schooling could continue through some form of remote learning. This task presented both a challenge and opportunity for schools as they shifted from the physical classroom to various models of remote content delivery to provide for educational continuity with no known end in sight.

The aim of this study was twofold; first to demonstrate the need for comprehensive disaster planning for educational continuity that leverages all resources available to schools, regardless of the nature of school closures. Second, to compile a digital resource of best practices to assist educators in future times of emergency that require educational continuity.. The research in this study examined the response of two large, urban public school districts in the Southeastern United States for educational continuity during the COVID-19 Pandemic and explored the need

for professional development for sustainable technology integration that could be used to respond to future crises.

Methodology

This two-phase sequential action research design mirrors the "explanatory sequential design" as described by Creswell in which quantitative data collection and analysis was followed up with qualitative data collection and analysis leading to interpretation (2018). The method seeks convergence, corroboration, and correspondence of results from the different collection methods and is typically called data "triangulation" (Greene, Caracelli, and Graham, 1989). This methodology is an approach commonly used for improving conditions and practices in a range [of] environments (Lingard et al., 2008; Whitehead et al., 2003). As the researchers in this study were all practicing educators, the inquiries sought through the quantitative and qualitative methods helped them improve their own practices as educators, which in turn enhanced their working environment and the environments of those who are part of it – their colleagues and students. Action research methodology was chosen for this study to bring about change in the field of secondary educational and administrative practice.

In the quantitative phase of the study, researchers collected and examined the responses to a survey made up of 20 Likert scale questions and four open-ended questions. The survey was administered to current school and district employees from two large public urban school districts located in the Southeastern United States. These two similarly sized districts had nearly identical demographics with the one major exception: while District 1 had developed a plan to roll out 1:1 technologies to all its students prior to the pandemic, District 2 had not. District 2 had previously determined that the investment in a 1:1 rollout did not match the academic reward,

simply put, students would not necessarily perform better academically following 1:1 implementation. The COVID-19 Pandemic became the catalyst that sped up the roll out of 1:1 devices in District 1 and initiated an emergency roll out plan for District 2. The quantitative phase of this study included a series of focus groups with semi-structured questions. Researchers then analyzed both data sets to triangulate findings.

Findings

The results of each data set in both phase 1 (survey) and phase 2 (focus groups) revealed to the researchers evidence that was used to create a dynamic digital resource for school districts aimed at mitigating the impact of future crises that necessitate a remote learning environment. This resource consists of a web-based digital resource that allows educators to review the research findings supporting best practices and to connect with the researchers of this study to collaborate on educational continuity plans for future crises. After considerable research on the topic, the literature review found that while much of the response from schools to the COVID-19 pandemic was reactionary and, consistent with previous crises events, little evidence supports that K-12 institutions are prepared for future emergencies. The events of 2020 demonstrated how schools were able to leverage the technological advances not present 20 years ago through the use of video conferencing and various online tools, however the learning curve for both students and faculty was exceptionally steep on successful implementation of these plans.

Educational Continuity Solutions

The five researchers each led the development of continuity plans for their school sites in March 2020. From this firsthand experience and through dialogue with one another, it became

apparent that the sharing of practices that worked at their school sites was essential for the success of schools districtwide. This revelation was supported by the results and findings of the two phase action research study conducted. A digital resource that catalogs the success stories, practices, and tools was developed and published to the internet and is accessible at www.educationalcontinuity.solutions. The need for this product is evident in the fact that something like it does not exist. This website is a living resource for school administrators and educators in the hopes that schools and districts will reference the best practices learned from previous school closure emergencies. Through surveys, focus groups, personal experiences and triangulation of these data points, four major themes were extracted that provided focus for what educators found necessary and similarly missing from their experience navigating the COVID-19 pandemic. These themes were: training on school site goals and initiatives, training on Student Management Systems, training on methods to improve student engagement, and lastly, training on ways to best serve the mental health of students and colleagues.

Implications for Further Research

The data collected through this study presents a number of opportunities for future research in the areas of educational continuity, the impact of the COVID-19 Pandemic on student achievement, and professional development. Specifically, the researchers wish to further examine both “digital natives” and “digital immigrants” and their perceptions of support during the emergency closure of school buildings in March 2020 and distance learning that followed. This is a direct result of the findings of this primary study that younger and older teachers as well as those with more or less teaching experience reported feeling more supported. The researchers also preserved the dataset for survey respondents not belonging to District 1 or District 2 and

conducted an independent focus group for those individuals. This was done to examine the experiences of educators from other parts of the world with hopes of extrapolating the research findings beyond the two Southeastern United States school districts that are the subject of this study. This study did not examine the mental health effects of prolonged school closures and distance learning and the researchers highlight this as an important area of future research.

Appendix A

WERE YOU AN EDUCATOR DURING THE COVID-19 PANDEMIC?

LYNN UNIVERSITY

NOW RECRUITING PARTICIPANTS FOR A RESEARCH STUDY.

Study Title - Professional Development for Educational Continuity in Emergencies: The Response of Two Urban School Districts During the COVID-19 Pandemic

Researchers are interested in **improving educational continuity** in the future and by **studying experiences of educators** during the COVID-19 Pandemic. This **voluntary study** is an **online survey** that is estimated to take 10-20 minutes **to complete** and will ask participants answer a variety of questions about **technology integration, level of support, and impact.** Participating in this study is your choice and will not affect your employment or education.

To learn more about the study and complete the online survey, please scan the QR code below or by visiting https://www.surveymonkey.com/r/Q6SNS6P

This study was reviewed by the Lynn University IRB.

FOR MORE INFORMATION, PLEASE CONTACT THE LEAD RESEARCHER VIA EMAIL: LPREBLE@LYNN.EDU

Appendix B


COVID-19 PANDEMIC
Edit
K-12 Education & the COVID-19 Pandemic - Strategies for Success
Private group · 2 members
Invite
About
Discussion
Rooms
Members
Events
Media
What's on your mind, Justin?
Room
Photo/Video
Tag People
Justin Arnone
Admin . Just now .
Welcome to the group!
Introduce yourself...
About
This Facebook group has been created as part of dissertation research being performed by a team of five educational leaders and Lynn University ...
See More
Private
Only members can see who's in the group and what they post.
Hidden
Only members can find this group.
Florida
General Group

Appendix C

SURVEY MONKEY

1. Hello, fellow educator, and thank you in advance for your assistance. This survey has been developed as part of dissertation research being performed by a team of five educational leaders and Lynn University doctoral students. The survey takes 10 - 20 minutes to complete. The research focuses on educational continuity during the COVID-19 Pandemic and explores the need for professional development for sustainable technology integration that can be used to respond to future crises. Your participation in this survey is voluntary and has no risks. Potential benefits may be the identification of interventions that could positively impact future use of technology integration to respond to future crises. Information you provide will be kept anonymous; all names of districts, schools, and individuals who participate in this research will be withheld from published reports. You may discontinue participation at any time by closing the survey. If you decide to discontinue, any information you provided will be immediately destroyed. If you have questions about the study, please contact the researcher via email: lpreble@lynn.edu. Additionally you may email the Institutional Review Board Chair, Dr. Jennifer Lesh at JLesh@lynn.edu.

1. By going forward in this survey, you are providing consent for the researcher to use your responses for the purposes of this study. Thank you again for your assistance!

    a. Yes, I will participate.
    b. No, I am opting out.

Please indicate your level of agreement with the following statements in regard to your **READINESS** to implement technology integration as a response to the COVID-19 Pandemic:

2. Prior to the COVID-19 Pandemic, I received adequate training to incorporate technology into my instruction.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
3. Since the COVID-19 Pandemic, I have received adequate training to incorporate technology into my instruction.
    a. Strongly Agree
    b. Somewhat Agree

    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
4. Prior to the COVID-19 Pandemic, my computer and technical skills were adequate to conduct classes involving technology.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
5. Since the COVID-19 Pandemic, my computer and technical skills are adequate to conduct classes involving technology.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
6. Prior to the COVID-19 Pandemic, materials (e.g., software, devices, printer supplies, applications, extensions, etc.) needed for classroom use of technology were readily available.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
7. Since the COVID-19 Pandemic, materials (e.g., software, devices, printer supplies, applications, extensions, etc.) needed for classroom use of technology are readily available.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
8. Prior to the COVID-19 Pandemic, I had a desire to learn about integrating technology in my classroom practices.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree

    e. Strongly Disagree
9. Since the COVID-19 Pandemic, I have a desire to learn about integrating technology in my classroom practices.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree

Please indicate your level of agreement with the following statements in regard to the level of **SUPPORT** you received to implement technology integration as a response to the COVID-19 Pandemic.

10. Prior to the COVID-19 Pandemic, I could readily obtain answers to technology related questions.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
11. Since the COVID-19 Pandemic, I can readily obtain answers to technology related questions.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
12. Prior to the COVID-19 Pandemic, our school district had a well-developed technology plan that guided all technology integration efforts.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
13. Since the COVID-19 Pandemic, our school district has a well-developed technology plan that guides all technology integration efforts.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree

    e. Strongly Disagree
14. Prior to the COVID-19 Pandemic, teachers received adequate administrative support to integrate technology into classroom practices.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
15. Since the COVID-19 Pandemic, teachers received adequate administrative support to integrate technology into classroom practices.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
16. Prior to the COVID-19 Pandemic, the teachers in this school were generally receptive to technology integration.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
17. Since the COVID-19 Pandemic, the teachers in this school are generally receptive to technology integration.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree

Please indicate your level of agreement with the following statements in regard to the impact technology integration as a response to the COVID-19 Pandemic has had on **STUDENTS**.

18. Technology integration as a response to the COVID-19 Pandemic has increased the level of student interaction and/or collaboration.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree

19. Most of my students can capably use the technology required for learning at an age appropriate level.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
20. Technology integration as a response to the COVID-19 Pandemic has improved the quality of my students' work.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree
21. Technology integration as a response to the COVID-19 Pandemic has enhanced the lesson delivery.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neither Agree or Disagree
    d. Somewhat Disagree
    e. Strongly Disagree

Please answer the following questions regarding your demographics.

22. Role during the 2019-2020 school year:
    a. Teacher
    b. School Administrator
    c. District Personnel
    d. Other please explain
23. Grade level of instruction during the 2019-2020 school year:
    a. Elementary
    b. Middle
    c. High
    d. District-level
    e. Other please explain
24. Type of school employed at during the 2019-2020 school year:
    a. Charter
    b. Parochial
    c. Private
    d. Public
    e. Other please explain

25. Zip code of work location during the 2019-2020 school year.
26. Number of years of experience in the field:
    a. Less than 1 year
    b. 1 - 2 years
    c. 3 - 5 years
    d. 6 - 10 years
    e. 11 - 15 years
    f. 16 - 20 years
    g. 21 - 25 years
    h. 26+ years
27. My age group:
    a. 20-29 years old
    b. 30-39 years old
    c. 40-49 years old
    d. 50-59 years old
    e. 60-69 years old
    f. 70+ years old
28. Highest level of education:
    a. High school diploma
    b. Bachelor's degree
    c. Master's degree
    d. Specialist's degree
    e. Doctoral degree

29. I am interested in being contacted to participate in a follow-up virtual focus group to provide my feedback regarding the data collected from this research.
    a. Yes, I will provide my email.
    b. No, I do not wish to participate.

Appendix D

Informed Consent for Survey

Purpose of the Research

The purpose of this two-phase sequential action research study is to consider the mitigating response of two large, urban public school districts in the Southeastern United States for educational continuity during the COVID-19 Pandemic and explore the need for professional development for sustainable technology integration that can be used to respond to future crises.

Description of the Study and Your Involvement

By participation in this Survey, you consent to the following outlined in this form. In this research, you will be asked to provide input on the survey questions. The researchers focus will include your experiences with readiness prior and during the COVID-19 Pandemic.

The survey will be virtual and digitally recorded so the researchers have precise data collection. Based on the input given you may be asked to provide further input in a voluntary focus group.

Duration of Participation and Compensation

The survey will take between 10-20 minutes. The duration of the survey for the researchers will be three months through the duration of data collection. There is no compensation although there will be a drawing to win a gift card for completing the survey.

Risks

Research participants can exit the survey at any time or withdraw from the focus group without penalty, however the data collected will be anonymized and included in the interpretation of data for precise understanding. If needed, participants may exit the survey at any time, press the "X" button in the upper right-hand corner of the survey and exit out of the survey. Surveys must be completed in one sitting.

Benefits

There are no direct benefits from this study although the information obtained may help design a best practices digital resource for educational continuity. Participation in the survey requires membership in the private social media group with other professional educators, networking and support benefits may be indirectly derived.

Confidentiality

This survey is strictly anonymous and there is no personal identifying information. No IP addresses will be kept or known to the researchers. Participant answers to questions will be stored for five years on a password-protected harddrive and after that time will be deleted.

This project's research records may be reviewed by the departments at Lynn University responsible for regulatory and research oversight.

Contact Information

Participation in the survey will not gather any contact information from the participant. The participant may elect to receive a copy of their responses, however these will not be made available after submitting the form.

Documentation of Informed Consent

I have had an opportunity to read the consent form and have the research study explained.
I have had an opportunity to ask questions about the research project and my questions.
I have been answered. I am prepared to participate in the research study described above.
By clicking "Yes" I am consenting to participate in the study.

Contacting Research for Questions

If you have questions about the study, please contact the researcher via email: lpreble@lynn.edu. Additionally you may email the Institutional Review Board Chair, Dr. Jennifer Lesh at JLesh@lynn.edu. By going forward in this survey, you are providing consent for the researcher to use your responses for the purposes of this study.

Appendix E

Electronic Informed Consent for Focus Group

Purpose of the Research

The purpose of this two-phase action research study is to consider the mitigating response of two large, urban public school districts in the Southeastern United States for educational continuity during the COVID-19 Pandemic and explore the need for professional development for sustainable technology integration that can be used to respond to future crises.

Description of the Study and Your Involvement

Participation in this focus group will require submitting a consent form. In this research, participants will be asked to provide more input on the survey question data and further clarification. The researchers focus will include participants' experiences with readiness prior and during the COVID-19 Pandemic. The questions will focus on the following topics: planning steps in remote learning implementation plan, policies to support plan, challenges in implementation, successes in implementation, definition of success, technology implementation, instruction implementation, learning implementation, and recommendations for other schools/districts.

The meetings will be virtual and digitally recorded so the researchers have precise data collection. Based on the input given by the participant, members may be asked to provide further clarification during the focus group session. Follow up will be sent through an email for accuracy after the focus group. No response will indicate that the participant agrees with the dictation.

Duration of Participation and Compensation

The focus group will take 30 minutes. The duration of the survey and focus group for the researchers will be four months through participation of participants and data collection. There is no compensation although there will be a drawing to win a gift card for participating in the focus group.

Risks

Research participants can withdraw from the focus group without penalty. Participants will be reminded that they can choose to leave the focus group at any time during the session.

Benefits

There are no direct benefits from this study although the information obtained may help design a best practices digital resource for educational continuity.

Confidentiality

As the nature of a focus group requires participants to be in a shared environment, anonymity amongst members is not guaranteed. The data collected in the focus group will be anonymous and there will be no identifying information. The answers to questions will be stored for five years on a password-protected harddrive and after that time will be deleted. This project's research records may be reviewed by the departments at Lynn University responsible for regulatory and research oversight.

Contact Information

In order to participate in the focus group, participants will be required to share a personal email address with the researchers in order to receive the web conferencing link. No Contact information will be shared.

Documentation of Informed Consent

I have had an opportunity to read the consent form and have the research study explained. I have had an opportunity to ask questions about the research project and my questions have been answered. I am prepared to participate in the research study described above. By saying "Yes" I am consenting to participate in the study.

Contacting Research for Questions

If you have questions about the study, please contact the researcher via email: lpreble@lynn.edu. Additionally you may email the Institutional Review Board Chair, Dr. Jennifer Lesh at JLesh@lynn.edu. By going forward in this survey, you are providing consent for the researcher to use your responses for the purposes of this study.

Appendix F

Focus Group Email I

Lynn University
Ed. D in Educational Leadership

Professional Development for Educational Continuity in Emergencies:
The Response of Two Urban School Districts During the COVID-19 Pandemic

Dear Educator Participant of School District <>,

We are conducting research designed to improve educational continuity in the future and appreciate your input. Again thank you for your willingness to participate in the survey, and we appreciate you volunteering to be a part of the focus group.

We will interview the focus group participants about survey findings to clarify interpretations. Focus group participant's personal, identifying information is confidential and will be kept that way. As a participant of the focus group, you have the right to withdraw from the process at any time.

You are cordially invited to join us for the focus group with your district on**, Oct 5, 2021 at 07:00 PM Eastern Time (US and Canada)**
https://lynn-edu.zoom.us/j/93248956885?pwd=L29ya2xWdTNYNStPdHB3QmlPcUlLQT09
Meeting ID: 932 4895 6885
Passcode: 046900

Please accept the calendar invite to confirm your participation. We will reply with a list of the questions to better prepare you for a fruitful discussion.

Focus Group Topics:

- Planning steps in remote learning implementation plan
- Policies to support plan
- Challenges in implementation
- Successes in implementation
- Definition of success
- Technology implementation
- Instruction implementation
- Learning implementation
- Recommendations for other schools/districts

Below are our credentials and contact information:
Dr. Jennifer Lesh, IRB Chair JLesh@lynn.edu
Lucas Preble, Doctoral Candidate lpreble@lynn.edu
Shannon Makowski, Doctoral Candidate smakowski@email.lynn.edu
Samantha Butler, Doctoral Candidate sbutler@email.lynn.edu
Justin Arnone, Doctoral Candidate jarnone@email.lynn.edu
Crystal Amado Kucharski, Doctoral Candidate camadokucharski@email.lynn.edu

Appendix G

FOCUS GROUP EMAIL II

Lynn University
Ed. D in Educational Leadership

Professional Development for Educational Continuity in Emergencies:
The Response of Two Urban School Districts During the COVID-19 Pandemic

Dear Educator participant of School District <>,
Thank you for your willingness to participate in the focus group for our doctoral study on remote learning during the COVID-19 Pandemic. We are hoping that the insights you share will guide and inform other schools and districts alike that seek to effectively implement educational continuity in any crisis.

A calendar invite with a link has been sent via email. Your appointment slot is <Date: Time>.

Below are the topics and questions we will be asking during the focus group interviews. Please take a moment to read the questions over before your focus group appointment.

Thank you in advance for the opportunity to hear your perspectives and gather your insights about the 2019-2020 school year in your district/school.

Focus Group Topics:

- Challenges in implementation
- Successes in implementation

- Definition of success
- Technology implementation
- Instruction implementation
- Learning implementation
- Recommendations for other schools/districts

Dr. Jennifer Lesh, IRB Chair JLesh@lynn.edu
Lucas Preble, Doctoral Candidate lpreble@lynn.edu
Shannon Makowski, Doctoral Candidate smakowski@email.lynn.edu
Samantha Butler, Doctoral Candidate sbulter@email.lynn.edu
Justin Arnone, Doctoral Candidate jarnone@email.lynn.edu
Crystal Amado Kucharski, Doctoral Candidate camadokucharski@email.lynn.edu

Follow up email

Good evening focus group participants,

Thank you to those who were able to participate in this evening's focus group. If you have additional feedback or were unable to attend, please consider completing our feedback form to share your thoughts with the research team.

As a reminder, virtual focus group participants will receive a typed transcript of tonight's session by Tuesday, October 12. We ask that the transcript be reviewed and for participants to notify us of any errors or omissions by Tuesday, October 19th.

Again, thank you for your participation.

Respectfully,

Lucas, Crystal, Shannon, Samantha and Justin

Below are our credentials and contact information:

Dr. Jennifer Lesh, IRB Chair JLesh@lynn.edu
Lucas Preble, Doctoral Candidate lpreble@lynn.edu
Shannon Makowski, Doctoral Candidate smakowski@email.lynn.edu
Samantha Butler, Doctoral Candidate sbulter@email.lynn.edu
Justin Arnone, Doctoral Candidate jarnone@email.lynn.edu
Crystal Amado Kucharski, Doctoral Candidate camadokucharski@email.lynn.edu

Appendix H

FOCUS GROUP QUESTIONS

1. Share an aspect of your work experience that has brought you here today.
2. Educators in your district **disagreed** with the statement *"Prior to the COVID-19 Pandemic, teachers received adequate administrative support to integrate technology into classroom practices."* The responses only slightly improved after the pandemic. Why do you think this is?
3. Educators in your district indicated in their survey responses that they would have preferred more professional development, briefly share the professional development you received prior to the COVID-19 Pandemic. Was it helpful? Why or why not?
4. Survey results indicate that the level of comfortability with using technology to enhance instructional delivery has **increased** since the Pandemic. What do you attribute that to?
5. Educators in your district had a **strong agreement** with the statement *"Technology integration as a response to the COVID-19 Pandemic has improved the quality of my students' work."* Do you agree? Why or why not?
6. Was there anything not covered in the questions that you feel would be helpful to us to share?

References

Albion, P.R., & Ertmer, P.A. (2002) Beyond the foundations: The role of vision and belief in teachers' preparation for integration of technology. (2002). *TECH TRENDS, 46,* 34–38. https://doi.org/10.1007/BF02818306

Alebrahim, F., & Ku, H. Y. (2019). Faculty members' experiences with the implementation of flipped classroom environments in higher education. *Journal of Educational Research and Innovation, 7*(1). Retrieved from https://digscholarship.unco.edu/jeri/vol7/iss1/2

Allen, J., Rowan, L., & Singh, P. (2020). Teaching and teacher education in the time of COVID-19. *European Journal of Teacher Education, 43*(4), 488-502.

Anderson, A. (2020, March 11). COVID-19 outbreak highlights critical gaps in school emergency preparedness. *Brookings.* https://www.brookings.edu/blog/education-plus-development/2020/03/11/covid-19-outbreak-highlights-critical-gaps-in-school-emergency-preparedness/

Ash, K., Davis, M. R., & Dorko, K. (2009). E-learning's potential scrutinized In flu crisis. *Education Week, 28*(31), 1–13.

Ayebi-Arthur, K. (2017). E-learning, resilience, and change in higher education: Helping a university cope after a natural disaster. *E-Learning and Digital Media, 14*(5), 259-274.

Azhar, K. A., & Iqbal, N. (2018). Effectiveness of Google classroom: Teachers' perceptions. *Prizren Social Science Journal, 2*(2), 52-66.

Bach, A. J., Wolfson, T., & Crowell, J. K. (2018). Poverty, Literacy, and Social Transformation: An Interdisciplinary Exploration of the Digital Divide. *Journal of Media Literacy Education, 10*(1), 22-41.

Baporikar, N. (2016). Technology integration and innovation during reflective teaching. *International Journal of Information and Communication Technology Education, 12*(2), 14-22. doi:10.4018/IJICTE.2016040102

Bates, C., Huber, R., & McClure, E. (2016). Stay connected: Using technology to enhance professional learning communities. *The Reading Teacher, 70*(1), 99.

Bates, R. (2013). Institutional continuity and distance learning: A symbiotic relationship. *Online Journal of Distance Learning Administration, 16*(3), 3.

Beabout, B. (2007). Stakeholder Organizations: Hurricane Katrina and the New Orleans Public Schools. *Multicultural Education, 15*(2), 43-49.

Bell, M. A. (2006). Encouraging technophobes: Old dogs can learn new tricks. *Multimedia & Internet @ Schools, 13*(6), 36. Retrieved from https://lynn-lang.student.lynn.edu:2378/apps/doc/A154816604/PROF?u=boca54337&sid=PROF&xid=acc7c1f0

Berger, T. (2020, September 23). *How to Maslow Before Bloom, All Day Long*. Edutopia. Retrieved December 16, 2020, from https://www.edutopia.org/article/how-maslow-bloom-all-day-long

Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, C. A., Tamim, R. M., Surkes, M. A., & Bethel, E. C. (2009). A meta-analysis of three types of interaction treatments in distance education. *Review of Educational Research, 79*(3), 1243-1289. Retrieved from http://lynn-lang.student.lynn.edu:2048/login?url=https://lynn-lang.student.lynn.edu:2261/docview/214121520?accountid=36334

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member Checking: A Tool to Enhance Trustworthiness or Merely a Nod to Validation?. *Qualitative health research, 26*(13), 1802–1811. https://doi.org/10.1177/1049732316654870

Bogdan, R. C., & Biklen, S. K. (2007). *Research for education: An introduction to theories and methods.* New York, NY: Pearson.

Broadbent, J. & Poon, W.L. (2015). Self-regulated learning strategies & academic achievement in online higher education learning environments: A systematic review. *Internet and Higher Education, 27,* 1-13

Broward County Public Schools. (2014). Broward County Public Schools Information & Technology Plan. Retrieved from https://www.browardschools.com/cms/lib/FL01803656/Centricity/Domain/13718/IT%20Strategic%20Plan_Updated%2004302014.pdf

Brown, M. (2021, January 11). *Q&A: Adam Miller on How to Build a Team of Tech-Savvy Educators.* EdTech: Focus on K-12. Retrieved April 24, 2021, from https://edtechmagazine.com/k12/article/2021/01/qa-adam-miller-how-build-team-tech-savvy-educators

Carlo, J. T. & Chung, W. (2009). Review of School Closure as a Pandemic Mitigation Strategy, *Tex Med, 105*(7), 21-26.

Cauchemez, S., Ferguson, N. M., Wachtel, C., Tegnell, A., Saour, G., Duncan, B., & Nicoll, A. (2009). Closure of schools during an influenza pandemic. *The Lancet Infectious Diseases, 9*(8), 473-481.

Chou, C. C., & Block, L. (2019). The mismatched expectations of IPad integration between teachers and students in secondary schools. *Journal of Educational Computing Research, 57*(5), 1281–302. doi:10.1177/0735633118784720.

Cochrane, T., and Oldfield, J. D. (2010, December). iPedagogy: Exploring pedagogical transformation via mLearning with the iPad. Proceedings of Australian Society for Computers in Learning in Tertiary Education (ASCILITE) Conference. Sydney, Australia.

Cowan, K. C., Vaillancourt, K., Rossen, E., & Pollitt, K. (2013). A framework for safe and successful schools [Brief]. Bethesda, MD: National Association of School Psychologists.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: qualitative, quantitative, and mixed methods approaches.* Fifth edition. Los Angeles: SAGE.

Darling-Hammond, L., Schachner, A., & Edgerton, A. K. (2020, August 25). *Reopening and Reinventing Schools in the Time of COVID-19*. learning policy institute. https://learningpolicyinstitute.org/press-release/restarting-reinventing-school-covid-press-release

Decker, S., Riser-Kositsky, M., & Peele, H. (2020, December 04). The Coronavirus Spring: The Historic Closing of U.S. Schools (A Timeline). Retrieved January 06, 2021, from https://www.edweek.org/leadership/the-coronavirus-spring-the-historic-closing-of-u-s-schools-a-timeline/2020/07

Durff, L., & Carter, M. (2019). Overcoming second-order barriers to technology integration in K–5 Schools. *Journal of Educational Research and Practice, 9*(1), 246-260. https://doi.org/10.5590/ JERAP.2019.09.1.18

Einhorn, E. (2020). When Covid-19 closed schools, Black, Hispanic and poor kids took biggest hit in math, reading. *NBC News.* Retrieved from https://www.nbcnews.com/news/education/when-covid-19-closed-schools-black-hispanic-poor-kids-took-n1249352

Ekmekci, O., & Bergstrand, J. (2010). Agility in higher education: planning for business continuity in the face of an H1N1 pandemic. *SAM Advanced Management Journal, 75*(4), 20.

Ferguson, S. (2020). Giga initiative aims to connect the world's schools to the internet. UNICEF. Education & Schools. Retrieved from https://www.unicefusa.org/stories/giga-initiative-aims-connect-worlds-schools-internet/37582

Fisher, D., Frey, N., & Hattie, J. (2020). The distance learning playbook: Teaching for engagement and impact in any setting. Thousand Oaks, CA: Corwin.

Flores, J., & Clancy, D. (2020). Class Dismissed: Massachusetts' Lack of Preparedness for K-12 Digital Learning during COVID-19. *White Paper No. 208. Pioneer Institute for Public Policy Research*.

Florida Department of Education. (2020). Instructional Technology. Retrieved from http://www.fldoe.org/academics/standards/subject-areas/instructional-technology/

Florida Legislature. (2015). The 2015 Statutes: 1003.4282. Requirements for a standard high school diploma. Retrieved from http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&URL=1000-1099/1003/Sections/1003.4282.html.

Florida Virtual School. (2018, December). Transforming education worldwide - one student at a time: Annual report 2017-18. Florida Virtual School. Retrieved from https://www.flvs.net/docs/default-source/district/flvs-annual-report.pdf?sfvrsn=9a487b2a_18

Garcia, E., & Weiss, E. (2020). COVID-19 and student performance, equity, and U.S. education policy: Lessons from pre-pandemic research to inform relief, recovery, and rebuilding. Retrieved from https://www.epi.org/publication/the-consequences-of-the-covid-19-pandemic-for-education-performance-and-equity-in-the-united-states-what-can-we-learn-from-pre-pandemic-research-to-inform-relief-recovery-and-rebuilding/

Gasparini, A. A., & Culén, A. L. (2013 February–March). The iPad in a classroom: A cool personal item or simply an educational tool? Paper presented at the Sixth International Conference on Advances in Computer–Human Interactions, Nice, France.

Gaudiano, N. (2020). Missing: Millions of students. *Politico.* Retrieved from https://www.politico.com/newsletters/weekly-education-coronavirus-special-edition/2020/10/26/missing-millions-of-students-791170

Gibbs, M. G., Dosen, A. J., & Guerrero, R. B. (2008). Technology in Catholic schools: Are schools using the technology they have? *Catholic Education: A Journal of Inquiry and Practice, 12*(2).

Golodryga, B. & Pomrenze, Y. (2019). Teachers and social workers search for students who are 'missing' in the pandemic. *CNN.* Retrieved from

https://www.cnn.com/2020/10/19/us/students-missing-class-pandemic-wellness/index.html

Gökoglu, S., & Çakiroglu, U. (2017). Determining the roles of mentors in the teachers' use of technology: Implementation of Systems-Based Mentoring Model. *Educational Sciences: Theory and Practice, 17*(1), 191-215.

Graziano, K., Herring, M., Carpenter, J., Smaldino, S., & Finsness, E. (2017). A TPACK diagnostic tool for teacher education leaders. *Techtrends, 61*(4), 372-379. doi:10.1007/s11528-017-0171-7

Grovender, D. W. (2010). Attitudes of students towards the use of a Learning Management System (LMS) in a face-to-face learning mode of instruction. *Africa Education Review, 7*(2), 244-262.

Gutierrez, D., Hollister, D., & Beninati, A. (2005). Hurricane madness: Teaching, learning and the importance of flexibility in the wake of disaster. *Journal of College Teaching & Learning (TLC), 2*(2).

Hamilton, L., Kaufman, J., & Diliberti, M. (2020). How Are Educators Teaching and Leading Through the Pandemic? Retrieved from https://www.rand.org/pubs/research_reports/RRA168-2.html

Hancock, M. E., Amankwaa, L., Revell, M. A., & Mueller, D. (2016). Focus Group Data Saturation: A New Approach to Data Analysis. *The Qualitative Report, 21*(11), 2124-2130. Retrieved from https://nsuworks.nova.edu/tqr/vol21/iss11/13

Harper, K. C., Chen, K., & Yen, D. C. (2004). Distance learning, virtual classrooms, and teaching pedagogy in the internet environment. *Technology in Society, 26*(4), 585-598.

Herold, B. (2017). Poor students face digital divide in how teachers learn to use tech. *The Education Digest, 83*(3), 16.

Hodges, C. B., Moore, S., Lockee, B. B., Trust, T., & Bond, M. A. (2020). The difference between emergency remote teaching and online learning.

Holland, B. (2019). From Digital Divide to Innovation Divide? Education Week. Retrieved from https://blogs.edweek.org/edweek/edtechresearcher/2018/09/from_digital_divide_to_innovation_divide.html

Horton, A., Shack, K., & Mehta, R. (2017). Curriculum and practice of an innovative teacher professional development program. *The Journal of Computers in Mathematics and Science Teaching, 36*(3), 237. Retrieved from http://lynn-lang.student.lynn.edu:2048/login?url=https://lynn-lang.student.lynn.edu:2261/docview/1979761973?accountid=36334

Houston, M. J. (2017). The experiences of faculty and staff at academic institutions preparing themselves for academic continuity after a disaster: A phenomenological study. *International Journal of Business and Social Science, 8*(7), 7-18. Retrieved from http://ijbssnet.com/journals/Vol_8_No_7_July_2017/2.pdf

Hughes, J. E., Boklage, A., & Ok, M. W. (2016). A case study of technology leadership in Situ: A high school iPad learning initiative. *Journal of School Leadership, 26*(2), 283-313.

Jacobson, L. (2020). Report estimates 1 to 3 million students missing from school since March, but data on disrupted learning is ‘at best a moving target.’ *The 74 Million.* Retrieved from

https://www.the74million.org/report-estimates-1-to-3-million-students-missing-from-school-since-march-but-data-on-disrupted-learning-is-at-best-a-moving-target/

Johnson, A. M., Jacovina, M. E., Russell, D. G., & Soto, C. M. (2016). Challenges and solutions when using technologies in the classroom. In *Adaptive educational technologies for literacy instruction* (pp. 13-30). Routledge.

Kebritchi, M., Lipschuetz, A., & Santiague, L. (2017). Issues and challenges for teaching successful online courses in higher education: A literature review. J*ournal of Educational Technology Systems, 46*(1), 4–29. https://doi.org/10.1177/0047239516661713

Keengwe, J., & Schnellert, G. (2012). Fostering interaction to enhance learning in online learning environments. *International Journal of Information and Communication Technology Education, 8*(3), 28. Retrieved from https://lynn-lang.student.lynn.edu:2378/apps/doc/A294896341/PPCM?u=boca54337&sid=PPCM&xid=f16aafa1

Khaddage, F., Christensen, R., Lai, W., Knezek, G., Norris, C., & Soloway, E. (2015). A model driven framework to address challenges in a mobile learning environment. *Education and Information Technologies, 20*(4), 625-640. doi:http://lynn-lang.student.lynn.edu:2083/10.1007/s10639-015-9400-x

Klaiman, T., Kraemer, J. D., & Stoto, M. A. (2011). Variability in school closure decisions in response to 2009 H1N1: A qualitative systems improvement analysis. *BMC Public Health, 11*(1), 73.

Koch, A., Heo, M., & Kush, J. (2012). Technology integration into preservice teacher training. *International Journal of Information and Communication Technology Education, 8*(1), 1+. Retrieved from https://lynn-lang.student.lynn.edu:2378/apps/doc/A294896325/PPCM?u=boca54337&sid=PPCM&xid=1f550935

Koehler, M. (2014). *Technological Pedagogical Content Knowledge*. http://matt-koehler.com/tpack2/using-the-tpack-image/

Korman, H. T., O'Keefe, B., & Repka, M. (2020). Missing in the margins: Estimating the scale of the COVID-19 attendance crisis. *Bellwether Education Partners.* Retrieved from https://bellwethereducation.org/publication/missing-margins-estimating-scale-covid-19-attendance-crisis

Koteen, J. (1997). S*trategic management in public and nonprofit organizations: Managing public concerns in an era of limits*. 2nd ed. New York: Praegar.

Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2020). Projecting the Potential Impact of COVID-19 School Closures on Academic Achievement. *Educational Researcher, 49*(8), 549-565. doi:10.3102/0013189x20965918

Kurt, S. (2018). TPACK: Technological pedagogical content knowledge framework. Educational Technology. Retrieved from https://educationaltechnology.net/technological-pedagogical-content-knowledge-tpack-framework/

Lang, J. M. (2013). Cheating lessons : Learning from academic dishonesty: Part 2. Harvard University Press.

Laurillard, D., Kennedy, E., Charlton, P., Wild, J., & Dimakopoulos, D. (2018). Using technology to develop teachers as designers of TEL: Evaluating the learning designer. *British Journal of Educational Technology, 49*(6), 1044-1058. doi:10.1111/bjet.12697

Lemov, D. (2020). Teaching in the online classroom: Surviving and thriving in the new normal. Hoboken, NJ: Jossey-Bass, a Wiley brand.

Lingard, Lorelei & Albert, Mathieu & Levinson, Wendy. (2008). Qualitative research: Grounded theory, mixed methods, and action research. BMJ (Clinical research ed.). 337. a567. 10.1136/bmj.39602.690162.47.

Mackey, J., Gilmore, F., Dabner, N., Breeze, D., & Buckley, P. (2012). Blended learning for academic resilience in times of disaster or crisis. *MERLOT Journal of Online Learning and Teaching, 8*(2), 122-135. Retrieved from https://jolt.merlot.org/vol8no2/mackey_0612.pdf

Mainwaring, T., & Bergman, D. (2006). Tech-savvy teachers: South Carolina's innovative ePortfolio system is helping educators get up to speed on technology and become more comfortable integrating new tools into their classrooms. *Technological Horizons In Education Journal, 33*(12), 37.

Marzano, R. J., & Waters, T. (2009). District leadership that works: Striking the right balance. Solution Tree Press.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370.

McGuire, M. & Schneck, D. (2010). What if Hurricane Katrina hit in 2020? The need for strategic management of disasters. *Public Administration Review, 70,* 201–207.

Retrieved from https://lynn-lang.student.lynn.edu:2092/10.1111/j.1540-6210.2010.02273.x

McLennan, K. (2006). Selected distance education disaster planning lessons learned from Hurricane Katrina. *Online Journal of Distance Learning Administration.*

McLeod, S., & Richardson, J. W. (2014). School administrators and K-12 online and blended learning: Handbook of research on K-12 online and blended learning, 285-301.

Messineo, M., & DeOllos, I. (2005). Are we assuming too much? Exploring students' perceptions of their computer competence. *College Teaching, 53*(2), 50-55. Retrieved from www.jstor.org/stable/27559220

Meyer, K. A., & Wilson, J. L. (2011). The role of online learning in the emergency plans of flagship institutions. *Online Journal of Distance Learning Administration, 14*(1).

Michos, K., Hernández-Leo, D., & Albó, L. (2018). Teacher-led inquiry in technology-supported school communities. *British Journal of Educational Technology, 49*(6), 1077-1095. doi:10.1111/bjet.12696

Miami-Dade County Public Schools. (2014). Information Technology Strategic Plan 2011-2014. Retrieved from http://api.dadeschools.net/WMSFiles/2/IT%20Strategic%20Plan.pdf

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for integrating technology in teachers' knowledge. Teachers College Record, 108(6), 1017–1054

Moore, C. G., Carter, R. E., Nietert, P. J., & Stewart, P. W. (2011). Recommendations for planning pilot studies in clinical and translational research. Clinical and translational science, 4(5), 332–337. https://doi.org/10.1111/j.1752-8062.2011.00347.x

Mouza, C. (2008). Learning with laptops: Implementation and outcomes in an urban, under-privileged school. Journal of Research on Technology in Education, 40, 447-472. http://dx.doi.org/10.1080/15391523.2008.10782516.

Mundy, M.A., Kupczynski, L., & Kee, R. (2012). Teachers' perceptions of technology use in the schools. Sage Open, 1-8. https://doi.org/10.1177/2158244012440813

National Education Technology Plan. (2017). Reimagining the role of technology in education: 2017 National technology plan update. Office of Educational Technology. Retrieved from https://tech.ed.gov/files/2017/01/NETP17.pdf

Navarro, J. A., Kohl, K. S., Cetron, M. S., & Markel, H. (2016). A tale of many cities: A contemporary historical study of the implementation of school closures during the 2009 pA (H1N1) influenza pandemic. *Journal of Health Politics, Policy and Law, 41*(3), 393-421.

NaviGate. (2019). Improving school safety with enhanced drills: Incorporating real-world scenarios, simulation and tabletop exercises enhance drills, better prepares school communities for emergency situations. Whitepaper. Retrieved from https://cdn2.hubspot.net/hubfs/5843129/Safety%20Drills/SafetyDrills_WhitePaper.pdf

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. International Journal of Qualitative Methods. https://doi.org/10.1177/1609406917733847

Office of Educational Technology. (n.d.). Learning. Retrieved April 3, 2020 from https://tech.ed.gov/netp/learning/

Orange County Public Schools. (2020). LaunchEd. Retrieved December 1, 2020 from https://www.ocps.net/departments/curriculum__instruction_and_digital_learning/digital_learning/launch_e_d

Ouimet, J. A. (2011). Enhancing student success through faculty development: The classroom survey of student engagement. Journal of Higher Education and Lifelong Learning, 18, 115-120.

Owen, P., & Demb, A. (2004). Change dynamics and leadership in technology implementation. The Journal of Higher Education, 75(6), 636-666.

Pamuk, S., Ergun, M., Cakir, R., Yilmaz, H. B., & Ayas, C. (2015). Exploring relationships among TPACK components and development of the TPACK instrument. Education and Information Technologies, 20(2), 241-263. doi:http://lynn-lang.student.lynn.edu:2083/10.1007/s10639-013-9278-4

Pape, S. J., & Prosser, S. K. (2018). Barriers to technology implementation in community college mathematics classrooms. Journal of Computing in Higher Education, 30(3), 620-636. doi:http://lynn-lang.student.lynn.edu:2083/10.1007/s12528-018-9195-z

Peterson, L., & Scharber, C. (2017). Supporting a 1:1 program with a student technology team. The International Journal of Information and Learning Technology, 34(5), 396-408. Retrieved from https://lynn-lang.student.lynn.edu:2261/docview/1945811290?accountid=36334

Peek, L., & Richardson, K. (2010). In Their Own Words: Displaced Children's Educational Recovery Needs After Hurricane Katrina. *Disaster Medicine and Public Health Preparedness, 4*, S63-S70. http://lynn-lang.student.lynn.edu:2083/10.1001/dmp.2010.10060910

Phillippi, J., & Lauderdale, J. (2018). A guide to field notes for qualitative research: Context and conversation. *Qualitative health research*, *28*(3), 381-388.

Pittman, J. (2003). Preparing teachers to use technology with young children in classrooms. Information Technology in Childhood Education Annual, 261. Retrieved from https://lynn-lang.student.lynn.edu:2378/apps/doc/A102137568/PROF?u=boca54337&sid=PROF&xid=e1d8827c

Ramsetty, A., & Adams, C. (2020). Impact of the digital divide in the age of COVID-19. *Journal of the American Medical Informatics Association, 27*(7), 1147-1148.

Ray, K. (2020, March 31). What is Remote Learning? Tech & Learning. Retrieved from https://www.techlearning.com/how-to/what-is-remote-learning

Readiness and Emergency Management for Schools (REMS). (2020). Supporting continuity of teaching and learning during an emergency. Retrieved from https://rems.ed.gov/docs/Supporting_Continuity_of_learning_and_education.pdf

Redecker, C., Ala-Mutka, K., Bacigalupo, M., Ferrari, A & Punie, Y. (2009). Learning 2.0: The Impact of Web 2.0 Innovations on Education and Training in Europe. Final Report. JRC Scientific and Technical Report, EUR 24103 EN: http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=2899

Reed, P. A. (2007). The journey towards technological literacy for all in the United States--are we there yet? Emerging research will continually shape teaching and learning, and the changing nature of technology continually shapes the discipline. The Technology Teacher, 67(3), 15. Retrieved from https://lynn-lang.student.lynn.edu:2378/apps/doc/A171212122/PROF?u=boca54337&sid=PROF&xid=8c6f76ad

Reich, J., Buttimer, C. J., Fang, A., Hillaire, G., Hirsch, K., Larke, L., ... & Slama, R. (2020). Remote learning guidance from state education agencies during the COVID-19 pandemic: A first look. Retrieved from https://edarxiv.org/437e2

Richards, L. (2014) Handling qualitative data: A practical guide. London,UK: Sage

Rodgers, W. J., Kennedy, M. J., VanUitert, V. J., & Myers, A. M. (2019). Delivering Performance Feedback to Teachers Using Technology-Based Observation and Coaching Tools. Intervention in School and Clinic, 55(2), 103–112. https://doi.org/10.1177/1053451219837640

Rogers-Shaw, C., Carr-Chellman, D., & Choi, J. (2018). Universal design for learning: Guidelines for accessible online instruction. Adult Learning, 29(1), 20-31. doi:10.1177/1045159517735530

Sadera, W. & Parrish, A. (2018). Teaching competencies for student-centered, one-to-one learning environments: A Delphi study. Journal of Educational Computing Research. DOI: 10.1177/0735633118816651

Schachter, R. (2007). FLU pandemic PREP. University Business, 10(2), 39–43.

School District of Palm Beach County. (2017). *Technology Plan*. Retrieved from https://www2.palmbeachschools.org/ebooks/technologyplan/#p=1

Schott, M., Chernish, W., Dooley, K. E., & Lindner, J. R. (2003). Innovations in distance learning program development and delivery. Online Journal of Distance Learning Administration, 6(2), 19-27.

Schnachner, A., & Darling-Hammond, L. (2020, October 6). *Restarting and reinventing school for equitable and empowering learning* [Webinar]. Learning Policy Institute. Retrieved from https://learningpolicyinstitute.org/event/webinar-restarting-reinventing-school-equitable-empowering-learning

SchWeber, C. (2008). Determined to learn: Accessing education despite life-threatening disasters. Journal of Asynchronous Learning Networks, 12(1), 37–43. Retrieved from https://lynn-lang.student.lynn.edu:2092/10.24059/olj.v12i1.44

Shea, P., & Bidjerano, T. (2010). Learning presence: Towards a theory of self-efficacy, self-regulation, and the development of communities of inquiry in online and blended learning environments. Computers & Education, 55, 1721-1731.

Shulman, L. S., Golde, C. M., Bueschel, A. C., & Garabedian, K. J. (2006). Reclaiming education's doctorates: A critique and a proposal. Educational Researcher, 35(3), 25-32.

Sinclair, M. (2007). Education in emergencies. Commonwealth Education Partnerships, 52-56.

Singer, N. (2020, November 30). Teaching in the Pandemic: 'This Is Not Sustainable'. *The New York Times.* https://www.nytimes.com/2020/11/30/us/teachers-remote-learning-burnout.html

Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of medical internet research, 22(9)*, e21279.

Spinelli, M., Lionetti, F., Pastore, M., & Fasolo, M. (2020). Parents and Children Facing the COVID-19 Outbreak in Italy. *Available at SSRN 3582790.*

Stern, A. M., Cetron, M. S., & Markel, H. (2009). Closing the Schools: Lessons from the 1918–19 US influenza pandemic: Ninety-one years later, the evidence shows that there are positive and negative ways to do it. Health Affairs, 28(1), 1066-1078.

Stout, R., & Friebel, R. (2015). Why a district 1:1 rollout is about more than devices and software and software. EdSurge. Retrieved from: https://www.edsurge.com/news/2015-10-21-why-a-district-1-1-rollout-is-about-more-than-devices-and-software

Ting, Y. L. (2012). The pitfalls of mobile devices in learning: A different view and implications for pedagogical design. Journal of Educational Computing Research, 46(2), 119–134. https://doi.org/10.2190/EC.46.2.a

Tobin, J. (2019). Educational continuity: the role of schools in facilitating disaster recovery. *Natural Hazards Center.* Retrieved from https://hazards.colorado.edu/news/research-counts/educational-continuity-the-role-of-schools-in-facilitating-disaster-recovery

Tobin, T. J. (2014). Increase online student retention with universal design for learning. *The Quarterly Review of Distance Education, 15*(3), 13-24.

Total Enrollment/Membership by District by Race/Ethnicity. (2020). fldoe. http://www.fldoe.org/accountability/data-sys/edu-info-accountability-services/pk-12-public-school-data-pubs-reports/students.stml

Turner, C. (2020). New report offers the clearest picture yet of a pandemic impact on student learning. *NPR.* Retrieved from https://www.npr.org/sections/coronavirus-live-updates/2020/12/01/938048852/some-good-news-student-reading-gains-are-steady-while-math-slows-down

United States Department of Education, Office of Educational Technology. (2014). Future ready schools: Building technology infrastructure for learning. Retrieved from https://tech.ed.gov/wp-content/uploads/2014/11/Future-Ready-Schools-Building-Technology-Infrastructure-for-Learning-.pdf

United States Department of Education, Office of Educational Technology. (2017). Reimagining the role of technology in education: 2017 National Education Technology plan update. Retrieved from https://tech.ed.gov/files/2017/01/NETP17.pdf

Vayre, E., & Vonthron, A. M. (2017). Psychological engagement of students in distance and online learning: Effects of self-efficacy and psychosocial processes. Journal of Educational Computing Research, 55(2), 197–218. https://doi.org/10.1177/0735633116656849

Viner, R. M., Russell, S. J., Croker, H., Packer, J., Ward, J., Stansfield, C., Mytton, O., Bonnell, C., & Booy, R. (2020). School closure and management practices during coronavirus outbreaks including COVID-19: A rapid systematic review. *The Lancet Child & Adolescent Health, 4,* 397-404.

Vishkaie, R. (2020). The pandemic, war, and sanctions: Building resilience for the digital divide in education. *Interactions, 27*(4), 36-37.

Walker, L., Johnson, A. & Silvernail, D. (2012). Early observations of high school deployment of one-to-one technology: A qualitative look at one-to-one computing in Maine High Schools. Education Technology, 8. Retrieved from https://digitalcommons.usm.maine.edu/cepare_technology/8/

Wankel, C., & Blessinger, P. (Eds.). (2013). Increasing student engagement and retention in e-learning environments: Web 2.0 and blended learning technologies. Emerald Group Publishing.

Watkins, R. (2005). Distance Education's Role in University Disaster Planning. Distance Learning, 2(6), 31–33.

Watson, J., & Murin, A. (2014). A history of K-12 online and blended instruction in the United States. In Handbook of research on K-12 online and blended learning (pp. 1-23).

Weston, M. E., & Bain, A. (2010). The end of techno-critique: The naked truth about 1: 1 laptop initiatives and educational change. The Journal of Technology, Learning and Assessment, 9(6). Retrieved from https://ejournals.bc.edu/ojs/index.php/jtla/article/view/1611

Winters, C. (2007). Planning for disaster: Education policy in the wake of Hurricane Katrina. Multicultural Education, 15(2), 39–41.

Young, S., & Bruce, M. A. (2011). Classroom community and student engagement in online courses. Journal of Online Learning and Teaching, 7(2), 219. Retrieved from

http://lynn-lang.student.lynn.edu:2048/login?url=https://lynn-lang.student.lynn.edu:2261/docview/1497199101?accountid=36334

Xie, K. (2013). What do the numbers say? The influence of motivation and peer feedback on students' behaviour in online discussions. British Journal of Educational Technology, 44(2), 288-301. doi:10.1111/j.1467-8535.2012.01291.x

Xie, K., & Ke, F. (2011). The role of students' motivation in peer-moderated asynchronous online discussions: Motivation in peer-moderated discussions. British Journal of Educational Technology, 42(6), 916-930. doi:10.1111/j.1467-8535.2010.01140.