ABSTRACT

COOPER, KARMEN LEANNE. How North Carolina Community College Faculty Transitioned from Traditional Course Delivery to Online Course Delivery Using Emergency Remote Teaching During the COVID-19 Pandemic: An Exploratory Case Study. (Under the direction of Dr. Michelle Bartlett).

In Spring 2020, higher education faculty members worldwide had to pivot to emergency remote teaching within weeks due to the unprecedented COVID-19 pandemic. Many faculty had to transition quickly with little preparation time, minimal curricular and technological support, and minimal guidance from the administration. The purpose of this exploratory case study was to examine how North Carolina community college faculty transitioned from traditional teaching to emergency remote teaching (ERT) during the COVID-19 pandemic. The technology acceptance model was the theoretical underpinning used to identify and examine the impact of faculty members' usage and perceptions of learning technology on their transition to emergency remote teaching. The participants were 10 faculty from North Carolina community colleges and programs who taught at least one traditional course impacted by the COVID-19 pandemic during the Spring 2020 semester. Interviews with the participants commenced to gather insight into the technological and instructional methods they used for the transition to remote teaching.

The findings revealed that having access to clear, comprehensive emergency contingency plans that included emergency remote teaching and learning guidance prior to the pandemic could have made the transition to ERT less difficult for faculty members. The findings also indicated that faculty members would have benefited from having access to instructional and technological resources, including training, prior to the transition. Lastly, the findings revealed that supportive, communicative, and flexible faculty members helped to improve student motivation and engagement during the transition to ERT.

How North Carolina Community College Faculty Transitioned from Traditional Course Delivery to Online Course Delivery Using Emergency Remote Teaching During the COVID-19 Pandemic: An Exploratory Case Study

by
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DEDICATION

I dedicate my entire educational journey, from preschool to doctorate, in loving memory to my guardian angels, Eddie and Elizabeth Cooper. These two wonderful individuals, who ended their education in primary school to help their families, cultivated a home environment focused on the importance of education. I hope I have made you proud.

To Spirit and my ancestors, thank you for giving me strength and tenacity every day. I would not be the determined and ambitious woman I am today without your guidance.

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I also dedicate this dissertation to my beautiful children, Karlos and Maia. Thank you both for being the sweet, compassionate, and understanding children whom your father and I raised you to be. Hopefully, this dissertation shows you that you can accomplish anything you want when you remain focused and dedicated. I love you.

BIOGRAPHY

Karmen L. Cooper is an award-winning instructional technology professional and educator. She is the president and CEO of Koop Learning, a customized learning solutions consulting firm for enabling public and private organizations to develop effective and engaging training. Her practice focuses on instructional design, eLearning, and curriculum development. In addition to serving as a consultant, Cooper has served as an instructional systems designer and e-learning specialist for several corporations and North Carolina State University. She has also served as an e-learning specialist for the North Carolina Community College System Office.

Before delving into instructional technology, Cooper spent 11 years in K–12 education as a middle and high school English and language arts teacher and an elementary and middle school counselor. She also has over 15 years of experience teaching at the college level as an adjunct instructor. Cooper has also taught English at North Carolina A&T State University, Durham Technical Community College, Forsyth Technical Community College, Guilford Technical Community College, and Wake Technical Community College and human services at Vance-Granville Community College.

Cooper earned a Master of Arts in Instructional Technology from Appalachian State University. She also earned a Master of Science in Counselor Education, a Master of Arts in English and African American Literature, and a Bachelor of Arts in English from North Carolina A&T State University. She is in the process of earning her Doctor of Education in Adult and Community College Education at North Carolina State University.

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CHAPTER 1

Introduction

One of the most significant shifts in higher education in recent history has been the evolution from traditional to online learning. Online learning is the higher education instructional method of choice for many modern college students. Also referred to as web-based learning, distance learning, and e-learning, online learning consists of "content and instructional methods delivered on a computer (whether on CD-ROM, the internet, or an intranet), and designed to build knowledge and skills related to individual or organizational goals" (Clark, 2002, p. 2). Online learning provides students with the flexibility to engage with educational materials from anywhere and at any time with internet access via computers, electronic tablets, or smartphones. The flexibility of online learning provides adult learners with the opportunity to balance their family lives, work schedules, and school and study regardless of geographical, socioeconomic, or other constraints (Kember et al., 1994; Moore & Tait, 2002; Stanford-Bowers, 2008). Online learning enables students to learn asynchronously for self-paced individual study or synchronously via virtual, instructor-led e-learning presented at fixed times with real-time student-faculty interactions (Clark & Mayer, 2016; Hall, 2000; Urdan & Weggen, 2000).

Online education also has benefits for faculty members. Just as online learning provides flexibility for students to learn from anywhere, online teaching allows faculty to teach from anywhere with internet access, such as home offices, coffee shops, or libraries. Some faculty members tout that online teaching enables them to learn new ways to engage learners (Wingo et al., 2016) by embedding engaging videos, Microsoft PowerPoint presentations, self-paced e-learning modules, web links, and other supplemental web-based instructional resources into

course content. In addition, learning management systems (LMS) have grading features for automatically grading certain types of assignments, such as multiple-choice quizzes and tests.

According to the National Center for Education Statistics (2018), 6.6 million students are enrolled in at least one online course at degree-granting postsecondary institutions in the United States. This number comprises almost half of postsecondary students enrolled in higher education courses, and scholars expect this number to increase. Online enrollment has grown faster than the total higher education student population (Allen & Seaman, 2008; Wallis, 2020). Allen and Seaman (2008) noted that higher education administrators and educators must consider how online learning fits into their long-term strategies due to the growing number of online students.

Community College and Online Learning

Community college leaders have recognized the need for online learning as an alternative learning method for students (Amey, 2006; Austin, 2010). In July 2009, during the Great Recession, then-President Obama proposed the American Graduation Initiative to invest over $2 billion in community colleges to provide U.S. workers with education, training, and credentials. According to President Obama,

> In the coming years, jobs requiring at least an associate degree are projected to grow twice as fast as jobs requiring no college experience. We will not fill those jobs—or keep those jobs here in America—without the training offered by community colleges. (The White House, 2009, para. 28)

The American Graduation Initiative presented five strategies for helping community colleges develop workers. One of the ways is online courses. The initiative suggests that developing online college courses through open online course materials and tutors could allow

more students to better and more quickly access and learn information. Since the initiative, the percentage of community colleges in the United States providing at least one online degree has increased from 66% to 92%, and the number of online certificate programs granted by community colleges has increased from 76% to 84% (Straumsheim, 2016).

Community College and Online Learning in North Carolina

The goal of online education for the North Carolina Community College System (NCCCS) aligns with its overall mission to

> Open the door to high-quality, accessible educational opportunities that minimize barriers to postsecondary education, maximize student success, develop a globally and multi-culturally competent workforce, and improve the lives and well-being of individuals by providing:
>
> - Education, training and retraining for the workforce, including basic skills and literacy education, occupational, and prebaccalaureate programs.
> - Support for economic development through services to and in partnership with business and industry and in collaboration with the University of North Carolina System and private colleges and universities.
> - Services to communities and individuals which improve the quality of life. (para. 1)

One means of accomplishing the NCCCS's mission for online education is the virtual learning community (VLC). Since 1998, the VLC has provided assistance for the online learning strategic goals of the 58 community colleges in the NCCCS. The VLC's mission is "to support local colleges' distance learning initiatives through developing and editing resources for curriculum

and continuing education online and blended courses, offering faculty training, and best practice trends and new technologies" (NCCCS, 2020, para. 2).

The VLC is a system operated in a partnership between NCCCS headquarters (System Office) and three community colleges. Each community college is responsible for one of the three support centers available to students and faculty. The centers are the Technology Center at Fayetteville Technical Community College, the Quality and Assessment Center at Surry Community College, and the Professional Development Center at Wake Technical Community College.

Online education enrollment in the NCCCS has shown significant annual increases since the Great Recession. NCCCS's instructional full-time equivalent (FTE) data from the 2015–2016 to the 2018-2019 academic years showed that (a) in 2014–2015, there were 50,936 FTE in online courses compared to 163,420 FTE for traditional courses; (b) in 2015–2016, there were 51,313 FTE in online courses compared to 152,987 FTE for traditional courses; (c) in 2016–2017, there were 54,221 FTE in online courses compared to 145,661 FTE for traditional courses; (d) in 2017–2018, there were 57,134 FTE in online courses compared to 138,567 FTE for traditional courses; and (e) in 2018–2019, there were 60,854 FTE in online courses compared to 132,794 FTE for traditional courses (NCCCS, 2020).

Transitioning From Traditional Teaching to Online Teaching

Whether the instructional system is traditional or online, learning promotion should be its goal (Anderson, 2008). The traditional setting has been the most common instructional method in higher education for many years; therefore, moving to an online presence requires reevaluating needs and resources. The surge of online education has resulted in the need for online faculty members who can deliver high-quality online courses successfully (Wingo et al.,

2016). Thus, administrators and faculty members must reevaluate their approaches to faculty responsibilities, course assignments, and student needs (Dabbagh, 2004).

Transitioning from traditional teaching to online teaching may present challenges to some faculty members, administrators, and institutions. Although 57.2% of academic leaders rate online education as the same or superior to traditional education, 23% still consider online education inferior to traditional instruction (Allen & Seaman, 2013). Critics have argued that the quality of online courses does not measure up to traditional offerings. Almala (2006) attributed such sentiments to a lack of support from administrators for online education. Almala researched the implementation of online learning in a community college environment and found that well-designed, efficiently run courses and programs, trained and supported faculty members, and well-oriented students had a positive impact on the quality of online learning at higher education institutions. Similarly, Anderson (2008) suggested that well-designed online learning materials can engage learners, promote learning, and provide adequate support.

However, critics have argued that online courses with poor designs can obstruct learning and student engagement. According to Shute and Towle (2003), online lessons full of all the latest "bells and whistles, but lack sound instructional design principles, will not maximize the effectiveness of information processing or learning" (p. 111). Windes and Lesht (2014) echoed these sentiments. They cited concerns about the quality of online education for college faculty members transitioning to online teaching, including lost interaction with students, development and implementation time commitment, curriculum adaptation, and apprehension about intellectual property rights. Combatting these concerns requires higher education administrators to invest in instructional and technological support staff members to assist faculty members with

the effective design, development, and implementation of quality online courses and programs (Crawford & Persaud, 2013).

Transitioning From Traditional Teaching to Emergency Remote Teaching During a Crisis

Zdziarski et al. (2007) defined a *crisis* as an event characterized by a negative event or outcome, the element of surprise, limited response time, disruption of operations, and a threat to people's safety and well-being. The COVID-19 pandemic classifies as a crisis. According to the Centers for Disease Control and Prevention (CDC; 2020), COVID-19 is "a new coronavirus. Coronaviruses are a large family of viruses that are common in people and many different species of animals, including camels, cattle, cats, and bats" (FAQ section). COVID-19 is a highly communicable and potentially fatal virus. On March 11, 2020, professionals from the World Health Organization (WHO) officially characterized COVID-19 as a pandemic due to a global outbreak of the virus (CDC, 2020). The CDC has provided several recommendations to slow the spread of the virus, including cloth face coverings, social distancing, and vaccination.

On March 14, 2020, in response to the growing crisis, North Carolina Governor Cooper signed an executive order to close all K–12 public schools and prohibit mass gatherings in the state (State of North Carolina, 2020). In response to Governor Cooper's executive order, on March 17, 2020, the NCCCS President Hans recommended pausing and moving all traditional classes for the 58 community colleges in the system to online learning through the end of the month. The recommendation for online learning included the high school students taking community college courses through the Career and College Promise program (NCCCS, 2020).

The North Carolina orders to close schools and shift to online learning required moving instructional FTE from 69% traditional to 100% online in 2 to 3 weeks with little warning and preparation. Under normal circumstances, the best practices for preparing and delivering online

education require training for faculty members in online teaching, access to technological resources and support for faculty members and students, curriculum research and development time, and online orientation for students (Keengwe & Kidd, 2010). However, North Carolina lacked a crisis plan to transition to remote learning due to the COVID-19 pandemic.

In addition to the instructional impact, the best practices for switching exclusively traditional teaching faculty members to online learning could result in a rarely considered psychological shift. Fish and Wickersham (2009) researched faculty perceptions of online instruction. They found that many higher education faculty members around the country considered online teaching stressful, especially if they lacked training or felt uncomfortable with the technology. Fish and Wickersham also cited the lack of face-to-face interactions with the students as a disadvantage. One participant expressed that online teaching resulted in the loss of valuable personal contact between faculty members and students. The COVID-19 pandemic was an event of unforeseeable and unprecedented magnitude; therefore, there was no time to transition traditional courses to online using the online course development best practices. In addition, there was no time to fully consider the psychological, emotional, technical, or financial implications of the transition for faculty.

Background of the Problem

The COVID-19 pandemic resulted in a change to the normal operations of K–12 schools and higher education institutions across the United States in March 2020. The leaders at North Carolina's community colleges sought to protect the health and safety of faculty, staff, and students by moving all traditional course offerings to an online platform within weeks. Although this decision appeared the least disruptive and most obvious of all possibilities, it presented some challenges. Many faculty members lacked experience with online teaching (Wingo et al., 2016).

Faculty of programs traditionally taught face-to-face suddenly had to learn the intricacies of using an online learning management system (LMS) and teleconferencing tools as teaching mediums (Johnson et al., 2020). In addition, faculty had to determine if their students had access to technology to communicate and complete assignments virtually. Educational technology researchers have referred to the abrupt shift from traditional instruction to online instruction during a crisis as *emergency remote teaching*, or ERT (Hodges et al., 2020). ERT is

> A temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances. It involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses and that will return to that format once the crisis or emergency has abated. (Hodges et al., 2020, p. 6)

The goal of ERT is to provide students with access to courses, instructors, and instructional materials quickly during a crisis, such as the COVID-19 pandemic. ERT development occurs quickly and is meant to be a temporary situation. Usually, due to the nature of its existence, ERT does not have the same design and development methods as online learning. All of these factors differentiate ERT from online learning.

Problem Statement

Quality online teaching requires time to prepare. However, the transition from traditional delivery to ERT during the COVID-19 pandemic required faculty members nationwide—who may have lacked experience with online teaching—to produce and deliver course material within weeks, midsemester, and without knowledge of when they would see their students again (Hodges et al., 2020; Johnson et al., 2020). Moving instruction online without properly training and supporting faculty before the move is an action that does not align with the best practices for

online teaching and learning. However, the COVID-19 pandemic required making a decision and making it swiftly. ERT at this magnitude was an unprecedented, large-scale, and comprehensive emergency, and many faculty members lacked remote teaching strategies. The impact of ERT on faculty remains undetermined.

Purpose Statement

The purpose of this exploratory case study was to examine how North Carolina community college faculty members transitioned from traditional teaching to ERT in weeks during the COVID-19 pandemic. Some research exists on teaching and learning during crisis situations. However, more research was needed on how to continue instruction with minimal disruption for future unexpected emergencies. The findings from this study could provide insight into strategies faculty members can use to quickly transition and inform emergency planning. This study could also contribute to future research for subsequent pandemics and crises.

Research Questions

This case study had the following research question:

How did North Carolina community college faculty transition from traditional teaching to emergency remote teaching during a worldwide pandemic?

Theoretical Framework

The study's theoretical grounding was the technology acceptance model (TAM). The TAM suggests that potential users consider the perceived usefulness, perceived ease of use, and their attitudes toward technology before deciding to utilize the technology (Gong et al., 2004; Lewis et al., 2013; Ndubisi, 2006; Robinson, 2019; Teo, 2011). Developed by Davis and Bagozzi in 1986, TAM is the most commonly used theory to explain an individual's acceptance of technology. The model has received substantial empirical support through validations,

applications, and replications (Al-Mushasha, 2013; Lee et al., 2003). The TAM framework is useful for investigating the predictive usage of the internet, information systems, social networking, gaming, e-commerce, and smartphone applications (Arbaugh, 2010; Charness & Boot, 2016; Ha & Stoel, 2009; Seckin, 2016).

TAM is a widely used framework for predicting and validating the technology usage of business information systems users in the corporate sector (Bach et al., 2016). Though considered a popular model, some researchers argue that TAM lacks solid research in the educational context (Scherer et al., 2019). Scholars have conducted technology acceptance and adoption studies in higher education using TAM as a theoretical framework. However, little literature exists on the use of TAM in ERT situations. In this study, TAM was the framework used to examine the impact of faculty members' usage and perceptions of learning technologies on their transition to ERT during the COVID-19 pandemic.

Limitations and Delimitations

Characteristic of qualitative research, this study had findings limited to participants' experiences and beliefs (Patton, 2002). There was a small sample of 10 participants from North Carolina community colleges. Therefore, the findings might not be generalizable for all the community college faculty who moved from traditional teaching to ERT during the COVID-19 pandemic.

The goal was to have 15 participants. However, five potential participants dropped out due to scheduling conflicts, unavoidable personal circumstances, and increased responsibilities due to the COVID-19 pandemic. Efforts to replace the participants were unsuccessful, as the faculty members still had to deal with the challenges of the transition to ERT during the study.

The study did not include the faculty members who did not teach traditional courses moved to ERT during the Spring 2020 semester. Additionally, the study did not include student, administrator, and staff perspectives about the transition to ERT and remote learning. Therefore, the results were limited to faculty perspectives.

Definition of Terms

The key terms unique to the study follow.

ADDIE. ADDIE is a curriculum design methodology for curriculum development and course design. The ADDIE processes are analysis, design, development, implementation, and evaluation (Hodell, 2015).

Asynchronous. Learning designed for self-paced individual study (Clark & Mayer, 2016).

Centers for Disease Control and Prevention (CDC). The CDC is one of the major operating components of the Department of Health and Human Services. The mission of the CDC is to protect the United States from health, safety, and security threats, both foreign and in the United States (CDC, 2020).

Concerns-based adoption model (CBAM). CBAM is a conceptual framework for examining the process of implementing change. CBAM has several important assumptions about the nature of change:

- Change is a process, not an event.
- Change is a process accomplished by individuals.
- Change is a highly personal experience.
- Change includes developmental growth in feelings and skills.

- Change can be facilitated by interventions directed toward the individuals, innovations, and contexts involved (Hall & Hord, 1987).

COVID-19. COVID-19 is a novel coronavirus. Coronaviruses are a large family of viruses common in people and different animal species, including camels, cattle, cats, and bats. Rarely, animal coronavirus infection can occur and spread among people, such as with MERS-CoV, SARS-CoV, and COVID-19, named SARS-CoV-2 (CDC, 2020).

Crisis. A crisis is a major disruption or unpredictable event with potentially damaging results and effects on a system as a whole that presents a threat to basic assumptions and causes significant damage to individuals or organizations. Crises include natural disasters, industrial disasters, acts of war and terrorism, and health plagues and pandemics (Barton, 1993; Brock & Jimerson, 2004; Pauchant & Mitroff, 1993; Preston, 2012; Zdziarski et al., 2007).

Emergency remote learning. ERT is

> A temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances. It involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses and that will return to that format once the crisis or emergency has abated. (Hodges et al., 2020, p. 6)

Extra-respiratory manifestations. Extra-respiratory manifestations of COVID-19 can be cardiac, gastrointestinal, renal, hepatic, neurological, olfactory, gustatory, ocular, cutaneous, and hematological (Lai et al., 2020).

Full-time equivalent. FTE is the amount of instruction that equates to 512 student hours in membership (NCCCS, 2020).

Learning management system. An implemented system on Internet servers providing users with the ability to access different profiles, have administrative management of a course, and communicate among different users via various communication tools (Barchino et al., 2005).

North Carolina Community College System. The NCCCS is an overarching system inclusive of 58 community colleges in North Carolina (NCCCS, 2020).

Online learning. Also referred to as e-learning, online learning is "content and instructional methods delivered on a computer (whether on CD-ROM, the internet, or an intranet), and designed to build knowledge and skills related to individual or organizational goals" (Clark, 2002, p. 2). According to the NCCCS (2020), online learning is 100% online instruction with the exclusion of all other instructional methods, including traditional, web-assisted, and hybrid courses. For this study, the term *online learning* indicated web-based learning, distance learning, and e-learning unless otherwise noted.

Presidential Policy Directive-8 (PPD-8). The goal of the PPD-8 was to strengthen the security and resilience of the United States through systematic preparation for the threats that present the greatest risks to national security, including acts of terrorism, cyberattacks, pandemics, and catastrophic natural disasters (The White House, 2011).

Successive approximation model (SAM). The SAM, unlike the ADDIE waterfall approach, is a process for promoting an iterative approach to design and development (Allen & Sites, 2012). The SAM has a three-step process of design, prototype, and review in a rapid yet controlled process to produce quick but effective online learning (Steen, 2008).

Synchronous. Virtual instructor-led e-learning presented at a fixed time that enables real-time student-faculty interactions (Clark & Mayer, 2016).

Technological Pedagogical Content Knowledge Framework (TPACK). TPACK is a conceptual framework for understanding educational technology integration in teaching and learning (Mishra & Koehler, 2006).

Technology acceptance model. The TAM, developed by Davis and Bagozzi in 1986, is the most commonly used theory to explain and understand a technology user's behavioral intentions and actual use of technology with several core variables: the user's perceived usefulness, perceived ease of use, and attitude toward the technology (Davis, 1989).

Traditional education. Traditional education occurs at the same time in the same place in a regular, self-contained, teacher-centered classroom with face-to-face teaching. Different-time, same-place education consists of offering individual learning in a learning center or multiple sections of the same classes so students can attend the class in the same place at a time that they choose. Traditional education is a service available at different times to students but in the same place, such as a media center or computer laboratory (Simonson, 2008). According to the NCCCS (2020), traditional education consists of 100% face-to-face, web-assisted, and hybrid courses.

Unified theory of acceptance and use of technology (UTAUT). UTAUT is a popular unified theoretical model for technology acceptance and adoption (Venkatesh et al., 2003).

Universal design for learning (UDL). UDL are principles that enable students to acquire and express knowledge in various ways and access course materials in various formats to reduce learning barriers for learners with and without disabilities (Meyer et al., 2014).

VLC. The VLC is a community in the NCCCS that supports high-quality instruction via the collaborative development of content, resources, and technology tools in effective and supportive environments (VLC, 2020).

WHO. The WHO is a global organization with the primary role of directing and coordinating international health within the United Nations system (WHO, 2020).

Research Method

Qualitative case studies are means of exploring, revealing, and understanding issues through various lenses to provide multiple perspectives of experiences or phenomena (Baxter & Jack, 2008). For this study, the exploratory case study was the chosen research design. Interview participants were 10 North Carolina community college faculty members from community colleges and programs across the state who taught at least one traditional course impacted by the COVID-19 pandemic during the Spring 2020 semester. The goal of the interviews was to answer the research question, How did North Carolina community college faculty transition from traditional teaching to emergency remote teaching during a worldwide pandemic? This study focused on the technological and instructional methods used throughout the ERT transition.

Organization of the Study

The study has five chapters. Chapter 1 presented this study's background context of online teaching and learning at the community college level. The chapter included an explanation of transitioning from traditional teaching to ERT before and during the COVID-19 crisis. Chapter 2 is an extensive review of the literature relevant to the history of online learning in higher education, the impact of the COVID-19 pandemic on higher education, crisis preparedness in education, ERT, and technology acceptance models. Chapter 3 presents the exploratory case study methodology, research design, data collection and analysis process, and instrumentation used for this study. Following a discussion of the findings in Chapter 4, Chapter 5 includes a summary, conclusion, and recommendations and implications for future research.

CHAPTER 2

Review of Relevant Literature

This study focused on North Carolina community college faculty members' transition from traditional teaching to ERT during the COVID-19 pandemic. This chapter presents the research related to the study's major concepts. The first section contains the historical and modern-day context of online learning in higher education. The second section focuses on the literature on the impact of the COVID-19 pandemic on higher education. The third section includes the literature on crisis preparedness in education and the strategies used to operate in, recover from, and possibly prevent interruption to education due to emergencies or disasters. The fourth section presents literature on ERT and how it differs from online learning. The fifth section addresses the literature on technology acceptance and adoption models and how scholars have used these models to inform decisions in the educational technology adoption process in higher education. The literature review concludes with a summary of the chapter, presenting the connections and the gaps between the literature and the major underpinnings of this study.

Online Teaching and Learning in Higher Education

Historical Context

Online learning has had several iterations since its inception. The first iteration of online learning was distance learning, which originated as early as the 18th century in Europe and the 19th century in the United States as correspondence study courses delivered via print media (Schlosser & Simonson, 2003). In the 1840s, Pitman created the first known distance learning course in England known as the Pitman Shorthand Training Program (Casey, 2008). Through this program, Pitman taught shorthand writing techniques by writing Bible scriptures in shorthand on postcards and sending them via mail for students to transcribe and mail back for

evaluation (Verduin et al., 1991). In 1873, Tickner started a correspondence study school named the Society to Encourage Studies at Home in Boston, Massachusetts, teaching art, science, French, German, history, and literature to mostly women who could not attend school due to class and gender restrictions (Harting & Erthal, 2005; MacKenzie & Christensen, 1971).

Correspondence study course instructors determined the course objectives, content, and lessons and then mailed them to students via the postal service. The students completed the assignments at their pace and sent them back for feedback and evaluation. This delivery method resulted in passive learner-teacher experiences that Moore (1994) defined as teacher-determined because the teachers determined how to implement the courses.

The spread of correspondence education occurred throughout the United States in the 1880s. In 1874, Miller and Vincent started the Chautauqua Movement in Chautauqua, New York, which contributed to the acceptance of adult correspondence education (Harting & Erthal, 2005). The movement began as a summer training program for Sunday school teachers that expanded to include general education students who could complete instruction via correspondence study (Kentnor, 2015). The movement expanded to become a 4-year correspondence program where students received certificates of study. The program eventually became the Chautauqua Literary and Scientific Circle adult education program, the first correspondence school in the United States (Scott, 2007), later renamed Chautauqua University. Harper, a recruit of Vincent's at Chautauqua University and eventual professor and leader at the university, modeled the Chautauqua University correspondence study program framework after becoming the president of the University of Chicago in 1891. There, Harper created a highly successful college-level correspondence division (Kentnor, 2015; MacKenzie & Christensen, 1971; Scott, 2007).

The evolution of the correspondence education model expanded into other distance education models based on the need to reach more students who wanted to learn. In the 1920s and 1930s, radio and television were the means used to spread knowledge to broad audiences, especially in education. In the 1920s, the Federal Communications Commission (FCC) began providing radio licenses to universities for educational purposes. Instructors began giving lessons through educational radio shows, drastically minimizing instructional delivery times, as the postal service was no longer the only option for content delivery (Casey, 2008).

In 1928, the Ohio State Department of Education created the Ohio School of the Air program that provided daily science, literature, history, and music programming over the radio (Kentnor, 2015). The school was the first of its kind, but the idea quickly increased in popularity. Broadcasting stations, such as NBC and CBS, began providing educational programming for teaching and learning. By the end of 1930, the National Committee on Education by Radio (1931), a nationwide governmental organization, became an oversight committee for protecting and promoting educational radio.

Educational television was a topic introduced by the University of Iowa in 1932. However, the idea required time to evolve due to World War II and the FCC's freeze on the issuance of television licenses (Casey, 2004; Kentnor, 2015). The evolution of the educational television movement did not occur until the 1950s and 1960s, when the FCC began providing licenses to educational entities. Although the creation and implementation of telecourses had begun, educators used radio and television as supplementary classroom materials rather than the main delivery methods. The teacher-student interactions still appeared teacher active/student passive to both instructors and students, and both sought better ways to engage.

In 1971, the Open University in the United Kingdom was the world's first university to provide all courses through distance learning (Harting & Erthal, 2005). The university, which still exists today, began providing open admissions to all students and credit for the number of modular courses taken (Casey, 2004). The modular courses contained the multimedia of that time: audio and video cassettes, radio, television, and even some computing (Jeong, 2018).

Modern-Day Context

The internet has had a significant influence on the modern iteration of online learning. The integration of the internet and educational technologies in the 1990s resulted in an expanded focus of distance learning, from providing educational access to those excluded by geographic distance to revolutionizing how modern students learn (Varvel, 2007). Incorporating the World Wide Web, laptops, smartphones, multimedia, tablets, LMS, and the like into education transformed course content delivery to students and student engagement with course content. Technological advancements contributed to the transition from distance learning to online learning, or e-learning. The driving force in the transformation from distance learning to e-learning was the need to compete in a global economy by providing marketable information technology skills to future employees (Cuban, 2001).

The method of e-learning provides easily accessible and flexible learning for individuals who, before the online revolution, may not have had the opportunity to access education. Students who require flexible schedules can access education without potential barriers, such as traditional class schedules and commuting to a physical college, due to e-learning (Bawa, 2016; Kember et al., 1994; Robinson, 2019; Schoech, 2000). Students balancing careers, families, and assignments find e-learning a viable learning option because it provides them with the opportunity to access information at times, places, and paces the most convenient for them

(Borstorff & Lowe, 2007). Many nontraditional students can return to school to pursue bachelor's and master's degrees due to the convenience and flexibility of online learning (Kuo & Belland, 2016).

Online learning also provides flexibility to higher education institutions with shrinking budgets and little money to build new facilities or update existing ones (Werbach, 2000). Shrinking institutional budgets have resulted in tuition hikes, program cuts, and hiring freezes, causing institutional leaders to seek more cost-efficient ways of educating students (Bruce, 2010). Many educators have begun to mitigate such issues by providing more e-learning offerings. Higher education institutional leaders have expanded their e-learning offerings, and more students have begun enrolling in more sections due to increased course quality, resulting in increasing enrollment numbers.

Modern e-learning courses provide engaging environments where students can interact with each other and the content. Current e-learning courses are a combination of modern learning methods with modern knowledge management and evaluation methods (Kocaleva et al., 2015). The courses tend to include active learning strategies for promoting student engagement and collaboration (Bazelais et al., 2018).

The features of e-learning courses include discussion boards, blogs, and teleconferencing options for students to communicate actively with their classmates and instructors. The modern features of e-learning are stark contrasts to early adaptations of e-learning courses, where students sat at computers and watched static media without interaction (Stark & Schmidt, 2002). A collaborative online learning environment is a way to improve student retention and overall educational success (Thompson et al., 2013).

Online Teaching and Learning in Community Colleges

Community colleges have been the institutions at the forefront of implementing online learning in higher education (Fish & Wickersham, 2009; Travers, 2016). Being the leaders of the online learning revolution provides community colleges with a competitive edge in the higher education space (Keengwe & Kidd, 2010). As more students turn to community colleges for their postsecondary educational needs, community college leaders have embraced online learning to meet the needs of their expanding student population (Crawford & Persaud, 2013; Gallien & Oomen-Early, 2008). From 2009 to 2016, the percentage of community colleges in the United States providing at least one online degree has increased from 66% to 92% (Allen & Seaman, 2010; Straumsheim, 2016).

Like 4-year higher education institutions, convenience is a significant factor in students enrolling in online courses. The convenience of online learning is an attractive option for community college students balancing school with professional and personal responsibilities (Kember et al., 1994; Moore & Tait, 2002; Stanford-Bowers, 2008). As more students gain access to personal technologies, such as laptops, cellular phones, and tablets, the convenience and flexibility of online learning allow them to access education from anywhere at virtually any time (Allen & Seaman, 2008; Chen et al., 2010). The easy access to online learning minimizes barriers, such as structured schedules and travel, and enables a more diverse student population (Barrett, 2010).

Expanded online course and program offerings have also had an impact on the increased enrollment at community colleges. Since the 2008 Great Recession, the number of online certificate programs provided by community colleges has increased from 76% to 84% due to former President Obama's American Graduation Initiative (Allen & Seaman, 2010;

Straumsheim, 2016). Community colleges are technical and vocational education and training hubs for postsecondary students and U.S. workers. Therefore, President Obama believed in the need to educate and retool workers to strengthen the economy and the country (Crawford & Persaud, 2013; United Nations, 2020; The White House, 2009). Community college leaders used the money provided by the initiative to develop and offer more online courses and certificate programs. Initiatives, such as the American Graduation Initiative, coupled with the students' desire for personal fulfillment, additional qualifications, and degree completion, have increased the demand for online learning at community colleges (Varvel, 2007).

The quality of online courses and program offerings has also impacted student enrollment in online courses. Quality online courses are ways to promote active learner-centered environments; strong, supportive virtual communities; and academic rigor (Stanford-Bowers, 2008). Whether asynchronous or synchronous, quality online courses provide academic and social support for students not learning in a traditional classroom setting. Online course and program offerings designed around the learners tend to have increased student engagement. In turn, increased student engagement correlates with increased student satisfaction (Palloff & Pratt, 2003). Student satisfaction with online courses contributes to increased persistence and completion.

Community colleges allow open access to academic and continuing education for the social, cultural, economic, and intellectual development of their communities (Taylor, 2014; Vaughan, 2006). Online learning provides students with another layer of educational access. Removing geographic and time constraints is a way to increase educational access to otherwise excluded student populations (Crawford & Persaud; 2013; Kegelman, 2011). Community college

administrators must ensure that their institutions provide quality online courses and programs to increase access, growth, persistence, and completion.

COVID-19 Pandemic

The global health crisis of the COVID-19 pandemic has caused the most substantial disruption of education in world history, impacting 1.6 billion learners worldwide (United Nations, 2020). COVID-19 is an infectious, newly discovered coronavirus (CDC, 2020; Lai et al., 2020). The first cases of COVID-19 emerged in Wuhan, China, in December 2019 (CDC, 2020; Cucinotta & Vanelli, 2020; Sahu, 2020). Detection of community spread of the virus in the United States occurred in February 2020. By mid-March 2020, all 50 states, the District of Columbia, and four U.S. territories had reports of COVID-19 cases (Bialek et al., 2020). On March 11, 2020, WHO officially characterized COVID-19 as a pandemic, as there were 118,319 confirmed cases and 4,292 deaths worldwide (CDC, 2020; WHO, 2020).

COVID-19 is a novel, highly communicable, and potentially fatal virus with uncertain origins, transmissions, and clinical courses. The pandemic led to increased concern and anxiety among the public (Cucinotta & Vanelli, 2020; Murthy et al., 2020). Preliminary epidemiological research has shown that the virus spreads via respiratory droplets. The virus can have respiratory symptoms (e.g., coughing and sneezing) and extra-respiratory symptoms (e.g., vomiting and heart failure; CDC, 2020; Lai et al., 2020). The CDC has provided recommendations for slowing the spread of the virus, including frequent handwashing, social distancing, face masks, frequent cleaning and disinfecting, health monitoring, and vaccination (CDC, 2020).

COVID-19 and Higher Education

The COVID-19 pandemic has had the most substantial disruption on education in world history, impacting 1.6 billion learners worldwide, including those in the United States (United

Nations, 2020). At the beginning of March 2020, due to rapidly unfolding news and events about COVID-19, U.S. higher education institutions began transitioning their offerings to a completely online format (Kelly & Columbus, 2020; Marsicano et al., 2020; Murphy, 2020). The sudden transition to online learning occurred as governors across the country began declaring states of emergency and implementing emergency operations and restrictions to slow the spread of COVID-19 (Kelly & Columbus, 2020).

As the CDC and the WHO provided more information about the rapidly spreading virus, college administrators became concerned about community transmission on campuses. Concern increased when epidemiologists revealed that people infected with the virus might not present symptoms. Therefore, administrators closed schools to mitigate the risk of spreading the virus (Murphy, 2020; Sahu, 2020). On March 6, 2020, Stanford University and Touro College became the first higher education institutions to transition fully online; by the end of the month, 1,400 institutions had undergone complete transitions to online learning (Marsicano et al., 2020).

The swift transition to online learning significantly disrupted all levels of operation at higher education institutions, including course delivery, budget, enrollment and recruitment, research, and accountability and assessment (Blankenberger & Williams, 2020; Chronicle of Higher Education, 2020; Kelly & Columbus, 2020). The transition also caused significant disruption to students' lives, as well. School closures due to COVID-19 impacted 94% of the world's student population. Access to education, food, and housing for students from vulnerable and underrepresented populations was another barrier that college administrators and students faced (United Nations, 2020).

One of the most vulnerable and underrepresented populations during the COVID-19 pandemic was international students. The crisis caused country leaders worldwide to impose

travel restrictions and advisories. On March 19, 2020, the U.S. Department of State provided a Global Health Level 4 Travel Advisory, which is a Do Not Travel advisory (U.S. Department of State, 2020). Due to this advisory, institutional leaders had to suspend study abroad and college-affiliated international activities (University of North Carolina System, 2020). Many institutions suggested that students follow the recommendations of the Department of State and arrange for their immediate return to the United States (for U.S. study abroad students) or their countries of permanent residence. However, many international students could not return to their home countries due to travel restrictions and a lack of funds (Sahu, 2020). Moreover, some international students lacked access to alternative housing, food, and learning resources, such as personal computers, resulting in their displacement and reduced opportunity to learn (United Nations, 2020).

The COVID-19 pandemic also had an impact on college athletics. Many U.S. college tournaments occur in February and March. The National Collegiate Athletic Association (NCAA) was in the midst of the Division I men's and women's basketball tournament when the pandemic hit. In an unprecedented move, on March 12, 2020, NCAA officials announced that they would cancel all remaining winter and spring championships, including the basketball tournaments, due to concerns of spreading COVID-19 (Mirabito et al., 2020; NCAA, 2020). This marked the first time since NCAA's 1939 inception when a tournament did not occur (Boone, 2020). The tournament's cancellation cost colleges and universities $375 million in revenue, which affected athletic scholarships, women's sports programs, and less-profitable programs, such as swimming and softball (MarketWatch, 2020).

In addition to revenue losses from athletics, higher education institutional leaders faced budget shortfalls across the board and anticipated cuts for Fall 2020. In early April 2020, several

state leaders began preparing for cuts to their public higher education programs (Ferguson, 2020). In a survey of college and university presidents conducted by Inside Higher Ed and Hanover Research, unbudgeted financial costs related to COVID-19 were the top concerns. The respondents cited concerns about potential declines in alumni and donor giving and student demands for room, board, and tuition reimbursement (Lederman, 2020). The survey also found concerns about enrollment declines, the ability to afford faculty and staff, the inequitable impact on underrepresented students, and overall financial stability (Inside Higher Ed, 2020). The pandemic had an impact on private universities' budgets, as well. In April 2020, Harvard University administrators sent a letter to the campus community and alumni about the threats to tuition, philanthropy, research support, executive and continuing education, and endowments (Bacow et al., 2020).

Although COVID-19 had a significant impact on 4-year colleges and universities, the pandemic showed the vulnerabilities of 2-year and community colleges affecting their ability to respond (United Nations, 2020). Community college administrators had to collaborate with governing boards and local and state governments to determine the best economic and instructional courses of action. For example, on March 19, 2020, former NCCCS President Hans met with the members of the State Board of Community Colleges to approve five emergency relief efforts for the system's community colleges and students during the pandemic. These included tuition payment flexibility for students; discretionary funds for purchasing computers and other technology for faculty members, staff, and students; and flexible course scheduling and instructional time (NCCCS, 2020).

Crisis Preparedness in Education

Crisis Defined

According to United Nations Secretary-General Guterres, the COVID-19 pandemic has been the most serious health and global socioeconomic crisis since World War II (Associated Press, 2020; Lai et al., 2020; United Nations Development Programme, 2020; The World Bank, 2020). A crisis is a major disruption or unpredictable event that has potentially negative results and effects on a system as a whole that presents threaten to its basic assumptions and may cause significant damage to individuals or organizations (Barton, 1993; Pauchant & Mitroff, 1993). Throughout history, significant crises have impacted individuals, families, and societies, including natural disasters, industrial disasters, acts of war and terrorism, biological plagues and pandemics, and technology-induced hazards (Brock & Jimerson, 2004; National Center for Campus Public Safety, 2016; Preston, 2012; Zdziarski et al., 2007). Because of their unpredictable and complex natures, crises can cause disruption, imbalance, chaos, and trauma. Additionally, crises can affect individuals physically, mentally, emotionally, financially, and educationally.

Brock (2002) defined crises with effects on educational institutions as sudden, uncontrollable, and extremely negative events that can impact an entire school community. Individuals can face the loss of housing, jobs, personal property, and even loved ones during disasters. Food insecurity and the inability to access health care and education are risks for families. Crises also present risks for school-aged children and young adults who lack the coping skills, life experiences, and resources needed to deal with tragedies on their own (Elder, 2002; Peek, 2008). Young students could experience a variety of emotional and behavioral changes affecting their abilities to excel in the classroom; among these are absenteeism, difficulty with

memorization and information retention, poor academic performance, poor concentration, increased anxiety and anger, irregular eating and sleeping, and withdrawal (Azarian & Skriptchenko-Gregorian, 1998; Brock & Jimerson, 2004; Eaves, 2001; Poland, 1994; Winter, 2000). In addition, extreme cases of experiencing or witnessing trauma due to a crisis could result in posttraumatic stress disorder (American Psychiatric Association, 2020).

Examples of Crisis Situations With Severe Impacts on Operations at U.S. Higher Education Institutions

The 1918 Influenza Pandemic. Considered the deadliest pandemic of the 20th century, the 1918 H1N1 influenza that spanned 1918 to 1920 resulted in the deaths of at least 50 million people worldwide, with 675,000 of those deaths occurring in the United States (CDC, 2019). The virus had a high mortality rate among 20- to 40-year-olds, an age group that included many college students.

College and university leaders responded to the influenza pandemic in different ways, with some of them closing their campuses. Some suspended athletic events and large gatherings (Sapiro, 2020). The University of North Carolina at Chapel Hill, which lost its president and his successor within 3 months due to the pandemic, required students to quarantine on campus from October 1918 until Spring 1919 (Cozens, 2020). In Fall 1918, Harvard University (then Harvard College) administrators kept classes open against the recommendations of medical experts. However, within a week, several dozen students and staff were hospitalized, and the Cambridge Board of Health declared a state of public emergency due to the quick spread of the virus (Wong, 2020). Classes remained open, but the university leaders established measures for reducing influenza spread, such as quarantining, self-reporting, faculty reporting, and social distancing. Harvard lost five students and one instructor during the pandemic, a low mortality rate credited

to early medical intervention by Harvard health practitioners. Although only three students died from the virus at Elon College (now Elon University), 300 of their 400 students fell sick within weeks of the Fall 1918 opening (Bowman, 2020).

University of Texas at Austin shooting. The University of Texas Tower Shooting was the first mass college campus shooting and one of the worst mass murders in a public area in the United States (Wallenfeldt, 2020). In 1966, on the campus of the University of Texas at Austin, Charles Whitman shot and killed 16 people and wounded 31 others (Lavergne, 1966; Warren, 2014). After murdering his mother and wife, Whitman, an enrolled student, fired 150 rounds of ammunition from the tower onto the campus and the streets of Austin for 96 minutes (Lavergne, 1966; TexasMonthly, n.d.). Officers eventually shot and killed Whitman, ending the crisis (Wallenfeldt, 2020).

1994 Northridge Earthquake. On January 17, 1994, a 6.7 magnitude earthquake occurred in Northridge, California. The earthquake caused the deaths of 57 people, injuries for almost 10,000 individuals, homelessness for 20,000, and more than $30 billion in damages (Tierney, 1996; United States Geological Survey, 1994). The Northridge earthquake severely impacted one of the local colleges, California State University at Northridge. The earthquake caused more than $400 million in damages to the campus, resulting in the university's closure for 2 weeks (Saringo-Rodriguez, 2014). Included in the damage was the collapse of Northridge Meadows, an apartment complex near campus. The collapse resulted in the deaths of 16 people, including two California State University students. The 1994 Northridge earthquake was the costliest disaster in U.S. history before Hurricane Katrina (Whiteman, 2020).

Texas A&M University Bonfire Tragedy. The members of Texas A&M University have held an annual bonfire every year since 1909 (except 1963), the week before the Texas

A&M versus University of Texas rivalry football game to celebrate school spirit (Texas A&M University, n.d.). However, on November 18, 1999, tragedy occurred at the bonfire. The bottom layer of the tiered burning wood logs shifted and collapsed, resulting in the deaths of 12 students (Zdziarski et al., 2007).

Hurricane Katrina. Hurricane Katrina hit the Gulf Coast on August 29, 2005, the beginning of the academic year for many colleges and universities (McDonough, 2015). The Category 5 hurricane destroyed entire communities along the Gulf Coast in Alabama, Mississippi, and Louisiana. Breaches of the levee system covered 80% of New Orleans, Louisiana, causing flooding and widespread damage (University of Rhode Island, 2011).

Hurricane Katrina had a tremendous impact on higher education institutions in the Gulf Coast area. At the time, Hurricane Katrina was the most severe disruption of higher education in U.S. history (Jenkins, 2008; O'Neil et al., 2007). The hurricane affected more than 30 institutions, including Southern University at New Orleans, Louisiana State University, Tulane University, Loyola University, Xavier University, and the University of New Orleans, resulting in the displacement of over 100,000 students and 15,000 faculty members (McDonough, 2015; O'Neil et al., 2007). Louisiana's higher education institutions incurred nearly $600 million in damage, $150 million in lost tuition, and $75 million in immediate budget cuts (O'Neil et al., 2007). Overall, the storm resulted in the deaths of nearly 2,000 people, the displacement of over one million people, and more than $160 billion in damages. Katrina was one of the costliest hurricanes in U.S. history (History.com Editors, 2019; University of Rhode Island, 2011).

Virginia Tech Massacre. The deadliest school shooting in U.S. history occurred on April 16, 2007, at Virginia Polytechnic Institute and State University, commonly known as Virginia Tech (TriData Division, 2009). Seung Hui Cho, an enrolled student, shot and killed 32

people and wounded 17 others within 15 minutes before turning the gun on himself (Green & Cooper, 2012). In addition to the lives lost, the massacre cost the university, Virginia taxpayers, and the federal government at least $48.2 million in legal, medical, security, and operational expenses (Green & Cooper, 2012). The school's leaders canceled classes for 1 week to give students, faculty, staff, and members of the community time to mourn (Brady, 2007).

Crisis Preparedness Efforts in Higher Education

According to the National Center for Education Statistics (2020), there are 19.7 million students enrolled in higher education institutions throughout the United States. This significant number of students, as well as millions of faculty members, staff members, and campus affiliates, indicates that higher education administrators must respond quickly and appropriately to the needs of students and their families, employees, and the community during crisis situations. During a crisis, leaders usually prioritize education after the basic needs of food, water, shelter, protection, and health care (Nicolai & Triplehorn, 2003; Preston, 2012). However, education contributes to the resumption of social stability and economic development after a crisis (Education Cannot Wait, 2021). Therefore, a need exists to prioritize the swift resumption of education after crises through quality crisis preparedness and planning.

Preparedness and planning are critical components to mitigating risks to students, faculty, and staff during a campus crisis. In an address to colleagues in the U.S. Department of Homeland Security, Former Homeland Security Secretary Napolitano asserted that the key to handling evolving crises and threats is forward-looking in preparations and early and active in engagement, nimble response, and resilient recovery (The National Press Club, 2013). Thus, one of the main goals of campus crisis management is the resumption of normal institutional operations as quickly and safely as possible to promote a sense of normalcy and reduce the

chance of postcrisis incidents (Pearson & Mitroff, 1993; Zdziarski et al., 2007). Furthermore, colleges provide research and partnership opportunities for their communities; therefore, colleges must prepare for continuing their missions after a crisis (FEMA, 2003). Higher education institutions require comprehensive crisis management plans that indicate when and how to implement the plan, the individuals in specific roles, and the protocols and procedures for implementation.

Cheung et al. (2014) conducted a study on emergency and disaster preparedness at U.S. higher education institutions. The findings showed that although 96% of higher education institutional leaders reported having emergency and disaster plans, 10% said they did not practice the plans, and 20% said they did not perform after-action reports. While institutions may have general plans, they may not have comprehensive plans that address specific emergency program needs, such as institutional engagement, emergency management training and exercises, continuity planning, staffing and resources, and community engagement (Kapucu & Khosa, 2013; National Center for Campus Public Safety, 2016). In addition, many plans do not include the best practices, recommendations, and resources of the Department of Homeland Security, Department of Justice, and the Department of Education.

The Department of Homeland Security, Department of Justice, and the Department of Education are three federal agencies that provide colleges with a variety of emergency preparedness resources and initiatives (Bishop, 1995; U.S. Department of Homeland Security, 2007; Gunter & Gunter, 2017; Thompson & Schlehofer, 2014; U.S. Government Accountability Office, 2018; Warren, 2014). The agencies provide webinars, conferences, online training courses, tabletop exercises, guidance documents, and one-on-one technical assistance to colleges. However, a review of higher education institutions and emergency preparedness found that

college leaders lack awareness of the resources provided by these agencies for emergency preparedness (U.S. Government Accountability Office, 2018). Based on this review, the U.S. Government Accountability Office suggested that the three agencies focus on improving awareness of their emergency preparedness resources among higher education institutions.

To make emergency and crisis plans more comprehensive and less challenging for the higher education community, the U.S. Department of Education (2013) suggested that administrators align their emergency management planning efforts with PPD-8. PPD-8 provides emergency preparedness goals for national security threats, including pandemics, acts of terrorism, cyberattacks, and natural disasters (The White House, 2011). According to PPD-8, emergency preparedness focuses on five areas:

- Prevention: Addresses the actions that individuals at schools can take to prevent, avoid, deter, or stop an incident from happening.
- Protection: Addresses the ability to secure students, teachers, staff members, visitors, networks, and properties from threats.
- Mitigation: Addresses the ability to eliminate or reduce loss of life and property damage by reducing the impact of a crisis.
- Response: Addresses the ability to stabilize a crisis after it has occurred or is inevitable by establishing a safe and secure environment, saving lives and property, and facilitating the transition to recovery.
- Recovery: Addresses the ability to restore normal operations to the schools affected by a crisis (U.S. Department of Education, 2013).

Administrators can use the five areas of PPD-8's emergency preparedness to create a crisis management framework and continuity plan for their institutions. Ensuring the availability

of resources during a crisis requires administrators to develop emergency preparedness plans in partnership with the school community, state and local leaders, local emergency management organizations, public and mental health organizations, local business leaders, and faith-based leaders (The National Press Club, 2013; U.S. Department of Education, 2003, 2013).

Collaboration among agencies is a way to maximize efforts and reduce duplication. For example, the collaboration between more than 20 educational and community organizations during Hurricane Katrina resulted in the creation of CampusRelief.org, a campus-to-campus disaster assistance information clearinghouse for assisting students, faculty, staff, and institutions in the relocation and recovery process (Zdziarski et al., 2007). In addition to interdisciplinary collaboration, Mitroff et al. (2006) suggested that a plan should include preparation for various types of crises, a method for early warning signaling and communication, and a means of encouraging and ensuring support from internal and external stakeholders.

Duncan et al. (2013) provided a comprehensive, six-step planning process for emergency preparedness planning at higher education institutions. Higher education institution leaders can use the steps to develop their plans and conduct comprehensive and periodic reviews:

1. Form a collaborative planning team—In Step 1, institutions identify and form a core planning team, establish a common framework, define and assign roles and responsibilities, and set a regular schedule of meetings.
2. Understand the situation—In Step 2, a risk assessment occurs to identify potential threats and hazards to the school climate. The planning team prioritizes a list of the low, medium, and high risks presented by the potential threats and hazards.

3. Determine goals and objectives—In Step 3, the planning team identifies at least three goals and objectives for each threat or hazard. The goals include the desired outcomes before, during, and after the threats or hazards.
4. Plan development—In Step 4, the members of the planning team identify the goals, objectives, functions, and courses of action for each threat or hazard.
5. Plan preparation, review, and approval—In Step 5, the planning team formats, writes, reviews, approves, and shares the plan.
6. Plan implementation and maintenance—In Step 6, plan implementation occurs, stakeholders receive training on their roles and responsibilities, and exercises and drills occur for practice and gap and identification. Because the plan is a continuous improvement process, it will undergo review, revision, and maintenance as needed.

Crisis Preparedness Efforts in Community Colleges

Community colleges have a significant role in the social, economic, and political vitality of their communities. Therefore, the ability to resume normal operations at community colleges after a crisis is imperative for faculty, staff, students, and communities (Anderson & Davies, 2000; Bartlett & Warren, 2015). Scholars have studied the need and importance of having comprehensive crisis plans for higher education institutions. However, most available research has focused on 4-year institutions. The literature shows that 4-year universities are more prepared for crisis events than 2-year colleges, including community colleges (Van Brunt et al., 2012; Warren, 2014).

Limited research exists on the comprehensive crisis preparedness plans of 2-year colleges. However, the existing literature, while limited, has indicated the need for community college leaders to review their responses and available resources for crises situations (Sherwood

& McKelfresh, 2007). For example, Warren (2014) researched a crisis intervention and management in the North Carolina community college system and found inconsistent crisis intervention and management policies across the System. Warren recommended that community college leaders strategically plan and develop guidelines to address safety during crisis events.

Former NCCCS President Hans acknowledged the flaws in the system's emergency protocol in an interview with the *Carolina Journal* after Hurricane Florence. Hurricane Florence affected 18 community colleges in the state, causing severe damage to seven colleges and resulting in more than week-long closures. After assessing the system's emergency response to the hurricane, Hans suggested improving emergency plans for future natural disasters. Hans also suggested that the system could benefit from a systemwide crisis-communication plan (Travis, 2018).

Over the past 100 years, major crisis events have caused interruptions to the normal operations of U.S. higher education institutions. These crises have shown the need for higher education administrators to strengthen their crisis management competence and strategy. Administrators are ethically and morally responsible for ensuring faculty, staff, and student safety on campus during crises. Thus, administrators must know how to implement crises plans quickly and delegate effectively (Anderson & Davies, 2000; Coombs, 2014; U.S. Department of Education, 2013). Administrators and policymakers use the lessons learned from past crisis response successes and failures to plan and respond to future crisis events, such as the COVID-19 pandemic. Crises may be unpredictable events. However, having established crisis preparedness, response, and recovery plans at higher education institutions is a way to mitigate the loss of instructional time, money, and lives.

Teaching During a Crisis

Higher education administrators decided to transition all teaching and learning online due to the COVID-19 pandemic. Faculty began teaching courses via a delivery method known as ERT, which is

> A temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances. It involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses and that will return to that format once the crisis or emergency has abated. (Hodges et al., 2020, p. 6)

The goal of ERT is to provide students with access to courses, instructors, and instructional materials quickly during a crisis, such as the COVID-19 pandemic.

Online Teaching Versus Emergency Remote Teaching

Online teaching and ERT are terms erroneously used interchangeably. Though both teaching methods may include the delivery medium of educational technology, they have marked differences (Barbour et al., 2020; Hodges et al., 2020).

Online Teaching in Higher Education

Quality online course development requires thorough planning, preparation, and consideration of learners, content, instructional methods, and learning outcomes. Experts analyze, design, develop, implement, and evaluate online courses using instructional and technological methodologies backed by research and theories, such as constructivism, behaviorism, cognitivism, and social learning (Culatta, 2020; Hodell, 2015; Lee, 2020). These methodologies include various design processes to provide guidance for instructors, subject matter experts, and instructional designers through curriculum and course development. Two

frequently used instructional design methodologies in online learning development are the ADDIE and SAM models.

ADDIE. The development of ADDIE occurred in the mid-1970s for the U.S. Armed Forces to standardize training (Association for Talent Development, 2015; Molenda, 2003). ADDIE is an acronym for major processes in curriculum design: analysis, design, development, implementation, and evaluation (Hodell, 2015; Molenda, 2003). Course designers use ADDIE to identify course objectives and scope resources, draft design plans, develop lessons and course materials, deploy courses for learners, and evaluate the effectiveness of the course based on learner feedback (Hodell, 2015).

SAM. Unlike the waterfall approach of ADDIE, SAM is an iterative approach to course design and development (Allen & Sites, 2012). SAM is a three-step process of preparation, iterative design, and iterative development in a rapid yet controlled process to produce quick but effective online learning (Allen Interactions, 2020; Steen, 2008). Instructors and instructional designers couple the SAM and ADDIE models with elements of quality online learning to develop effective online courses and programs.

From the inception of online learning, experts have defined quality in multiple ways. Standardizing the measures of quality in online learning across higher education, colleges, and universities has occurred via national scorecards, such as the Quality Matters rubric, the Online SUNY Course Quality Review rubric, and the Online Learning Consortium quality scorecards. Instructors and instructional designers have used the national scorecards as quality measurements when designing, developing, and reviewing courses (Brown & Strigle, 2019; Phillips et al., 2000; Varvel, 2007). An evaluation of these scorecards showed several common quality elements:

1. Quality online learning can promote interaction and engagement between the learner and the instructor. Interaction between learners and the instructor is a way to establish support and trust in the course. Learners who receive consistent and meaningful feedback perceive their instructor as supportive and engaged (Thompson et al., 2018). Chickering and Gamson (1987) suggested that frequent instructor-learner interaction is an essential factor in student motivation in a course.
2. Quality online learning is a way to promote interaction and engagement between learners. Quality online learning enables learners to interact with video conferencing tools, whiteboards, chat tools, discussion forums, and email. Learners can use these technologies to pose questions to each other, work on group projects, and share ideas. Students who engage in online learning via technology have increased active participation and student collaboration and possibly decreased attrition (Chen et al., 2010; Kuh & Hu, 2001).
3. Quality online learning is a way to promote interaction and engagement with the course content. According to Sloan Consortium's Five Pillars of Quality Online Education, effective online learning should be of equal quality to traditional learning. Effective online learning consists of taking the unique characteristics of the online environment and providing effective and engaging lessons, exercises, and assessments with the course content (University of California Online, 2020). The lessons and exercises can contain interactive components, such as click and reveals, accordions, gamification, and animated characters.
4. Quality online learning is a way to utilize relevant and diverse course content aligned with course objectives. Sebastianelli et al. (2015) and Peltier et al. (2007) concluded

that learners perceive course content as the greatest predictor of quality in an online course. Course content that learners deem relevant, relatable, equitable, and useful to their current or future professions influences their perceptions of course quality (Thompson et al., 2018).

5. Quality online learning is applicable to the real world. According to Merrill's (2002) First Principles of Instruction, promotion of learning occurs with knowledge applicable to real-world problems. Pappas (2017) applied this theory to online learning, stating that online learners should participate in e-learning scenarios and simulations to promote real-world learning.
6. Quality online learning is accessible and easy to use and provides support for all learners. Quality online learning addresses the learning styles of the various learners who access the course. The design of many online courses occurs with UDL principles. UDL principles enable students to acquire and express knowledge in various ways and access course materials in a variety of formats for reduced learning barriers for individuals with and without disabilities (Meyer et al., 2014). Usability is also a component of quality online learning. Learners in higher education institutions access course content via educational technologies, such as LMS and standalone digital objects. Such technologies must have easy-to-use, visually appealing, functionally sound, and quick-to-learn interfaces (Thompson et al., 2018). These technologies must also have user-support features. Additionally, all learners must have access to these technologies (Dell et al., 2015).

In addition to these elements, Means et al. (2014) suggested considering the elements of student-teacher ratio, pedagogy, pacing, the role of online assessments, and feedback.

Emergency Remote Teaching

In contrast to online learning, the development of ERT occurs rapidly as a temporary situation. Due to its nature, ERT does not have the same design and development methods as online learning. The primary goal of ERT is to provide quick and reliable access to education and instructional supports during emergency or crisis situations (Chirinda et al., 2021; Hodges et al., 2020).

Transitioning teaching and learning from the classroom to noneducational settings, though novel to many in the United States, is not a situation new to the COVID-19 pandemic. Throughout the world, over 28 million children have experienced displacement due to war and intracountry and intercountry conflicts that present barriers to accessing education (UNICEF, 2016). Children in conflict-affected countries may experience extreme danger in their attempts to access education. Hundreds of teachers, school children, and personnel in countries with these crises have been killed during their journeys to school or while teaching and learning in their school buildings (Badrasawi et al., 2018).

In 2016, the United Nations Department of Economic and Social Affairs Division of Sustainable Development Goals began focusing heavily on Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (United Nations Department of Economic and Social Affairs, 2020). The implementation of ERT initiatives, such as self-learning, occurred during this focus. Professionals from UNICEF and other partners began designing self-learning programs for conflict-affected children in the Middle East. For example, there was a self-learning program created for Syrian refugee children aligned with the Syrian national curriculum for Grades 1–9. The program contained online and offline educational materials that students could use to self-teach (Badrasawi et al., 2018). Also included

was a training program for local teachers and community members to facilitate learning in homes, local centers, and places of worship.

ERT during the COVID-19 crisis was a worldwide test of the instructional and technological readiness of schools and faculty members. During the transition to online learning in the United States, many educational leaders quickly realized that they lacked preparedness for ERT situations. Often, institutions lacked proper digitization and trained faculty who knew how to make instructional shifts during the pandemic, which presented challenges to a smooth ERT transition (Abbot, 2020; Barbour et al., 2020; Rodríguez-Muñiz et al., 2021). Whalen (2020) identified the major challenges to faculty's ERT transitions during COVID-19 as feeling overwhelmed by online learning tools and resources, lacking quality internet access for faculty and students, lacking knowledge about remote teaching and communication tools, lacking support and directives from leadership, and prioritizing personal health and needs. According to Whalen, these challenges were due to a lack of ERT preparation, training, and support.

Emergency Remote Teaching in Higher Education

The transition to ERT during the COVID-19 pandemic varied across higher education institutions. A study conducted by Bartlett & Warren (2021) during 2020 found that faculty members and students experienced strengths and challenges in teaching and learning. Some of the challenges faced by both faculty members and students included technology, accessibility, and connectivity (Schlesselman, 2020). Faculty also faced additional challenges regarding course development and instructor support (Bartlett & Warren, 2021).

ERT Course Development. The unexpected nature of the COVID-19 pandemic presented a challenge to the transition to ERT in U.S. higher education institutions, specifically for faculty (Abbott-Chapman et al., 2004; Barbour et al., 2020). Transitioning from a traditional

course to a quality online course requires time, skill, and knowledge about online course development and digital literacy. However, faculty members may lack such knowledge (Burgos et al., 2020; Johnson et al., 2020; Keengwe & Kidd, 2010).

The identification of COVID-19 cases in the United States began in February 2020; by March 2020, higher institutions were transitioning their schools online. Faculty members had 4 to 6 weeks to design, deliver, implement, and transition a traditionally delivered course to a fully online course. To put this into perspective, Chapman Alliance found that it takes an average of 49 hours to develop 1 hour of basic online learning in accordance with industry standards (Chapman, 2010). A 16-week college course with thrice-weekly, hour-long meetings requires about 48 hours. Thus, an instructor would need 2,352 hours, or 9.8 months (assuming an 8-hour workday), to develop one online course. However, faculty members did not have 9.8 months to develop online courses based on instructional design standards during the ERT transition in March 2020, nor did they have time to receive training on the best practices of educational technology (Barbour et al., 2020; Lee, 2020; Schlesselman, 2020).

In addition to time constraints, some faculty members may not have understood the instructional design models used to create online courses; this could have been a limitation in the design and development of their ERT courses. Online course designers use instructional design processes to consider content analysis, accessibility, learning objectives, content alignment, assessments, student interactions, and other elements. However, many faculty lacked this instructional design knowledge. The absence of online instructional design knowledge, coupled with time constraints, could have resulted in ERT courses of less quality than traditional online courses (Hodges & Fowler, 2020)

Faculty Resources and Support. Some faculty members did not have the instructional technology skills needed to design and develop ERT courses that contributed to student engagement (Aladsani, 2021). The lack of student engagement caused the faculty members to struggle during the pandemic-required shift to ERT. Additionally, the instructional and technological support staff available before the pandemic were overextended during the transition, and some faculty members had to navigate emergency remote teaching by themselves (Hodges et al., 2020; Johnson et al., 2020). Faculty and students faced a noticeable learning curve during the transition to ERT (Gares et al., 2020). Moreover, a lack of the technology needed to teach from home, such as computers, high-speed internet, web cameras, and microphones, limited some faculty members' ability to teach their students.

Some faculty also had to teach classes not traditionally taught online, such as physical labs and practicums (Sahu, 2020). The hands-on nature of such courses presented a challenge to move them to an online format. Many teachers expressed concern that the students would miss out on the practical application of conducting experiments or completing practicums. However, faculty used creative ways to work around this barrier. Gares et al. (2020) found that faculty and departmental lab technicians conducted and videotaped lab experiences to show students how to conduct the labs. They then uploaded the videos and the data collected from the labs to the LMS for the students to write lab reports. Other faculty members utilized free and commercially available online videos and simulation labs (ScienceLabs, 2020).

Upholding academic integrity was another ERT challenge during the COVID-19 pandemic. Some faculty members contended that it was a struggle to determine whether students presented their own work (Gares et al., 2020). Gamage et al. (2020) pointed out additional challenges with academic integrity when assessing students. Many test examination centers for

the SAT and the ACT had temporary suspensions or test cancellations due to security concerns. Although some colleges had plagiarism software, such as Turnitin, many educators argued that it was not a foolproof method to prevent plagiarism and created adversarial relationships between faculty and students. Gamage et al. also discussed the prevalence of essay mills, freelancers, and ghostwriters hired by students to write high-stakes assignments.

Student Challenges. Faculty also had to contend with their students' challenges during ERT. Many students transitioned from traditional classrooms to taking courses in environments outside of the classroom. Although some students could work in various remote locations with little to no issues, others faced technological barriers, such as network instability and slow internet speeds (Gares et al., 2020; Shim & Lee, 2020). Such barriers directly affected the students and individuals who lived in rural and historically marginalized communities (Aguliera & Nightengale-Lee, 2020, Ezra et al., 2021). Burgos et al. (2020) contended that all students, whether in normal conditions or crises, should have access to education, including those with disabilities, lack of internet access, and in rural and remote areas.

Some students also struggled to interact and communicate actively with faculty and classmates in ERT courses. Students cited issues with group work and team assignments; a lack of immediate faculty feedback; fewer opportunities to practice newly learned concepts with classmates; passive teaching strategies, such as recorded video lectures; and a lack of connectedness to classmates and faculty (Ezra, 2021; Shim & Lee, 2020). The students who faced these barriers tended to disengage. Whittle et al. (2020) referred to the sudden absence of classroom social engagement due to ERT as the "loss of student social presence."

Improving ERT. The implementation of ERT occurs during crises; therefore, communication and direction from leadership is an imperative component of ERT. Burgos et al.

(2020) suggested that educational entities have sustainable and viable emergency remote plans for most risks to prevent gaps in education during a crisis. They suggested that emergency remote plans include these key elements: making a decision, first aid for shock, digital tools, technical support, follow-up and formative assessment, and future reform.

Accessibility is another imperative component during ERT. Mobile applications, hyperconnected user networks, and videos on low-cost and free websites, such as YouTube, have facilitated online learning. Educators and students can take advantage of these resources during ERT incidents (Burgos et al., 2020). Gares et al. (2020) found that a university's ability to have technology (e.g., LMS, Zoom, and Google Meet) available at short notice had ERT success. Gonzales and Griffin (2020) suggested that college leaders allow faculty members to use flexible class meeting times and modes to make classes more accessible for students who have to manage home and professional responsibilities during times of crisis.

Student engagement is a vital component in the educational process. Therefore, educators should consider student engagement when designing and developing courses, especially ERT courses (Aladsani, 2021). Faculty members sought to increase student engagement in ERT courses during the COVID-19 pandemic by calling on students during synchronous virtual meetings; allocating participation points toward grades; and using interactive features, such as chatboxes, raised hand and emoticon widgets, whiteboards, and breakout rooms (Burgos et al., 2020). Some faculty reported that combining online synchronous and asynchronous approaches in their courses enabled them to build a sense of community to maintain student motivation and engagement (Gares et al., 2020; Gonzales & Griffin, 2020). Aguliera and Nightengale-Lee (2020) suggested that faculty members should excavate, investigate, and uncover the loss of

student engagement during ERT by increasing communication with students to discern the specific reasons for disengagement.

The ERT environment framework is a conceptual framework that teachers and researchers can use to consider their approach to emergency remote courses. The framework indicates how understanding constants and variables (factors shared by all teachers and students versus factors shared by some teachers and students) contributes to emergency course design. The ERT environment framework focuses on examining these constants and variables in the context of four elements: classify, inquire, design, and evaluate.

1. Classify available resources into constants and variables.
2. Inquire into the circumstances and resources available to teachers and students.
3. Design a remote teaching plan to support constants and address variables.
4. Evaluate remote teaching experiences (Whittle et al., 2020).

Faculty can use the ERT environment framework to consider overlooked variables when designing and developing accessible ERT courses for students with disabilities, students from marginalized communities, and students and faculty members in rural communities with issues with internet access.

Maintaining academic integrity is an integral part of ERT. Faculty can use measures, such as question randomization on multiple-choice questions and short essay responses, to curb academic dishonesty (Gares et al., 2020). The University of California-San Diego (2021) Academic Integrity Office provided 10 tips for faculty members to consider regarding academic integrity when transitioning to ERT learning environments:

- Connect with students immediately.
- Create a class statement of values or code of ethics.

- Design a mastery-oriented class.
- Make standards and expectations absolutely clear.
- Choose the right assessments for the class.
- Give timely integrity reminders.
- Monitor student progress and conduct welfare/learning checks.
- Evaluate the integrity of assessments before grading.
- Report all suspected integrity violations.
- Reach out to the Academic Integrity Office for assistance.

Educational researchers have recommended ERT professional development for faculty (Gonzales & Griffin, 2020; Longhurst et al., 2020). Walsh et al. (2021) found that over 40% of faculty respondents lacked training in online or ERT before or during the COVID-19 emergency transition. The untrained faculty members struggled more than their trained counterparts. Walsh et al. also noted that the faculty respondents with training were more determined to create meaningful instructional experiences for students. Additionally, the faculty wanted to foster a sense of community with students, be more adaptable to learning or refining a technology skill, and have an overall more positive ERT experience. Walsh et al. concluded that college leaders and faculty members should prioritize online and ERT training to reduce transactional distance, understand student engagement and hardships, and learn time management before emergencies.

Similarly, Schlesselman (2020) suggested that professional development for faculty for designing and developing ERT courses should occur before ERT is necessary. Schlesselman offered several suggestions for ERT faculty development, such as using teaching and learning centers, practicing ERT instructional and technological strategies with colleagues, acquiring or producing videos in advance and providing closed captions for accessibility, and requesting and

utilizing the technology tools needed for ERT in regular online courses for practice. Connolly and Hall (2021) suggested utilizing instructional designers to train faculty members on designing instructional concepts and developing ERT courses via training on optimizing technological innovations in different modalities. Gonzales and Griffin (2020) also recommended connecting faculty members with instructional designers to develop ERT courses. In addition, they suggested providing technology point persons to help faculty members quickly address technological challenges.

Faculty can also train each other through peer training. Some faculty members engaged in peer training during the transition to ERT during the COVID-19 pandemic for instructional and technological support. The faculty members taught each other how to record and upload videos, engage students virtually, and conduct collaborative online learning (Burgos et al., 2020; Holton, 2020).

Technology Acceptance Models

Understanding faculty members' instructional and technological decisions while transitioning to ERT requires studying how institutional leaders and faculty selected and interacted with technology during the process. Technology acceptance addresses how users receive and adopt technology for use (Louho et al., 2006; Teo, 2009, 2011; Venkatesh et al., 2003). Technology only has value if individuals accept and use it; therefore, a need exists to understand the determinants of acceptance and usage (Oye et al., 2014; Samaradiwakara & Gunawardena, 2014).

Researchers have addressed technology acceptance in their studies by using theories and models. However, before scholars used technology acceptance and adoption models in education, the models underwent testing and validation among users of information systems,

such as business intelligence systems (Bach et al., 2016; Legris et al., 2003; Teo, 2009). Business intelligence systems are ways to transform useful information into knowledge and data to produce a higher competitive advantage for companies. Company leaders can use business intelligence systems to formulate new strategies, make effective decisions, and increase revenue (Bach et al., 2016).

The adoption and implementation of business technologies, such as enterprise resource planning and data management systems, can be costly and time-consuming. Therefore, business leaders must research the key factors associated with the potential usage, usability, performance, and satisfaction of new technology before full-scale adoption (Bach et al., 2016; Tung et al., 2009). Research into business technology enables leaders to identify the influences in user acceptance to avoid or minimize obstacles, resistance, or rejection once users interact or intend to interact with the technology (Imtiaz & Mirhashemi, 2013; Teo, 2009; Venkatesh et al., 2003). Low motivation and employee resistance to new technologies are common barriers to technology adoption (Ngafeeson, 2015). Thus, organizational leaders must use technology acceptance and adoption models to inform technology design, adoption, and implementation.

The basis of technology acceptance is understanding behavior change in users. Many technology acceptance models have their origins in theories from several disciplines, including psychology, sociology, computer science, and education (Straub, 2017; Venkatesh et al., 2003). Scholars have designed and used several technology acceptance models since the 1980s to study technological structures and causal relationships (Gong et al., 2004; Venkatesh et al., 2003). In the mid-1990s, scholars expanded this research, which focused on technology acceptance in different industries, including education, with online education and educational technologies. With this inception, researchers, government policymakers, educational leaders, and other

stakeholders have examined user technology acceptance issues amongst educators and students (Teo, 2011).

Technology adoption is a broad and complex issue at different levels of education, specifically K–12, community colleges, and universities (Beeler, 2015). Educators and students at different educational levels have varying teaching and learning needs; therefore, technology adoption across an entire school system or entire state is challenging. The complexity of different educational needs may require change and adjustment from faculty members and students, resulting in a long adoption process and less opportunity to adopt technological innovation (Hall, 1975).

Research on technology acceptance in education has informed technology adoption decisions (Teo, 2011). The findings have shown decision-makers the major technology acceptance models used to classify, explain, and predict faculty members' and students' user behaviors and perceptions for educational technology (Kocaleva et al., 2015). According to Pynoo et al. (2011), two major lines of research exist on the acceptance of educational technology: faculty acceptance studies and faculty attitudes and beliefs toward computers and the integration of computers in the classroom. Scholars can apply acceptance models across different levels and types of education. However, this study focused on educational technology acceptance and adoption in online higher education.

Technology Acceptance Models in Higher Education

Technology has transformed how faculty teach and students learn (Bazelais et al., 2018). Educational system leaders strive to prepare students for a technological world by incorporating digital competencies into curricula, allowing students to become digitally literate citizens (Scherer et al., 2019). Educational system leaders have encouraged educators to use technology

to enrich the teaching and learning experience, enhance teacher-student interactions, create interactive content, and assess learning (Imtiaz & Mirhashemi, 2013; Scherer et al., 2019; Tey & Moses, 2018). Administrators at all educational levels who understand what motivates faculty members, students, and other stakeholders to use and accept technology can help administrators decide what technologies to adopt on their campuses.

Technology Acceptance Models in Higher Education During a Pandemic

Community college administrators had to decide which educational technologies to use to prevent disrupting the educational process during community colleges' transition to ERT during the COVID-19 pandemic. Successful teaching and learning requires students and faculty members to accept, support, and use the chosen technology (Bazelais et al., 2018; Davis, 1989; Venkatesh & Davis, 2000). In a 2020 study on the technology used by 434 South Korean higher education students to participate in ERT courses, Shim and Lee (2020) found that most students used laptop computers, followed by desktop computers, mobile phones, and iPads.

Administrators and instructional leaders can use the TAM to understand the questions and potential answers around technology adoption and acceptance, such as, What technologies should administrators adopt and why? What and who will deploy the technology? How will the technology provide faculty members and students with support for teaching and learning? Will faculty members and students want to use these technologies? Administrators and instructional leaders can use TAM to predict and explain how faculty members and students can utilize new technology in normal and ERT conditions.

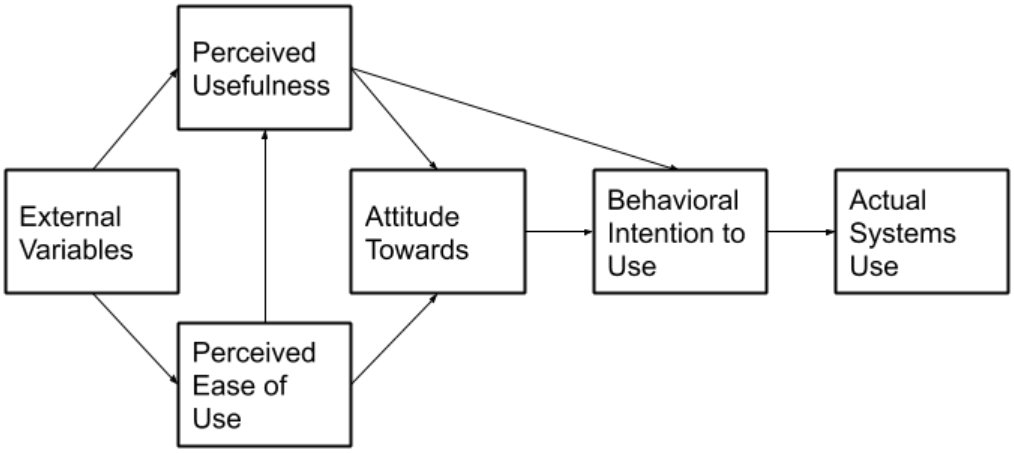
Technology Acceptance Model

Developed by Davis and Bagozzi in 1986, TAM is the most commonly used theory for explaining and understanding a technology user's behavioral intentions and actual use of

technology. TAM incorporates several core variables: a user's perceived usefulness, perceived ease of use, and attitude toward the technology (Davis, 1989; Gong et al., 2004; Lewis et al., 2013; Ndubisi, 2006; Robinson, 2019; Scherer et al., 2019; Teo, 2009; Tung et al., 2009). Figure 1 shows the TAM.

Figure 1

Technology Acceptance Model



From " The literature review of technology adoption models and theories for the novelty technology" by P.C. Lai, *JISTEM-Journal of Information Systems and Technology Management*, *14*, 21-38. Image available via license through Creative Commons Attribution 4.0 International.

TAM is an adaptation of two theories used to predict and explain human behavior: the theory of reasoned action and the theory of planned behavior. Both the theory of reasoned action and the theory of planned behavior indicate that humans consider the available information and possible implications of an action before engaging in that action or behavior (Al-Mushasha, 2013; Fishbein & Ajzen, 1975). TAM suggests that a user's perception of the technology's value

indicates its acceptance and use (Davis, 1989; Gong et al., 2004; Lewis et al., 2013; Ndubisi, 2006; Robinson, 2019; Teo, 2009, 2011).

Perceived usefulness is the degree to which a user considers the technology helpful, effective, and efficient for completing tasks. Perceived ease of use indicates the effort required to use the technology (Davis, 1989; Teo, 2009). TAM suggests that a technology user's intent to use (or accept) technology and the actual use of the technology are dependent on behavioral intent and the user's perceptions of the technology as useful and easy to use. External variables, such as computer self-efficacy, subjective norms, facilitating conditions, social influences, individual differences, and system characteristics, also affect a user's acceptance of technology (Portz et al., 2019; Scherer et al., 2019). Venkatesh et al. (2003) asserted that user acceptance and organizational acceptance are paths to technology acceptance. Thus, college administrators should assess both individuals and their organizations when adopting technology for online teaching and learning.

Faculty and TAM. Faculty acceptance of educational technology is paramount in a shift from traditional to online teaching. Higher education institutions have significantly invested in computers, internet connectivity, and network infrastructure to improve student engagement and technological access (Moran et al., 2010). Although scholars have estimated that every U.S. higher education institution have computers and internet, some faculty do not know how or want to incorporate technology into their curricula (Bauer & Kenton, 2005).

Faculty members have different reasons for not accepting technology. One reason is that integrating technology into classrooms does not automatically result in acceptance. Faculty members may also need training on how to use and integrate the technology into their curricula. According to Fabry and Higgs (1997), "To integrate technology into classroom practice in the

manner envisioned by ardent proponents, teachers must make two radical changes—not only must they learn how to use the technology, they must also fundamentally change how they teach" (p. 388). Integrating technology could affect lesson planning, implementation, and evaluation. Therefore, faculty members should consider altering their content, instructional practices, and personal pedagogical ideologies with technology (Ertmer & Ottenbreit-Leftwich, 2010).

Formal training, collegial collaboration, and mentorship opportunities help faculty members gain the confidence and skill to use technology. Training could also be a way to improve the likelihood of acceptance. In addition, researchers have identified inadequate time to practice using the technology and prepare technology-facilitated lessons and assessments as barriers to technology acceptance among faculty (Ertmer & Ottenbreit-Leftwich, 2010; Fabry & Higgs, 1997; Holden & Rada, 2011; Kinnaman, 1990).

Students and TAM. Rates of online education continue to increase, and higher education institutional leaders have begun adopting new technologies for online teaching and learning. Therefore, administrators must understand student user acceptance toward online learning systems. Students enrolled in online classes use educational technologies to access their courses, complete assignments, communicate with classmates and instructors, and take assessments. Using models such as TAM, researchers can determine the online educational technologies students prefer for learning, saving institutions time and money during the adoption process. Catchpole (1993) indicated that technology adoption in schools could not succeed without active student involvement, participation, or feedback.

Research on online students and TAM has indicated several factors helpful for college administrators to understand what motivates students to use educational technology. Saadé et al.

(2007) conducted a comparative study on the viability of TAM in multimedia learning environments. They concluded that attitude toward or satisfaction with multimedia learning environments is a significant factor in a student's behavioral intention. Saadé et al. also considered TAM a sound theoretical model for understanding and explaining student user behavior in online environments.

Studies on students' acceptance of mobile learning applications with the TAM framework have shown that convenience learning, also referred to as "just-in-time learning" or "learning on the go," has positive effects on perceived usefulness and attitude toward mobile learning technology (Bere & Rambe, 2013; Chang et al., 2012; Lee et al., 2005; Saadé et al., 2007; Yoon & Kim, 2007). TAM-based research on student users and LMS, such as Blackboard, has shown increased student usage of the elements related to course materials, assignments, and grades and less usage of the elements related to emails, discussion boards, faculty information, and external websites (Landry et al., 2006).

The Organization and TAM

Implementing organizational changes can be challenging due to resistance and rebellion because of fear of the unknown, colleague criticism, and concern about organizational changes (Gibson et al., 2008). System-wide or college-wide adoption and implementation of new educational technologies is an organizational change that may cause resistance. Active resistance, such as refusing, quitting, sabotaging, and passively resisting by talking with or emailing colleagues about perceived negatives of the change, can affect technology acceptance in an organization (Siegel et al., 2017).

Resistance can obstruct the successful adoption of a change; therefore, organizational leaders must find the root of the resistance. System and school administrators can use several

strategies to prevent resistance during technology adoption. Ertmer and Ottenbreit-Leftwich (2010) suggested that institutions' leaders integrate their schools' cultural norms, values, and goals throughout the decision-making process in technology adoption. Ertmer and Ottenbreit-Leftwich also indicated empowering teacher leadership throughout the process to build positive partnerships and mentoring opportunities with teachers who feel uneasy about using or adopting the technology. Teacher-leaders can also work in concert with school leaders and represent faculty input in adoption conversations.

Criticisms of TAM

TAM is a popular technology acceptance model. However, some researchers have argued that there is a lack of solid research on the use of TAM in the educational context (Scherer et al., 2019). Imtiaz and Mirhashemi (2013) studied technology acceptance in education and found that scholars have used TAM with other technology acceptance models rather than independently. Such a finding indicates that TAM alone "is not sufficient in predicting acceptance of technology and hence the need to extend it by researchers" (p. 25). In addition, Imtiaz and Mirhashemi noted that most of the research on TAM has focused on university faculty members and students, with little research on TAM in K–12 schools and community colleges.

Researchers have also pointed out that TAM does not indicate the pedagogical knowledge needed by faculty members to integrate technology into the classroom. Critics of TAM suggest that pedagogical knowledge is a requirement of successful integration (Scherer et al., 2019). However, Mishra and Koehler (2006) argued that educators need more than the ability to use the technology; they must have pedagogical content knowledge and technological knowledge.

Empirical studies on TAM have shown several issues with data variation. Variation in data presents a challenge to predict the outcomes of future observations, which could be a problem when trying to forecast technology use. The variations in TAM studies include path variation, external variable variation (subjective norms, computer self-efficacy, facilitating conditions), and model variation (Imtiaz & Maarop, 2014; Nam et al., 2013; Scherer et al., 2019; Teo & van Schaik, 2012). Some TAM critics have also found the measured variables of the model too simplistic to show the intrinsic reasons why users may not accept technology, such as motivation (Siegel et al., 2017). Critics have contended that the model requires expansion to include a motivation construct to predict or explain a technology user's intent or actual use of technology.

Despite these criticisms, TAM remains one of the most widely used theories in technology adoption because of its easy application across a broad range of technologies and users. Scholars have found the theory easy to use and adaptable (Bere & Rambe, 2013; Davis et al., 1989; Samaradiwakara & Gunawardena, 2014). Higher education institution leaders continue to develop and deliver online programs. Therefore, examining faculty and student use of educational technologies using TAM could be a way to help administrators determine the selection and adoption of technology to support online teaching and learning.

Other Technology Acceptance Models Used in Higher Education

In addition to TAM, scholars have used other models to examine the acceptance and adoption of educational technology. Three frequently used models are the CBAM, UTAUT, and TPACK.

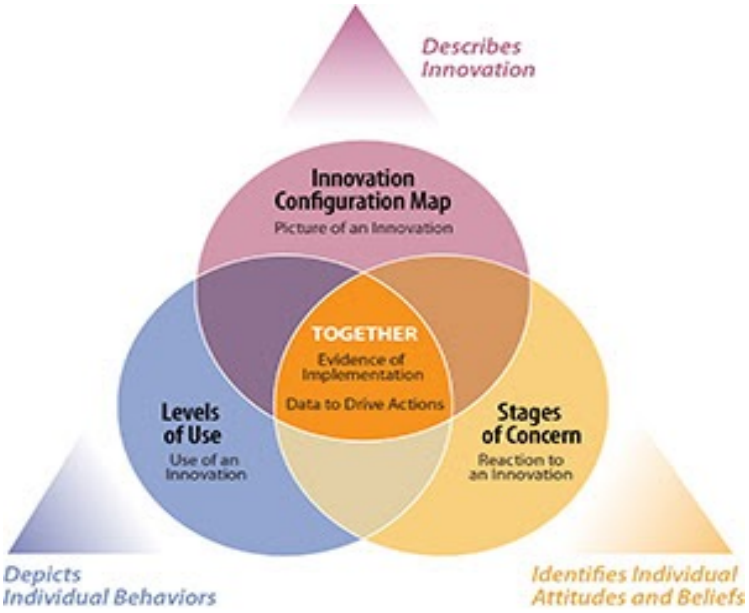
Concerns-Based Adoption Model

Adopting new educational technologies may require faculty members to adjust their beliefs and attitudes about their technological and pedagogical processes. Educational psychologist Fuller referred to such beliefs and attitudes as "concerns" (Hall & Hord, 2001). Fuller (1969) proposed that concerns evolve over time as individuals move through the change process (Hosman & Cvetanoska, 2013). Fuller, who researched preservice teachers, found that this proposition could be a reason for teachers' concerns about change and the mandating and implementation of innovations.

Building from Fuller's concept and their research and analysis of teachers and change implementation, Hall et al. at the University of Texas at Austin developed the CBAM (Hall et al., 1979, 1991; Hall & Hord, 1987, 2001). Scholars have used CBAM to study teacher beliefs and attitudes in program and technology adoptions. CBAM is one of the most conceptually sound models for measuring and explaining educational change (Anderson, 1997; Saunders, 2012). CBAM indicates that adopting new educational reforms and initiatives can be a challenge if leaders overlook the beliefs and attitudes, or concerns, of the people doing the work. The model also suggests that the successful adoption of educational innovation is a process based on three diagnostic dimensions: (a) stages of concern (how the teacher feels about the change and innovation), (b) levels of use (the teacher's behavior change during the implementation process), and (c) innovation configurations (how the teacher uses the adopted innovation in the classroom; Gundy & Berger, 2016; Hall & Hord, 2001; Saunders, 2012). Administrators can use the diagnostic dimensions to understand the change process experienced by a teacher and groups of teachers. Figure 2 shows the three diagnostic dimensions of CBAM.

Figure 2

Three Diagnostic Dimensions of the Concerns-Based Adoption Model



From "CBAM: The Concerns Based Adoption Model," American Institutes of Research, 2015, https://www.air.org/resource/cbam-concerns-based-adoption-model. Reprinted with permission.

Data from CBAM's three diagnostic dimensions include 12 widely recognized change principles (Gundy & Berger, 2016; Hall & Hord, 2001):

1. Change is a process; it is not an event that occurs when teachers receive an innovation to implement.
2. There are significant differences between what development entails and the implementation of innovation because the process is a personal experience.
3. A school does not undergo change until the individuals within it change. Change requires teachers to examine and possibly adjust their classroom practices.
4. Innovations have different sizes.
5. Interventions are the actions and events key to the success of the change process.

6. Although both top-down and bottom-up change can have success, a horizontal perspective has the best chances for success.
7. Administrator leadership is an essential component of long-term change.
8. Mandates can have success.
9. The school is the primary unit for change.
10. Facilitating change is a team effort.
11. Appropriate interventions are ways to reduce the challenges of change.
12. The context of the school has an influence on the process of change.

CBAM is an effective theory for studying the concerns of faculty, students, and staff about a school-wide or college-wide adoption of technology. Individual teachers make decisions about their acceptance or rejection of educational technology and adoption based on their concerns as they get involved in the process (Hall, 1973). Administrators, adopters, and other stakeholders can use CBAM to understand the individual and collective support that users may need throughout the process to accept the innovation, such as professional development, mentorship, and planning sessions (Hall et al., 1979).

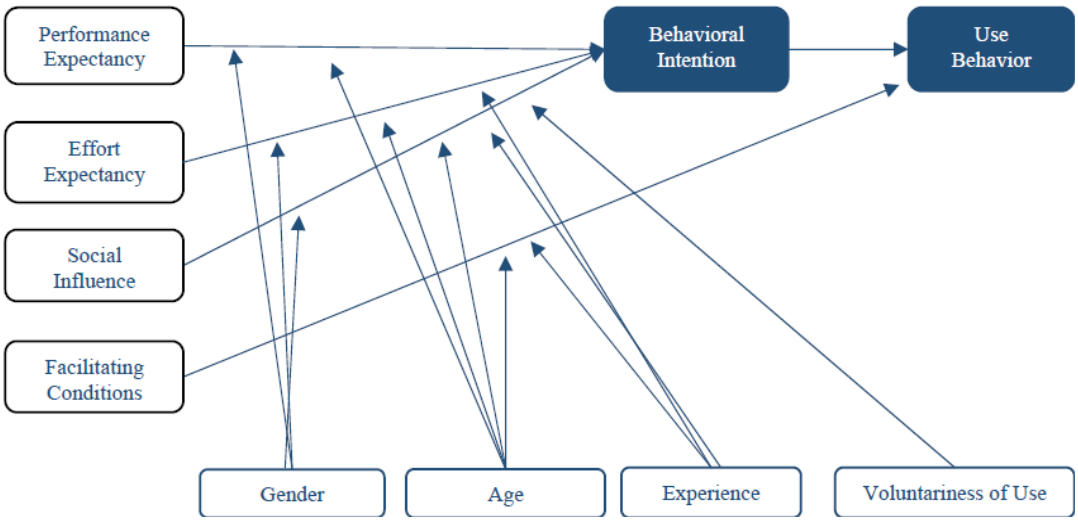
Unified Theory of Acceptance and Use of Technology

UTAUT, developed by Venkatesh et al. (2003), is a popular unified theoretical model of technology acceptance and adoption. Scholars have widely used UTAUT to research educational technology acceptance, specifically e-learning and mobile learning, or m-learning (Almaiah et al., 2019; Dečman, 2015; Tey & Moses, 2018). UTAUT is a comprehensive model, as it includes elements from eight other theoretical models (Venkatesh et al., 2003): TAM, theory of planned behavior, combined TAM-theory of planned behavior, motivational model, theory of reasoned

action, model of personal computer utilization, innovation diffusion theory, and social cognitive theory. Figure 3 shows the basic UTAUT model and its constructs and determinants.

Figure 3

The Basic Unified Theory of Acceptance and Use of Technology Model



From "User Acceptance of Information Technology: Toward a Unified View," by V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, 2003, *MIS Quarterly, 24*(1), pp. 425–478. Copyright MISQ, 2003. Reprinted with permission.

Scholars synthesized the eight models and reduced the 32 combined variables to four constructs. Radovan and Kristl (2017) identified the determinants in an educational technology context in four areas: performance expectancy (the degree to which teachers consider e-learning environments helpful for job performance), effort expectancy (the teachers' beliefs that they can navigate the e-learning environment with ease), social influence (the teachers' perceptions that others find the environment beneficial), and facilitating conditions (the teachers' belief that the support needed matches the support provided. In addition to these determinants, Venkatesh et al.

(2003) identified four key moderators that can indirectly contribute to or obstruct the effectiveness of the determinants: age, gender, voluntariness of use, and experience. For example, a UTAUT study may show that age influences a user's comfort level with social media.

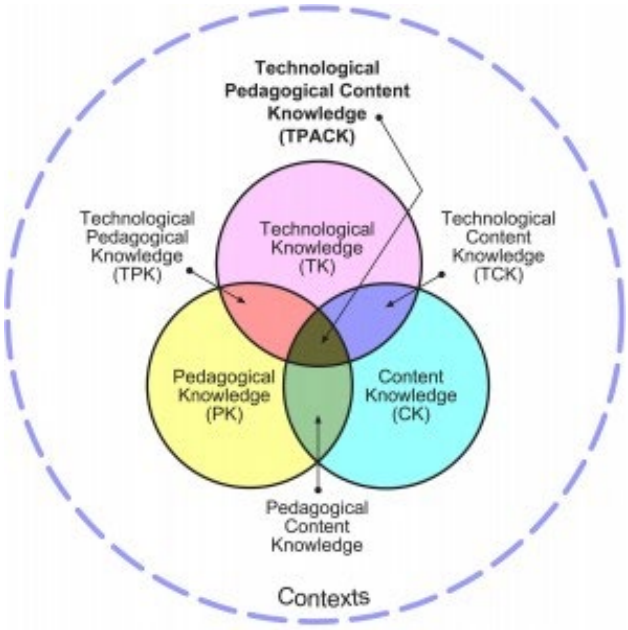
Some researchers have argued that UTAUT does not address the impact of technology users' beliefs and emotions on their decisions to use technology (Gunasinghe et al., 2019). Dwivedi et al. (2019) suggested that scholars use the UTAUT with other theoretical models, such as TAM, that suggest and provide tests for a user's attitude toward technology. However, because of UTAUT's comprehensive nature and high explanatory power in the technology acceptance context, researchers still consider it a robust model for predicting acceptance behavior across various systems and users (Almaiah et al., 2019; Samaradiwakara & Gunawardena, 2014).

Technological Pedagogical Content Knowledge Framework

TPACK (Mishra & Koehler, 2006) is a conceptual framework for understanding educational technology integration in teaching and learning. Figure 4 shows the seven components of TPACK.

Figure 4

The Seven Components of the Technological Pedagogical Content Knowledge Framework



www.tpack.org, 2012. Reprinted with permission of the publisher.

TPACK addresses the interconnection between three primary forms of knowledge: technological, pedagogical, and content. The TPACK framework is an extension of educational psychologist Shulman's framework of pedagogical content knowledge, which indicates that pedagogical knowledge and content knowledge are not mutually exclusive but should overlap (Mishra & Koehler, 2006; Shulman, 1986). Mishra and Koehler (2006) added a third overlapping knowledge base of technological knowledge to Shulman's framework, asserting that the rise of technology in education requires teachers to learn how to incorporate technology tools and resources in their lessons.

In addition to the three primary knowledge bases, the TPACK framework includes four knowledge bases that intersect between the primary forms: technological pedagogical

knowledge, technological content knowledge, pedagogical content knowledge, and TPACK (Koh et al., 2013; Mishra & Koehler, 2006). With these seven components, TPACK shows how a teacher can integrate subject matter knowledge, technological skills, and teaching strategies to create technologically and pedagogically sound classrooms.

TPACK requires a high level of technological and pedagogical knowledge to create robust, interactive learning environments for students. Therefore, some critics of TPACK have argued that it may be a difficult theory to use for preservice teachers or teachers who are subject matter experts but who lack formal education in instructional practices via a higher education facility (Harris et al., 2009; Schmidt et al., 2009). Mishra and Koehler (2006) admitted that understanding TPACK requires teachers to apply the framework to real-life teaching situations. Despite this criticism, research on the use of TPACK in higher education within online teaching environments has shown the need for integrated and dynamic learning environments for students (Blackburn, 2014).

Chapter Summary

The unprecedented nature of the COVID-19 pandemic has resulted in questions about the instructional and technological practices used in emergency situations in education, especially at community colleges. Little literature exists that administrators and faculty members can use in making research-based decisions for the best practices for transitioning from traditional teaching to ERT. The goal of this study was to address this gap in the literature by focusing on how North Carolina community college faculty members transitioned to ERT.

This chapter was a review of the literature on the history of online learning in higher education and community colleges, COVID-19, emergency and crisis preparedness, and teaching in a crisis. The chapter included a discussion of the technology acceptance and adoption models

used in higher education, including an in-depth review of TAM, which served as this study's theoretical framework. Chapter 3 provides a detailed overview of the research methodology used in this study.

CHAPTER 3

Methodology

Chapter Introduction

This qualitative exploratory single-case study occurred according to Yin's (2009) case study research method. According to Yin, case studies are the preferred research method when "'how' and 'why' questions are being posed, the investigator has little control over events, and the focus is on a contemporary phenomenon within a real-life context" (Yin, 2009, p. 2). The purpose of this study was to explore how North Carolina community college faculty members transitioned from traditional course delivery to ERT in weeks during the COVID-19 pandemic. The findings from this study could provide useful information for emergency and continuity planning and future research of subsequent pandemics and crises.

The study had the following guiding research question:

How did North Carolina community college faculty transition from traditional teaching to emergency remote teaching during a worldwide pandemic?

Research Design

The COVID-19 pandemic is a novel phenomenon. No precedent existed for how faculty members should transition to ERT during a worldwide health crisis. Thus, this study was not only an exploratory case study but a revelatory case study, as the phenomenon was not previously accessible for scientific investigation (Yin, 2003). The study focused on the instructional strategies that faculty members used for course assignments, resources, assessments, communication, and student support for ERT courses. The study also addressed the technological resources and methods faculty members adopted to deliver the courses and why.

Data collection occurred through focused interviews; hence, the qualitative case study research design was a more appropriate choice than a quantitative approach.

Focused interviews provided the opportunity to ask distinct questions from an interview protocol while maintaining short, open-ended, and conversational interviews (Yin, 2003). The interviews commenced virtually via the Zoom videoconferencing platform with specific interview questions from the interview protocol. Each interview lasted approximately 1 hour. Follow-up questions were the means used to clarify or solicit additional information. The data collected on the faculty members' instructional decisions, technological choices, and overall transition experiences underwent analysis.

Participants

Population

This exploratory case study included North Carolina community college faculty members. The participants had taught at least one traditional course impacted by the COVID-19 pandemic during the Spring 2020 semester. The faculty members worked at various community colleges across the state and represented a variety of programs depending on teaching discipline.

Sample

Participants were full-time, part-time, or adjunct faculty from one of the 58 North Carolina community colleges. These participants had taught at least one traditional course during the Spring 2020 semester, the term initially impacted by the COVID-19 pandemic. The traditional courses taught included curriculum, Career and College Promise, Adult High School (GED), and continuing education courses. Of the 15 faculty members selected, 10 participated.

Sampling Method

Purposeful maximum variation sampling was the means used to identify and select participants. Purposeful sampling in qualitative research enables a researcher to select the participants experienced with the phenomenon under study (Creswell, 2007). Thus, purposeful sampling commenced in this study to get the most information about the transition to ERT from faculty members affected by the online transitions. Maximum variation sampling provides for varied perspectives on a specific topic (AncaVitcu et al., 2007). All 58 community colleges in North Carolina received a recruitment email to find 10 to 15 faculty members who met the participation criteria. The selection of 15 participants occurred based on variations in the subject taught, college location, and program of study. However, five individuals dropped out, for a total of 10 participants.

Trustworthiness and Credibility

Qualitative research addresses a case study's validity and reliability regarding trustworthiness and credibility (Creswell, 2014). Trustworthiness and credibility were components ensured in this research via member checking to verify the accuracy of the respondents' feedback interpreted from the recorded interview questions. Throughout the interviews, the researcher restated what the respondents said, asked for clarification, and probed responses when necessary for accuracy and completeness. The data underwent review to ensure the perceptions expressed in the interviews matched the participants' experiences.

In addition, triangulation commenced to reduce researcher bias in this study. The data underwent review multiple times to ensure that the recorded audio from the interviews matched the transcripts. Analyst triangulation occurred by requesting a data audit from the chair of the dissertation committee. Patton (1999) claimed that qualitative data triangulation is a way to

capture different aspects of the phenomenon from other data sources that the interview responses have not shown. Thus, comparison and cross-checking occurred using the information gathered from the interviews with the program and departmental documents and other written evidence to validate the participants' accounts of the phenomenon.

Data Collection

Initial contact occurred with the selected participants via email (see Appendix A). The participants received an informed consent form (see Appendix B) and answers to any questions. After signing and returning the consent form, the participants scheduled virtual interviews. Interviews occurred via Zoom, with the platform's recording feature used to capture the conversation. The focused interviews contained guided questions in an interview protocol (see Appendix C). The purpose of the questions was to gather information about the faculty members' transition to ERT. There were field notes taken for each interview.

Data Analysis

Data analysis in qualitative case studies includes "examining, categorizing, tabulating, or otherwise recombining the evidence to address the initial propositions of the study" (Yin, 2009, p. 126). Examination of the data commenced by downloading the recorded interviews and transcribing the audio recordings with the Otter.ai program. Reading the transcripts while listening to the audio allowed for accuracy verification. Following this step, early analysis of the data commenced with Yin's (1994) four-step codes and coding technique. The codes and coding technique provided the opportunity to review, organize, code, and categorize the data for themes linked to propositions or the research question for a clear interpretation of the data clearer (Miles & Huberman, 1994). The steps of data analysis were:

1. Create a data repository with a database.

2. Code and rationalize the data.
3. Analyze the coded data.
4. Link the coded data to the final propositions or research question.

Manual coding occurred to execute the technique. Atlas.ti was the qualitative data analysis software used to ensure the reliability, accuracy, and consistency of the manual codes. The resulting codes and coding techniques contributed to the data report.

Ethical Considerations

Qualitative research requires a researcher to respect the participants' rights, needs, values, and desires (Creswell, 2014). This study included research with human subjects. Because of this, the North Carolina State University Institutional Review Board provided approval to conduct the study with the human subject protocol. Participation required the interviewees to sign an informed consent form that included the research's objectives, data collection methods, and use of the data. Pseudonyms were a means to maintain the privacy and confidentiality of the participants, with the community colleges of employment given pseudonyms, as well. Complete anonymity was not possible, as the interviews occurred via videoconferencing. However, the interviews occurred in a private setting. All recordings, transcripts, and other study data remained in a secure location. The participants voluntarily participated in this study and could withdraw at any time.

Chapter Summary

This chapter provided an overview of the methodology used in this qualitative exploratory case study. The chapter addressed the study's research design, participants, instrumentation, trustworthiness and credibility, data collection and analysis, and ethical considerations. Chapter 4 presents the study's findings.

CHAPTER 4

Findings

The purpose of this exploratory case study was to examine how North Carolina community college faculty members transitioned from traditional course delivery to ERT during the COVID-19 pandemic. This chapter presents the data collected and analyzed to answer the research question, How did North Carolina community college faculty transition from traditional teaching to emergency remote teaching during a worldwide pandemic?

Participants

Ten North Carolina community college faculty members from around the state participated in 1-hour, virtual, in-depth interviews to explore and share their experiences with the transition from traditional course delivery to ERT. Each participant taught at least one traditional course that underwent the transition to online learning in Spring 2020 due to the COVID-19 pandemic. Of the 10 participants, seven taught in curriculum programs, two taught in continuing education programs, and one taught in an adult basic skills program. The faculty were from rural and urban North Carolina community colleges.

Table 1 shows the participants' basic demographic information, including their pseudonyms, college locations, and program types.

Table 1

Participant Demographics

Name	College location	Program type
Charlie	Rural	Curriculum
Kelly	Rural	Curriculum
Jackie	Urban	Continuing education
Cameron	Rural	Curriculum
Robin	Urban	Curriculum
Taylor	Rural	Curriculum
Adrian	Rural	Continuing education
Alex	Rural	Curriculum
Jamie	Rural	Continuing education
Morgan	Rural	Curriculum

- Charlie was a communications instructor at a rural community college. She transitioned a traditional communications course online in Spring 2020.
- Kelly was a nursing instructor at a rural community college. She transitioned two nursing courses online in Spring 2020.
- Jackie was a phlebotomy instructor at an urban community college. She taught multiple courses in a traditional phlebotomy continuing education program that transitioned online in Spring 2020.
- Cameron was a math instructor at a rural community college. She transitioned two math courses online in Spring 2020.
- Robin was a computer information systems instructor at an urban community college. She transitioned a CIS course online in Spring 2020.

- Taylor was a sociology instructor at a rural community college. She transitioned her sociology course online in Spring 2020.
- Adrian was an adult basic skills instructor at a rural community college. He taught multiple courses in a traditional adult basic skills program that underwent transition online in Spring 2020.
- Alex was a welding instructor at a rural community college. He transitioned his welding course online in Spring 2020.
- Jamie was an emergency medical services (EMS) instructor at a rural community college. He transitioned his traditional emergency medical technician training course online in Spring 2020.
- Morgan was a radiography instructor at a rural community college. She transitioned her traditional radiography course online in Spring 2020.

Data Collection

An interview protocol (see Appendix C) was the instrument used to obtain information from the participants. The purpose of the protocol was to gain insight into each participant's course, emergency preparedness, technological choices, teaching strategies, student performance, resources and support, barriers to teaching and learning, and overall experience of the transition. The interviews occurred virtually from November 2020 through February 2021 via the Zoom video conferencing platform.

Data Analysis

After concluding the interviews, the recorded interviews and transcriptions underwent download from the Zoom platform. Verifying the accuracy of each transcription occurred by listening to each interview multiple times and cleaning them where appropriate. After reviewing

and verifying the data, the iterative data analysis process commenced with Yin's (1994) four-step codes and coding technique. Gathering and organizing the data was in a Microsoft Excel database, with subsequent coding and rationalizing via manual coding and Atlas.ti. Analysis occurred to find emerging themes linked to the research question. Table 2 provides an overview of the emergent codes and themes based on the inductive coding and data analysis.

Table 2

Coding and Theme Development

Theme 1: Awareness of college/program emergency plans	Theme 2: Instructional and technological barriers	Theme 3: Technology adoption in emergency remote classroom	Theme 4: Technological and teaching support	Theme 5: Adjustments to class requirements and grading norms	Theme 6: Student barriers	Theme 7: Technology adoption post-COVID
EMER1: Yes EMER2: No EMER3: Not sure	BARR1: Classes w/practicums, labs, clinicals BARR2: Workload BARR3: Interpersonal communication BARR4: Technology knowledge gaps and access	TECH-ERM1: Access TECH-ERM2: Usefulness TECH-ERM3: Ease of Use	TRAIN1: College support/training TRAIN2: Collegial support/training	REQ1: Communication with students REQ2: Deadlines and grading REQ3: Ensuring academic integrity	STUDBARR1: Technological challenges STUDBARR2: Motivation and engagement STUDBARR3: Socioemotional challenges	TECH-POST1: Yes TECH-POST2: No TECH-POST3: Depends TECH-POST4: Thoughts about online learning

The table shows the themes that emerged during thematic analysis and the final codes used to develop the themes. The major themes were awareness of college/program emergency plans, instructional and technological barriers, technology adoption in emergency remote classrooms, technological and teaching support, adjustments to class requirements and grading norms, student barriers, and technology adoption post-COVID-19. Seven major findings emerged from this study:

- Lack of contingency plan—Most of the participants indicated that their colleges or programs did not, as far as they knew, have an emergency contingency plan for teaching and learning before the COVID-19 pandemic.
- Instructional/technological barriers—All 10 participants expressed that instructional or technological barriers had an impact on the transition to ERT.
- Technology use—All the participants used technology in their emergency remote courses accessible through their college, especially if they found the technology easy to use and useful.
- Teaching support—Most of the participants indicated that they had access to technological and teaching support, primarily collegial support.
- Adjustments—Most of the participants stated that they adjusted their class requirements and norms during the transition.
- Student success barriers—All 10 participants identified major barriers to student success in emergency remote classes.
- Adoptions moving forward—Most of the participants indicated that they planned on supplementing their traditional classes with technology after they transitioned back to face-to-face learning.

Presentation of Findings

The findings of this exploratory case study focused on how North Carolina community college faculty members transitioned from traditional teaching to ERT during the COVID-19 pandemic. The following sections present the findings, followed by the supporting details from the interview data for the finding. The details enable readers to better understand the participants' experiences.

Finding 1: Lack of Contingency Plan

Seven of the 10 participants (70%) indicated that their colleges or programs did not, as far as they knew, have an emergency contingency plan for teaching and learning transitions in emergency situations before the pandemic. An audit trail commenced to confirm these claims. Reviews of the websites and strategic plans of each participant's community college occurred to locate emergency plans. Of the colleges audited, none had publicly available emergency plans for teaching and learning transition strategies due to a pandemic or catastrophe before June 2020. Two colleges had plans for transitioning classes from traditional to virtual formats due to inclement weather; however, they did not address pandemics, school shootings, or other crises. Audits also took place for each participant's program website for publicly available emergency plans; however, there were no plans found for any of the programs.

The participants who did not have access or did not know how to access plans for teaching and learning during emergencies described their experiences. Cameron said,

> I feel like [the] administration was so busy putting out fires that there wasn't a lot of direction given about how we were to teach classes, whether they were to be asynchronous, whether they were to be synchronous, or what pathway we should choose. I think there wasn't a lot of support, just because I think it was such a mess because

> nobody had planned for it. And so, there was no emergency plan; there were no financial resources that were made available.

Taylor reported,

> No [plan was available], but I felt [that] because there was already an online presence with many courses, that helped in the transition. I would say that we were in a much better place to transition to online courses because we offer a number of online courses.

Kelly said, "No, I just know we went into full action. So, there was not a lag of time or lag of a loss of teaching time. So, truthfully, there may have been something there. I just wasn't aware of it."

Two of the participants (20%) asserted that their colleges had emergency contingency plans and they found the plans helpful during their transition to ERT. Robin said, "The college has always used Blackboard as their learning platform, and all classes have to be on Blackboard so that if the college is closed, we [can] go online. That's been for years now. About 4 years [ago], they transitioned to that."

One participant (10%) responded that her college did not have a contingency plan for transitioning traditional classes to online classes during emergencies but that her program did. Morgan stated,

> So for us, [our program] had a contingency plan. When we enhanced our program for emergencies like snow, the program head didn't want us to have to make up the lost instructional time or lose our spring break, so she created an enhanced plan. The plan was written so that anything we can do face-to-face, we [can] do virtually. The classes were set up so that PowerPoints and videos were posted and lectures were conducted virtually using BigBlueButton in Moodle or Zoom.

Finding 2: Instructional/ Technological Barriers

All the participants (100%) expressed that either instructional or technological barriers had an impact on the transition to ERT.

Instructional Barriers.

Adjustments to Practicums, Labs, and Clinicals. Half of the participants (50%) stated that they adjusted their course practicums, labs, or clinicals due to delays and closures of local businesses and on-campus labs and safety requirements, such as the use of personal protective equipment (PPE). Kelly said,

> On my level, which is first-year students, their clinical experience was canceled. At the second-year level, their clinical experiences, which included preceptorships, weren't totally canceled. They had to be real creative in trying to get those 240 hours in by the end of the semester, and even then, it was at the discretion of the nursing director to decide if the students met the objectives for the course. I can only speak for the first-year level [that] we used case studies. We used some mid-fidelity simulations that were provided by Kaplan.

Jackie noted,

> The clinical sites that we use, some of them opted to no longer have us come because they were trying to minimize contact. Of course, PPE was a major disadvantage, [and] we weren't in the space to send students out with masks or get masks from the sites. We had to transition a lot of our classes [online], like our lab time, because mostly everything kind of just briefly went online. We had to figure out what we could do virtually. We had to present a lot of students with options to take online because we just couldn't put them out in the workforce [without them knowing] what they will be doing.

Alex said,

> My challenge was that a lot of my classes were lab time [with] hands-on [material]. And [the content is] practically—in my eyes—impossible to teach online. Now, I can teach the classroom part or the theory of welding. But the challenge that we had was the hand-in-hand [experience], where you actually have to weld instead of just talking about it. A student will have to apply [the knowledge], and that was an issue. It's hard to apply welding online. Welding labs were affected. Because [the students] were ahead and a little bit advanced, we had already gone through over more than half of the lab component part before we had to shut down.

Jamie reported,

> We ended up having to switch from clinical internships, and we did labs here at the college. So, what we did instead of them going to the hospital or to the EMS agency and doing patient encounters [was that] we had some people. They were the patients, and they gave them scenarios: medical scenarios or trauma scenarios, or whatever that they [could] go over [to] assess the patients. We have some high-fidelity mannequins where [students could] listen to lung sounds so you could actually simulate what was going wrong with the patient. [The students] were able to get their patient assessments that way. There were 15 students, [and] we had them broken up [so] they didn't all go in at one time. So, one or two [students] would go in [at a] time, and we had several scenarios running at one time. We had several stations going, so [the students] were able to kind of rotate around.

Morgan stated,

> Some clinical sites asked that the students not be assigned to [the] clinic, so we rearranged some things. The juniors, we put on pause, and the seniors were reassigned to

finish their clinical time. If we had nowhere to put [the students] and if they'd met their competency requirements, they were pulled from [the] clinic, and the students who had not met the requirements were placed in their spot. We also did that because we wanted to make sure that we were minimizing their exposure as well because we didn't know when patients would come in with COVID. All of the seniors ended up meeting the minimum clinical requirements for graduation.

Increased Workload. Two participants (20%) cited increased workload as a barrier during the transition. Charlie said,

> The workload—having to move six courses online as well as understand the nuances of online instruction versus face-to-face [teaching], such as transcripts for videos online. In face-to-face [teaching], you can show a video and not worry about a transcript, but online, you have to find a transcript for the video, or make one, or find a new video.

Jamie discussed the effort of moving the traditional course material into the LMS:

> The actual converting everything to Moodle. Anything that we do right now, you either have to buy a canned program from the publisher [or] whomever, or we have to create it. In our case, we had to create it. So, everything that had to be done had to be created inside a Moodle in order to make it happen.

Lack of Interpersonal Connection. One participant (10%) cited the lack of interpersonal connection. Taylor said,

> Reading body language [was] a much more challenging transition, actually, for me as an educator because I teach sociology. And sociology is not a course for me. I am not a lecturer—I am a group discussion instructor. You know, it's because of all the content

that we teach. It's very important for me to be able to read body language. Mac [computers] don't exactly allow you to do that.

Technological Barriers.

Technology Knowledge Gaps, Access, and Issues. Seven of the participants (70%) stated that gaps in knowledge, access to, and issues with technological hardware, software, and applications had an impact on their instructional approaches during the transition.

Knowledge Gaps. Kelly said,

> As an older faculty member who is very comfortable in my knowledge of technology, it became a challenge for me to have to learn to use different platforms like Loom and Zoom. I was also teaching at a university as a part-time job, so I also had to learn their simulation platform that they were using through ATI [Assessment Technologies Institute].

Jackie stated,

> I think that there is a gap with technology. You have instructors who have been doing this for 20 to 25 years but never on the computer. The most [those instructors] could do was maybe Blackboard [and] insert some grades, check out an assignment; things like that. But [Blackboard] Collaborative is how we do our virtual classroom because Collaborative offers you a lot of guides. I can break you up into groups [on Blackboard] and join back together. But that's not something that [those faculty are] able to do [on Blackboard], or they're not knowledgeable [of] how to share screens [or] show videos. So, I think the gap in technology was the major thing that I noticed. That was the hard part. For me, this was my first year. I'm a baby. I mean, it was nothing for me to adjust. But for the ones who have done this for so many years, they were already having a hard

> time. No disrespect, but some of them don't know how to type. So, nonetheless, to get online and present themselves and create their whole lecture to be universal, that's tough, not knowing how or not being able to save the chat.

Robin said, "I did not personally have any issues, but I've found that a lot of faculty aren't comfortable on the computer." Charlie recalled, "Microsoft Teams was not user friendly. The learning curve was too high." Taylor stated,

> The knowledge of technology—we use Moodle as our LMS. And so, there's a lot of features in there, like, for example, Collaborate, which is similar to the Zoom option. But, of course, when you've never taught online, you're trying to figure out how to organize your class and how to use the camera. We've had faculty who've never taught online.

Adrian said, "A challenge, I guess [was] learning the online platform that the systems office had approved because they only approved certain ones." Morgan noted,

> A major challenge [that] I saw was the majority of the faculty who had never taught online [who] lacked the skill set to be engaging. They lacked the skill set of online delivery, and so most of them resorted to recording their lecture, holding class while the students looked at the lecture.

Technological Access and Issues. Charlie said,

> I had to purchase a new laptop with my own money because I needed a laptop with a bigger screen. It cost me about $500. The college-provided ones were small. I had to purchase a home phone as well for my students to call me instead of calling my cell phone. That costs me about $49 a month.

Cameron said,

> Probably resources, for the most part, [were a challenge]. My classes were mostly blended or hybrid to begin with. So, I luckily had a course site already set up. But I didn't have a take-home computer, so I had to use my [personal] computer. I didn't have a tablet. Trying to write on the whiteboard and show it on camera was a challenge. Bandwidth for two adults trying to stream and work synchronously was a little bit more of an issue, so we upgraded to the highest Internet that Spectrum offers, especially since his [significant other's] company will pay for it. It was initially just licensing and those kinds of issues and resources and not having it to like, interact with. Most of the things that I decided to use, I would use because everybody decided to be nice and make all those licenses free.

Kelly said,

> Our whole system at the campus was hacked, so talk about being in a terrible situation. We couldn't access our materials; everything was frozen. Everything that was on our T-drive and our U-drive was not accessible. So, it made things really pandemonium for about 5 weeks with us struggling to get our materials together.

Jackie said,

> Account lockouts and internet crashes. I don't care where you are, what time of day you get on here, how much Wi-Fi you have, it's gonna crash. And a lot of times, for whatever reason, as an instructor who team-teaches, one of us gets kicked off. It's a struggle when you're in the middle of a question or the middle of a PowerPoint or showing a video and get kicked off. Then to get that process rolling to get back on, or like, for me, I have my students go ahead and just ask their questions as we're going. I don't like them to use the

chatbox because if I get kicked off, my chat is gone, so I can't come back and reread everybody's chat because it's gone.

Morgan stated,

> Internet access. In March, between March and April, I think everybody was working from home, so things were running kind of slowly. There would be a drop in the middle of the lecture, and sometimes I would get frozen, or they would get frozen, and then we would have to repeat it, so a major drawback for me was Internet connection.

Three participants (30%) reported that they did not have any barriers. Robin said, "No, I didn't have any technology barriers. I had high-speed internet, and the school provided me with a computer."

Alex stated,

> I wanted a laptop, things of that nature, just something where I could work, and they furnished it real quick. There is virtual welding that you can simulate welding to a point, sort of like a video game. We did not have access to that part. I could have gotten it, but talking with all the other welding instructors, we could try to go down that avenue, but the purchase of the equipment would be very expensive, so we did just fine without it.

Finding 3: Technology Use

All the participants (100%) used technology in their emergency remote courses that they could access through the college, especially if they found the technology easy to use and useful.

Accessible Through the Colleges. Eight participants (80%) stated that they had used some of the technology available through their colleges in their traditional courses before the pandemic. Such technology included Blackboard and Moodle Learning Management Systems and Blackboard Collaborate, a web conferencing and collaboration tool for instructors and

students (Blackboard, 2021). The instructors also used Microsoft 365 applications, such as Microsoft Office (Word, PowerPoint, and Excel), Microsoft Outlook for email, Microsoft Teams for file sharing and collaboration, and Dropbox to save files. The participants also used online resources from book publishers McGraw-Hill and Cengage and the social media sites Facebook, Twitter, and YouTube.

Charlie said, "We used Blackboard, online publishing content from McGraw-Hill, YouTube, Twitter, and social media for social media scavenger hunts." Kelly reported,

> [We used] PowerPoint and Blackboard, and that that was really about it. We didn't do any remote learning at that point. The Facebook page is set up by our nursing director every year when we start a new cohort. They have a personal Facebook page just for that class.

Robin said, "[We used] Blackboard Collaborate. So, it's just a meeting place where we handled the lectures, answered questions, and explained the homework. Taylor stated,

> We use Moodle as our LMS. There's everything from Collaborate to building your own assignments. I mean, just the features are phenomenal. Being able to build those courses and making sure that you still maintain the integrity of your course content, it's there, it's available. And so for that, I used whatever resources were already available to me.

Alex said,

> Our classes are enhanced from the start. So, therefore, we had an online component to it. In other words, the [students] could read a chapter in a book and then online could answer questions. That part would be done online. And probably one of the better parts [was that] we could have videos of welding where someone could watch and see how you

would set up. Let's just say a certification test; it will show you how to prep [a lab] and be ready for certification.

Morgan said,

> We used Moodle, Microsoft 365, and the online materials in Cengage for our labs. We had the students purchase the online lab code for their textbooks so that they could access the online labs. I also used BigBlueButton for video and audio before switching to Zoom.

After transitioning traditional courses to emergency remote courses, all participants (100%) reported that they chose to use the aforementioned technologies in their courses, as well as additional technologies provided by the colleges. Charlie said,

> In addition to Microsoft 360 and Teams, we started using VidGrid and Zoom once the pandemic started. For VidGrid, I was in the trial group. So, I was one of the first group of faculty [who] got to play around with VidGrid. I used VidGrid to record course lectures using screen record [on] Zoom. Zoom gave students the opportunity to give their speeches in a virtual meeting. Also, McGraw Hill's Connect Platform helped me set up my classes online. Students could record and upload their speeches there.

Cameron noted,

> [I already used] VidGrid. We had a contract with them already, though. None of us were using it. But the college did have a contract with them for recording space. And then Smart Notebook. We had contracts, but I didn't have a license, so I signed up for their 30-day free trial to get me through the end of the semester. I also used YouTube and Blackboard for my LMS. I used Dropbox to store my files. I used CamScanner, too. I uploaded tests as a PDF. The [students] had 24 hours to do [the test] and upload it to Blackboard. Since they were submitting guided notes to me electronically anyways and

had been using CamScanner on their phones to scan notes, I had them take pictures of their test and upload it as a PDF. If they didn't have a printer, I made the exception that it could be handwritten on a piece of paper. I didn't make anything required printed; it could all just be clearly scanned to limit any technological drawbacks that any of them had. I figured 24 hours to upload a 1-hour test [so] that anybody could get to a McDonald's or someplace to upload it, not to mention they all had smartphones. I made sure that they had smartphones before I used CamScanner.

Kelly said, "I was teaching from home, so I first started out using Loom and then went to Zoom as the college got an account that covered all of us for extended periods of time." Jackie recalled,

> We do PowerPoint. We use Blackboard. We do Blackboard Collaborative. It gives you the option to have a chat box, and it gives the students the option to raise their hand if they have questions. It gives the option for us to separate them into groups so [that] we can give them group work and say, "Hey, these three students, I want you to do Questions 1 through 4. These three [students], I want you to do 5 through 8." And then the [students] break off, and we can see them, but we can't hear everybody talking at one time. And then [we can] bring us all back together [and] go over everything. It allows us to screen-share, and that's how we show our PowerPoints. It allows us to show videos if you bring [them] up through a different web search, and we can share that way. So, it's kind of like Zoom. It gives us the option to record lectures through Blackboard. We also used book publisher e-resources. We had all the students register their books, and we would pull up the videos that are in the books to give them a little bit more hands-on understanding instead of just YouTube videos.

Taylor said,

> [We] utilized Moodle. Everything needed was there. Yeah, there wasn't any need to use anything else. We pretty much had everything from quizzes to surveys to—I mean, you name it, it's available. Discussion forums, all that good stuff, are available on Moodle. So, there wasn't any need to go outside of that for me.

Adrian reported, "We used Moodle and Odysseyware for the AHS program. We also used Google Docs and Khan Academy for videos." Alex stated, "We used Moodle, and we had ways of in Moodle [to] go through journals. I could post a video from YouTube [or] wherever I wanted, to find and look over and use [content]. That's what I use." Jamie said,

> I used Moodle, videos from the book publisher, and VidGrid, so there [were] videos that were added [to Moodle]. There was the PowerPoint material, the lecture material, [and] the testing we actually do through a third-party vendor because we're working on accreditation stuff, and they require us to use a proven testing bank or validated testing, so we use an outside testing company for that.

Morgan offered, "I used Moodle and VidGrid for announcements and introductions to the lectures. I used Zoom for the lectures themselves. I had my easel at the house, and I had all the visual aids that we used in the classroom. "

Two participants (20%) stated that they used the college-provided technologies and purchased licenses for some technology. Cameron said, "I used Notability to grade. I purchased my own license for that." Robin reported that her college did not have a Zoom license, so she purchased her own.

Easy to Use. The participants revealed that they continued to use the technology they found easy to use. The data also showed that the participants stopped using the technology they found cumbersome or switched to a different technology. Charlie said,

> I found [Microsoft] Teams difficult to use. I don't know what Microsoft is thinking with this 365 crap. I mean, Microsoft Teams, you got to be a freakin' genius to figure that out. I mean, that was a colossal failure. I could not figure out how to use it. Too many buttons, too many options. I stopped using it and went to Zoom and VidGrid. Zoom was so much easier.

Kelly identified, "Loom and Zoom, I found them fairly easy to use." Cameron said,

> VidGrid was very easy to use and very easy to edit. Smart Notebook [was] somewhat straightforward, but not having a tablet and trying to do it on my laptop screen, which is a touchscreen, was a challenge. I think if I'd had the right tools to do Smart Notebook, it would have been a lot easier. I stopped using [Smart Notebook] as much. I decided that it would be much easier to just buy a whiteboard. Blackboard also doesn't have a way to download all the assignments at once, so I have to download every single individual assignment one at a time and save it to Dropbox.

Robin noted, "I like Zoom better than Blackboard Collaborate. It was just more intuitive." Jackie said,

> I found [the technology] easy to use. They have, you know, a help section that I've used. I've had to do course copying [in Blackboard], and I didn't have to do that before, but I went to [the] help [section], and it showed me how to do it.

Taylor stated, “We use Moodle. Moodle is easy to navigate, actually easier than Blackboard.” Morgan said, “We had access to Microsoft Teams and Zoom through my college, so I used both, and I found them both easy to use.”

Useful. The data also showed that participants found the technology they used in their emergency remote courses useful for instruction. Adrian and Alex reported finding all of the technologies provided to them helpful. Other participants explicitly described how they found the technology helpful. Charlie said,

> I found VidGrid useful because I could put my lecture in the course and then go back and watch it. I found Blackboard useful because it told me who was accessing the course materials and when they were accessing [it] through its reporting feature. I found Zoom helpful because I was able to hear speeches in real-time with real audiences, and although it was not the same as the face-to-face environment, it got the [students] through. Students were able to have an audience and see their audience, so it’s giving them the public speaking platform.

Kelly said, “Loom was very comforting to me because I didn’t have to show my face, but then I realized that students needed to see me, and so that’s when we transitioned over to Zoom..” Cameron said, “I used VidGrid essentially to transform my videos off of Zoom.” Robin related,

> Zoom was very useful. A student would ask questions. I [could] give them the ability to share their screen, see what questions by looking at their homework, telling them exactly what they need to do because I’m able to see their screen.

Taylor said, “Everything needed to run classes online was in Moodle.” Jamie reported, “VidGrid helped me put together [and] record some of the lectures or reviews for the students.” Morgan stated,

> I felt that [Microsoft] Teams was providing a better service for me than Zoom because I can really and truly put assignments in at real-time in Teams, so I liked Teams a little bit better than Zoom. For the delivery method, Zoom worked better for me for lectures because a lot of our students are in the rural areas, and a lot of times, their Microsoft Teams wouldn’t come in as clear for them as Zoom did, so Zoom was my platform of choice for lectures.

Finding 4: Teaching Support

Nine of the 10 participants (90%) indicated that they received access to technological and teaching support internally through the college by distance learning professionals, external training opportunities, or their colleagues. Kelly said,

> Initially, Loom was introduced by a coworker, and she taught me how to use that. I had a faculty person come over the first time I did a Zoom session. She actually sat with me out here on the porch just to make sure I got logged in, and the students got logged in. We checked roll, this, that [and] the other, but she didn’t need to stay for the afternoon session. I just needed a little handhold. I knew there was always somebody [to help], whether it was her or another faculty person.

Charlie shared,

> [In learning how to use Microsoft Teams], there’s this running joke, where I go, “I’m not Albert Einstein. I just need it to be semi-understandable, and I can figure it out.” I was literally with colleagues at six o’clock, seven o’clock at night going, “Hey, can you jump

on as we try and figure out how to work this?" And we're literally like, "Oh, don't push that button! Yes. Push that button. Okay, no, don't do that. Maybe you should do that." We were up late at night just trying to help each other get through it. In my department, when one person would master something and they were so proud, they would say, "Hey, I learned how to do this. Let's jump on a Zoom session and figure out how to work Zoom," or, "Let's jump on Microsoft Teams and figure out how to work Microsoft Teams." That was within my department, specifically. I'm not saying that my distance learning department didn't do those things. I just remember my department coming together and struggling together to just try and make it through. Now, one thing that we did do that we don't do this [Fall 2021] semester that I kind of miss is that our curriculum chairs would have little bitty gripe sessions, where we would get on Zoom and go, "Okay, what has just ticked you all for this week?" At the time, it was a pain to carve out that window in my schedule because of all the other things that I had going on. But it was also really good just to see some of my colleagues and be like, "Oh my God, I hate y'all! Die!" So, we did that. There were some VidGrid meetings sent out by the distance learning department. I'm sure they sent out some, something like, "Hey, do this, do that." But in the "just trying to survive" life, you have to let a lot of things go because you got to just focus on what you got to do right now.

Jackie said,

> There was more professional development training that has been at our disposal. I've jumped on just to make sure that I knew how to do everything because it teaches you how often your students are checking in and if they really did attempt to change time and all those things [during tests]. I took all of the professional development courses that they

offer, which were virtual, which they hadn't done that way before. Typically, it was like a computer lab. We also had a lot of team meetings, and we just worked together in our department [and] compared student feedback and teaching techniques.

Taylor recalled,

> We did faculty training campus-wide, but we did it in segments. We made sure to have training sessions in which faculty [could choose] to come in and socially distance or tune in via Collaborate. We recorded those sessions, [and] we walked through what people needed to do. We had different training sessions [for] our e-learning and how to use Moodle. We did a number of different things in a number of different ways to try to help people kind of transition to the best of [their] ability. I think what was the biggest piece was pulling together and saying, "Guys, we're all in this together. This is not going to be easy, but we're going to do the best that we can, remembering that the students are always the priority." We told each other, "If you need anything, let's let each other know." And so that's what we did. I mean, we just came together.

Robin stated, "There was some simple training available on using Zoom and Collaborate. I didn't attend them because I already felt I knew it well enough." Jamie reported,

> Me and one of my part-time instructors did most of the work. I mean, [the other faculty] helped us get the template set, but other than that, we were responsible [for] getting the material put on there. When I started, we had one of the people [who] works with Moodle a lot to help us a little bit. We contacted her, and she [came] over and gave us a tutorial on VidGrid.

Adrian said, “The System Office gave overall guidance, but each college is able to run their own program within those guidelines. My college offered in-house Moodle training, but with Google Docs, we had an instructor that provided the training for us.” Morgan stated,

> Our college connected with the Belk Center [at North Carolina State University], and they provided some teaching and learning training for the college as a whole. Our DE [distance education] area provided some teaching and learning to the college as a whole, which was Quality Matters, but by the time people realized that that’s what [the training] was for, I think they were already in panic mode because we had some instructors who had never ever taught an online class. For me, I didn’t utilize any of those things because I was currently enrolled in an instructional design graduate program. I’d already learned about all the different tools that I [could] use and different things that I [could] embed in the course to make sure that teaching was engaging.

One participant (10%) stated that her college did not provide technological and teaching support. Cameron said,

> I think there wasn’t a lot of support, just because I think it was such a mess [and] because nobody had planned for it. There was an emergency plan, [but] there were no financial resources that were made available [to us]. One of my colleagues gave me a webcam because she had an extra one. But, besides that, I think at the last minute, I was trying to figure something out, and people were very hesitant to even help at that point who come near you.

Finding 5: Adjustments

All 10 participants reported that they adjusted their class requirements and norms during the transition to ERT. The adjustments had a direct impact on the participants' communication with students, assignment deadlines and grading, and approaches to academic integrity.

Communication With Students. Charlie said,

> I told them that I'm very much a communications instructor. [I said], "Let's communicate. We can do a virtual meeting, or a phone call, or email, which [was] not the preferred method." I've learned that my students don't do well expressing themselves through written communication. They struggle to do that correctly, so I would say, "Just pick up the phone and call me." Or, I would send out emails if [the students were] struggling to pick up the phone and call me. I would tell them, "My job as your speaking teacher is to reel you back in, to pull you off the ledge. So, if we need to have a conversation, let's have that conversation." I sat [at] my desk from 8 a.m. to 8 p.m. almost every single day, actively being available for them.

Kelly noted,

> Loom and Zoom [were] our means of communicating with the students and trying to help them meet their course objectives so that they could finish the course. I also did a lot of talking on the telephone. I spent hours on the telephone. I ran the battery down on my cell phone and on my home phones doing remediation with students.

Jackie stated,

> I used email, especially because I'm available during the day. Typically, even on weekends, if my students email me, I'm gonna respond back to them. [The faculty] do offer [the students] office hours, and we do have office phones to take messages on, but

> [the students] know they can get to me by email quicker because I keep email on my phone.

Cameron said,

> I already had email, and I had virtual office hours on Zoom so [the students] could click on that. Those were the main ways [I adjusted]. I've had more students show up to my online office hours this semester than my entire time of teaching. Then, I also set up Google Voice so they could call my office phone number and follow through. But most of them tended to email me because that was the mode of communication that most of them were using before COVID hit. I also offered videos that showed how to do things and highlighted the key aspects of the lessons.

Robin remarked, "I used email, definitely, even my personal phone, to text with my students. I also did Zoom sessions with them." Taylor reported,

> I had a smaller class; I had 12 students in that class. We had built up such a rapport by that point, so at least we had time to build those relationships before going to the online session. But yeah, I mean, you could feel [the disconnect]. I mean, I could feel it as an instructor. There was a kind of disconnect. We met, but I made it optional. I didn't make it required to meet via Collaborate once a week, but many attended so that they could get up there and talk to me and check in with me.

Adrian shared, "I communicated with students during our Zoom meetings, but they could also reach me through WhatsApp messages and by email." Alex stated,

> [The students and I] communicated well through Moodle and through emails. One advantage that I do have is [that] a lot of my classes are not very large, meaning no more

than 12 to 15 students. So, it was not quite as many students as maybe an English class or whatever that may have 30 or 40, maybe even 50 students, especially online and stuff. Jamie said, "[The students and I] talked mainly through email and sometimes via phone calls."

Morgan said,

> I sent an announcement almost daily, a motivation announcement, because I really did not know how students were being impacted. If the students let me know that they or a family member had been exposed to COVID or they were in quarantine, I treated them just as if they were exposed or had to come to campus because, I don't know, I've never had COVID, but I [didn't] know how it impacted them, so I offered them extenuating circumstances. If they just wanted to listen in with a computer laptop with their cameras off and mic off, that was fine. They didn't have to participate as long as they communicated with me.

Deadlines and Grading. Charlie said,

> The vice president of instruction gave very clear parameters regarding what we should not do to a student. I [was] told that there can be no hard deadlines and that if you had hard deadlines before, you [had] to go in and change them. There should be no penalty placed upon the student during this transitional time. There should be more than one submission. There should be multiple attempts at an assignment. We were also told that there should be no "failures to submit" on students. What am I supposed to do when the students don't do anything?

Kelly shared,

> Well, I'll just tell you, there was some leniency in their exams. Our college president said, "Nobody is going to flunk this course because of what we're going through." So, we did our best. We did not lose anybody for [NUR] 112 or 114. [As for] curricular changes, I pretty much stuck to what I already had prepared for class, but one thing I did find challenging was trying to do small group work [and] class projects that we usually did with this particular unit. It just wasn't as easy to pull that off, so I just left the projects off.

Jackie reported,

> We've had to be more lenient and understanding than normal because COVID has affected everyone, [whether] it was financially [or] mentally, it's affected everyone. With our grading, typically, when our students test, because we're a fast-track course, we're usually taking at least a quiz and a test every week, sometimes we're taking two tests every week, so we don't allow [the students] to retake. Like the last class I had, we had one test, and usually, the students do pretty well, but this time they didn't. I think it was because we just had a lot going on with getting IV stuff and things like that. I reached out to my supervisor and told her the grades [weren't] what we're used to. She instructed me to open it back up and give [the students] an opportunity to take it online because this test was given face-to-face before we transitioned.
>
> We also gave [the students] a longer timeframe on their assignments. So typically, if they have Chapters 12, 13, and 14, they may get two days to get all the questions done and do all the study guide questions, but now we've been a lot more lenient with our timeframes. We offered them extra lab time on the days that we just had collab online virtual learning. After they finished their assignments, we usually gave them a timeframe, and if they signed up to come in for that timeframe for extra help on those days, we made

sure we got a headcount to make sure that [we were] able to meet the requirements of social distancing before they came in. If they [were] trying to do a makeup lab time, we made sure that they had a partner.

Cameron noted,

> When I moved the face-to-face class online, to a certain extent, [I] cut their workload down a little bit. Because, first of all, I used to give assignments during class that I wouldn't collect all of them because there's just no way for me to grade that many assignments every day. But, what I would do, is [that the students] would have 15 to 20 minutes to work on it, and I would circulate around the room. At the end of class, I would either tell them to turn it in or that it was due at the beginning of the next class, and those were the assignments that I collected.
>
> For many of my classes, what I did was [make] one assignment for every two to three lectures so that they had one assignment per week or every week and a half for me to grade and give them feedback on instead of having as much work to do because I think, overall, a lot of instructors work on a hybrid, blended kind of format. When the college transitioned, the workload that the students were expected to do on their own increased significantly. I did videos, but I also made them fill out the guided notes, which I wasn't doing before. I was doing written tests for all of my classes, and, of course, they all had to go online. So, I essentially gave [the students] a 24-hour online test to replace [the face-to-face test]. It was open notes. They also had an online test.
>
> The tests were split into two categories: a face-to-face, written one that was supposed to be [a] 1-hour test [on] what I thought that they should know, then like an online one based on the homework problems that they had been doing. That [second] one

was 2 hours and multiple choice. For math classes, I think that seeing written things is always important for student understanding versus ABCD.

Robin stated,

> Some of [the students] asked for a little bit more time because [the online course] did require more of them to kind of self-teach, although they're not self-teaching. I always said, "We'll set up a Zoom meeting, and I'll carry you through the thing that you don't understand." I would Zoom with them and share screens so they could show me what they were doing. I could take over their screen and fix it as I explained to them what and why [something] was wrong.

Two participants (20%) stated that they did not have to change their deadlines and grading. Taylor credited her previously designed online and hybrid courses and said, "I was already prepared for that transition [to ERT], and much of my hybrid course reflected my online courses in general, so everything that I had already established could be easily done remotely." Morgan said,

> COVID came in mid-spring to the end of spring, so the seniors were completing their clinical hours, and we quickly figured out the lab accommodations. For the juniors, I didn't change the curriculum. The only thing I did differently for them [was that] I just reached out to them to make sure they didn't need anything in particular.

Academic Integrity. Charlie reported,

> I believe in academic integrity. I let [the students] know very clearly that I do not accept plagiarized material. They [had] to submit their work through SafeAssign to check for plagiarism. SafeAssign does catch [plagiarism]. I have been [checking for plagiarism] for more than a few years. Every place that you can find the speech online, I've been there

and read the speeches, so I noticed them. If you choose to plagiarize in my class, I will award you a zero.

So, we didn't have issues because [the students] understood who I am as an instructor. I tell them, "You get what you get with me. If you choose to make a bad decision regarding your academic work, understand that I choose to hold you accountable through a zero on that assignment."

Kelly said,

> [The participants] sign an academic integrity form at the beginning of every semester, and [academic integrity] is also included at the beginning of their exams. However, because of the way [the faculty] had to test, there was no way that we could absolutely ensure that [academic integrity] was being adhered to. We used Loom for testing. And actually, the instructors had the students there in front of us on camera, and we watched them with video and audio until they completed the exams. But we found out that some students had gotten real creative. They had posted things on the wall, things that we had no control over. So, again, it was not the best testing situation, but it was what we had to [deal with].

Jackie stated,

> [The faculty] only gave them timed tests to try to limit the open-book testing. We went through issues of trying to find software programs that allowed us to record testing sessions because the first one that was recommended by our school had to be purchased [by the students]. We didn't agree with that because we felt like it's unfair to ask our students to purchase anything else because most of them already had to go and purchase laptops or tablets, and some people have [those], and some people don't. We're not trying

to add any extra cost just to monitor their testing, so we've been working with our school to make sure that we can find something that we'll be able to record the test while we're giving them.

But timed tests are the only things we've been able to do. If there was something that was very questionable, then we would have the student come in, and we would have them retest with us while we were in a classroom. Another thing we would do is we would open up the online tests for students who maybe were sick or thought they were sick. We did this for certain windows of time to make sure that our students who were coming to us face-to-face didn't pre-reference the test.

We recycle our tests more often now as well, [which] we didn't [do] before because [the students] don't get to retest, but because we're allowing them to retest on certain tests, we're recycling. We're also using the Test Generator to make sure that if somebody is doing the test in class and someone else is doing it online that there's different tests. So, I think we've done pretty good with trying to make it not so easy to just get away with cheating.

Cameron said,

There were the online tests, and those were probably the best gauge of academic integrity. [The students] each got different questions, so cheating was pretty low with those. So those, along with the written tests, made up their test grades for both the test and for the finals. And so, even if [the students] cheated on the written test, it kind of evened out with the online test because it was timed. So, if they got a 30 on the online test and a 100 on the written, that tells me something.

> The other thing that is really sad but really true is [that] students who cheat don't tend to do it smartly. I had at least one set of students who cheated. I actually had a student upload a copy of the other students' test. Oh, yeah. And there's no denying that, [it's] just so blatant. So, I did have to deal with that. But for the most part, that's what I've noticed, is that the students who cheat don't tend to do it well.
>
> I reminded [the students] about academic honesty. Mid-semester, like in April, I sent out an announcement when I caught the first two [students] cheating. I sent out an [announcement] that was like, "By the way, academic dishonesty involves not only plagiarizing, but sharing. Both of those fit into it. Whether you're [on] the one end or the other, you're still responsible, and it's still unacceptable." I reminded all of my classes of that. That was pretty much what I did.

Taylor noted,

> The setup of my course is more written assignments and discussion forums. I have short quizzes, but they're reading quizzes because I acknowledged the fact that the test questions are out there on the Internet. And of course, we have a plagiarism system [SafeAssign] that checks the written work, so that helps a lot as well.

Alex said,

> I could tell if [the students] were being academically honest if they were able to answer questions that [the faculty] would give on a test. [I would give] like a 100-word essay answer. That way, [the students] would [have to] come up with their own words. For example, [a test question would be], "What are some of the parameters of a D11 structural steel test?" For you to be able to write what those parameters are, you would have to know it or not.

> Also, I want my students to be able to write a WPS up—that's a welding procedures form—and if they [can] write it up, then they've met what I want them to be able to do. I would find criteria and try to think of other ways, like if a student could answer this question, I knew they were on the right path.

Jamie stated,

> I'm not gonna say we could [ensure academic integrity] 100%. So, for the classroom, those assignments that were put on Moodle were at [the students'] own pace. Of course, that means they could give [another student] their login. I'm not gonna say that wouldn't happen.
>
> But, as far as any tests that were like major grades, [the students] had to come to campus in person and do the test. Sometimes, they were given short-essay assignments. And, I mean, we would compare each student's [assignments] to make sure they weren't exactly the same. I'll be honest; we found two students who turned in pretty much the exact same assignments or the exact same essay. So, it was questioned, and they didn't deny that it was identical. So, I mean, honestly, for that particular assignment, they were given [a] zero.

Morgan said,

> I required [the students'] cameras to be [on] during a test, and that's just because I needed to make sure that we were in a secured environment. They knew in advance when the tests were going to be administered, so they knew when they would need to all have their cameras on and positioned so that they [could] be seen.

Two participants (20%) stated they did not adjust their academic integrity approaches. Robin said,

> Basically, [I did] not [adjust] a lot. I just assumed that if [the students] turned in any work, it was [their] work. The college has an academic honesty policy, and there's SafeAssign, [which] goes in and determines the amount of material that the students turned in [that] is attributed to other sources.

Adrian said, "For us, [plagiarism is] not a major concern because any official testing has to be done on site in an official lab."

Finding 6: Student Success Barriers

All 10 participants (100%) identified technological challenges, motivation and engagement, and socioemotional challenges as major barriers to student success in emergency remote classes.

Technological Challenges. Charlie said,

> There are some technology issues we have in my area. My students have the type of Internet that I had in 2000. They have that [slow internet] now in 2020, so that's not helping anything. The fact [was] that where they would normally go to access services were closed. The public library systems closed down, [so] then [the students] would come to campus and do work, but [then] campus closed down, [and they couldn't] come to campus, so that [was] not helping at all. The college started rolling out computers for the students who didn't have computers and hotspots for students who were struggling and didn't have internet. We also had like, I don't want to say coupons, but like, codes that the students could use to get free Internet from some providers. Let's say you didn't need a hotspot, [and] you could get Internet at your home. We sent you a coupon to contact the [internet] provider, and you could get free Internet in your home for like 2 months or 3 months at a time.

Kelly reported,

> We had students who did not have a good connection, so they had to get in their cars and drive and find hotspots. The car may have had kids in the backseat. Those were all incumbrances to their learning process.

Cameron recalled,

> Some students had to purchase laptops and tablets at a time when they were financially struggling. Also, because my students did not have Internet that was reliable at home, I ended up prerecording lessons instead of relying on live sessions. Most of [the students] had computer issues to begin with because they all have Chromebooks, and Chromebooks can't do a lot to begin with. That was the other fun thing. Because Chromebooks are owned by the schools, the high schools were blocking things, so one of the first challenges that I had was my videos for VidGrid were getting blocked by the school, so I had to house [the videos] on YouTube.
>
> The school made available laptops for students who didn't have laptops, and they also eventually got hot spots for students who didn't have hot spots. Those [services] weren't available at the beginning of this [transition], so they had to wait for them to get purchased. Then [the college] had to figure out how to put a Wi-Fi thing in the parking lots for the kids to go do homework.

Robin said,

> Some of [the students] aren't as technology savvy. Some of them have Internet issues. Some of them had computer issues that prevented them, and they [could not] use a Chromebook for our stuff. They bought a Chromebook, thinking it was a real computer.

> And they [thought they] were ready for college, and [then they] realized that it's not [a real computer].

Taylor noted,

> Some of the students may not [have] had the resources that they needed to be able to connect online, so we had to put other plans in place to ensure that they had access as well. Some [students] are not located in areas where they have good connectivity. Some of those individuals may not even have laptops and have been utilizing our LRC [Learning Resource Center] in order to use the computer lab, so we made sure to keep our LRC open at half capacity during that time. In addition, [for] any student who didn't have a laptop, we got a laptop. We used COVID funds and institutional funds to make sure that they had it [so] they actually got to keep up.

Adrian said,

> There was a drawback to our students because we found out some of them, one, weren't technologically savvy, or two, didn't have technology capabilities, such as a laptop or webcam or Wi-Fi connection. So what the college did was, one, use [the] funds from our budget to actually purchase laptops to loan to students. And second, the college offered drive-up Wi-Fi on all the campuses, so if students didn't have [Wi-Fi] at their houses, they could come onto the campus and obtain Wi-Fi.

Alex stated,

> Sometimes [the students] would contact IT if they had issues, but they said IT was slow. Thankfully, all my students [had] computers at home that they were able to use. A lot of them, believe it or not, could do [assignments] over the phone.

Jamie said,

Some of the students had trouble connecting to Wi-Fi since many of them live in rural areas, but the college made accommodations for students with so-so Internet to get reliable Internet through hotspots and parking lot Wi-Fi.

Morgan recalled,

> I just went into overdrive and ordered laptops or hotspots for [the students]. Some of them solely relied on coming to campus because I have computer desks in the classroom, so they solely relied on coming to campus utilizing those. I went into overdrive to make sure [that] I reached out to every one of them to make sure [that] they had what they needed beforehand so they wouldn't fall behind. A lot of students are still using the laptops and the hotspots.

Motivation and Engagement. Charlie said,

> I did asynchronous classes. I'm not going to tell you that we have that community that we currently have this [Fall 2020] semester because this semester, we're doing synchronous meetings. I don't feel that there was any form of community. When it comes to student engagement, I don't feel that we had that either. I feel [that the student mentality] was, "Let me just make sure I'm submitting my assignments on time to the best of my ability. My teacher's grading them, she's providing feedback, and we're moving on." I don't feel that we had any type of meaningful relationships. I had cultivated [some] relationships before March, and that tended to help.
>
> But truly, overall, as far as engagement, no, I don't feel that I had that at all. Everybody was trying to survive life, and not in a good way. You have students who are not self-motivated learners. They depend on the teacher to get them through the course, and as a face-to-face instructor of public speaking, I take on a high burden of that, [and] I

understand that going into it. That's why they take the face-to-face class, [and] they're like, "Shoot, I have to do too much," and now they're being made to be self-motivated, self-directed learners when this is not who they are.

I've been using Blackboard for 20 some years now, [and] these kids are like, "Wait, we have a Blackboard page that I'm supposed to click and see stuff? I don't think I have that." And I'm like, "Yes, you do." And they say, "No, I don't. I've never used that in my life." I'm sitting there going, "How do you not know that you have this because it goes along with the course." But in a face-to-face course, they sit in their seats and watch me push all the buttons. So they're like, "Okay," but it never occurs to them that one day, they're going to have to learn how to push the buttons and work the Blackboard page. They hated it.

Kelly recalled,

> There were so many other outside factors that were vying for [the students'] attention at home that they did not feel they had the focus they really needed to get the wealth of material that we present in this nursing program. Students have to have something to get up for in the morning, and it was a whole lot easier just to roll over in that bed and flip on a computer and possibly not be fully awake when those sessions started. I also witnessed students wanting to take advantage of this time to work instead of being present for the class sessions. The other thing that I noticed was [that] I felt so sorry for some of my students with no child care. They had kids running around [and they were] doing the best that they could to concentrate for the hour and 40 minutes or 2 hours and 40 minutes that we had class time.

> Interaction—it was sorely missing, but I encouraged chatbox comments and then had time at the end of the lecture to try to clear up things that may have been muddy. The [students] have a Facebook account that is just for their class, so there was a lot of conversation on that Facebook site. Of course, I had access to it too. We were encouraged by [the] administration to post specific hours when you're going to be available, and so we tried to adhere to those hours in order to stay in touch with what the students were experiencing on their end.

Jackie stated,

> To motivate my students, I tried to bring my lovely personality. I pumped them up as much as I could. I always checked in first and said, "Hey, guys, how are you feeling? How was your weekend? What did you do?" I tried to build that relationship with them, and once I built that relationship, it was easier for them to tell me that they were not really feeling it [some days]. I told them, "I know, but we can do this, you [can] tell me what's wrong, and we can push through it." I try to make jokes here and there, I try to implement games, and I try to give them a lot of real-world analogies.

Cameron said,

> That was hard—engagement. I think it was probably pretty low. The [students] were completing the work, but it was the same kids who were engaged and asking questions before COVID hit [who] continued to be engaged at asking questions. Those who didn't, not so much.

Robin noted,

> I had engagement. I teach high school students in one class, and I've had more engagement through Zoom than I would in the classroom. I don't understand why they're more apt to ask questions when they don't see each other.

Taylor said,

> For engagement, I had discussion forums, and I also provided lectures in addition to [what] I tried to communicate with them weekly. I think the biggest thing is trying to have an actual presence in your classroom online, which can be really difficult in order to engage students. In my opinion, [engagement online is] never going to be what seated sections allow for. It does what it needs to do, and it provides what it needs, but I don't think it's ever going to be what can be the enriching experience of being on campus in a classroom with your instructor. It's just hard to replicate that kind of environment.

Adrian stated,

> We incorporated independent learning, as well as group learning, by the way of Zoom. I didn't want the students to lose the realistic approach to our, I guess, structured technique. So, each instructor would have time where as a group, [we] would do Zoom calls so that the learners [would] still be interactive.

Alex said,

> Yes, the [students] were engaged, and I could tell by somebody's response. Let's say they were watching someone on YouTube, like prepping a certification plate or even welding a certification plate. They were learning techniques by watching the video, and they were stating that they wished they could go to the lab [to] try to perform some of the tasks that they had seen. So, I knew [by their comments that] they were engaged. Also, I knew by

the work they were doing because some of the questions you couldn't answer unless you watched the video.

Jamie noted, "I kept them engaged by giving them weekly assignments [that] they had to do. Each week there was an assignment put in Moodle. That way, they had to continue to access it weekly." Morgan stated,

> Well, I am a technical instructor, so I try to make sure I meet the needs of all the students. Oftentimes, I did visual aids, I did audio aids, and I did tactile aids. We would also go into the lab in groups of six instead of 10, and we would use the tools in the lab to demonstrate what I was talking about during my lecture. In the face-to-face class, I engaged the students using tickets in and tickets out. I didn't change that for the virtual course once we transitioned. Tickets in and tickets out was [that] the students came to class with questions and before they left, everybody had to tell me something that they learned. That's their ticket out. They [couldn't] duplicate what someone else has said. I did it that way because it serves as a broad review, and it keeps them paying attention to what all the other students have said, so it's just kind of guaranteed engagement.
>
> Prior to the test, I added Jeopardy games, Cahoots, and review sessions, but with the review sessions, they did not have to participate. It was totally up to them. The students really did enjoy it, though. They said the games made it fun. I had very few, maybe at most two people, who didn't want to participate, and that probably was because they wouldn't have participated in class anyway. As far as forcing [the students] to engage, I respected that [they] were adults, and I let it be totally up to them.
>
> The same way I handled the class face-to-face was how I handled the class virtually. For the asynchronous part, [the students] had the assignments to do, so they

either did them or didn't and got a grade, same as before COVID. So, when we met face-to-face, I gave them the spiel in the beginning. I let them know that it was totally up to them whether or not they turn their cameras on. [I told them that] what their cameras off meant to me was [that] they're not participating and [not to] call on them because I [didn't] know where they [were]. I gave them the choice, and the majority of them kept their cameras on. If they needed to do other things, they would turn their cameras off, which meant they're not available. That's the way I did it. I didn't penalize them for having their cameras off. I left it totally up to them. I did remind them that they were in their educational space and that they were in class, so they needed to make sure [that] they were in a place conducive to learning. The only time I required their cameras to be [on was] during a test.

Socioemotional Challenges. Charlie said,

Oh, what was [the students'] response to all of that [the transition]? They hated it because they were students who signed up for face-to-face classes who were being transitioned into online classes. And to make matters worse, the students did not get the full dose of an online class. You know, they're getting [upset], and I would tell them, "I understand you were face-to-face students. You didn't sign up for an online class, so I'm trying to make this as easy for you as possible." But they hated it. They said, "No, I can't do this." "I don't know." "I don't like it." "I don't want to do it." "Remove me now." I mean, there were quite a few.

One of my favorite students called me up having a conniption fit going, "I did not ask for this online class. I want to get out of this online class." And I was like, "People,

they don't want me to withdraw you from the class." They said, "I don't care. I want out." I said, "Well, you know, I'm here to help you. What do you need me to do?"

The college also offered some counseling services through student development and financial assistance, but it was also very hard to get them to pay attention to the information we sent them because they were being overwhelmed with just the sheer amount of emails they were getting. It was hard to get them to pay attention to it. A lot of times, I used the phrase, "The buck stops with me," and I would have to help, so now I was acting as a mediator for this student with other services.

Kelly shared,

> One thing that was missing [during the transition] was cultural transmission. There is a culture in nursing, and a lot of it comes through that inculturation [of] being around the culture of nurses. That's where [students] learn the rules of our behavior and how our social organization is set up. That transmission takes place by us being together, so that was a huge thing among the nursing students.
>
> The remediation sessions we offered gave us a chance to hear what the student was going through at home [and] the challenges the student was experiencing, which for a lot [of students], was not a good situation because they were such social creatures. A lot of them said that they needed that discipline of being there every day and hearing those expectations. When it was exam time, oh, man, now that was terrible, terrible. They just did not deal well with it. My class' age group is 18 to 47, I believe, so I have a vast array of ages there. The younger ones are the ones who just did not transition very well.

Jackie said,

> The [students] weren't happy. They were nervous. Working in the health care field, in its entirety, you signed up for things that you didn't know you were signing up for. They weren't happy, and some were afraid. A lot of them had a lot of questions like, "What are we to wear?" "What protects us?" "How am I going to be able to do what you asked me?" "What do you wash your clothes in?" [Questions] that you didn't think about before. Now you're like, "Okay, I'm coming home to my family; am I putting myself at risk? Is this worth it? How many times have you been sick before? What have you been exposed to? What if we get a job? What if they want to offer us any vaccinations? What is down the pike?"

Cameron related,

> My students, overall, a lot [of them] withdrew. I think a lot of them were stressed and just shut off. Some of them were at that point where if they hadn't freaked out, they probably would have passed the class, but they opted to withdraw because they were given that option. I think that that also changed their efforts in a little bit of a way because it was kind of a cop-out. It was like, "Well, if I don't do anything, they're gonna just let me be pulled out because there's no consequences." I do realize that it was very stressful for everybody; nobody anticipated that.
>
> But, I also feel like I had a lot of students [who] just stepped up. And when I talked to them, a lot of them were actually really happy that I was doing [the class] asynchronously because they were so stressed out by trying to do their high school classes on Zoom and all their college classes on Zoom, and they didn't have good Internet access. I think a lot of my students [who] were A and B students were really grateful that they didn't have to be somewhere at a specific time to do a specific thing.

Robin said,

> Some of [the students] liked [online classes], some of them didn't. Some of them signed up for the in-person class session just because they felt [that] they needed [the] in-class [experience], so I had to be extra mindful of their needs in class. But for the most part, since Blackboard is such an integral part of all courses, they were fine.

Taylor offered,

> What was interesting is, although [the students and I] talked about course content, it was very much more of a kind of wellness check-in situation because it gave [the students] the platform to just be like, "This sucks." I felt the same way. It was such an awful kind of transition period. I would say that what was the most challenging was [that some] students needed that seated component to keep them going. And then recognizing, I mean, we're a community college, so we serve, in most cases, very vulnerable populations.

Adrian said,

> Ah, boy, it was a learning curve outside of just losing students because of the pandemic and [the students] just having to adjust to that. Some did not adapt to the online learning concept. The [students] wanted to be face-to-face, and some actually said, "Once you go back to face-to-face, we'll return."

Alex reported, "Since our classes are enhanced from the start, the transition really wasn't a problem for us." Jamie stated,

> The younger students, they liked [the transition] because they [didn't] have to come sit in a class. But the older students, from like 35 [years] on, they wanted to sit in a traditional class. And then the younger ones who are [in the] 18 to 30 [years] range, they don't mind

the online classes as much because then they don't have to sit face-to-face and look at you.

Morgan said,

> The seniors were losing their minds because they wanted to graduate, and some of them didn't have all their clinical competencies. Those were the students who were in the clinical sites [who] said students couldn't come because they had to minimize the number of people at the sites, so they were in panic mode. Every day, we told them, "That's not your worry, let us worry about it, we'll figure it out. If you're at the house, you sit at the house and study for your boards [exams]. Do something but don't worry about your clinical time."
>
> In the meantime, we're communicating with our accrediting agency, saying, "Okay, everybody's in the COVID [lockdown], so what are we gonna do?" So [the accrediting agency] in Chicago [was] making plans while we're over here making plans. Some sites didn't put the students out, so we just pulled those students out once they were done and rotated in the students who needed more hours. From March to May, we worked it out so that everybody got their clinical competencies.

Finding 7: Adoptions Moving Forward

Six participants (60%) indicated that they planned on supplementing their traditional classes with technology once they transitioned their emergency remote class transitions back to face-to-face. However, four said that they did not plan on incorporating technology from the ERT into their face-to-face courses.

Yes/Likely. Jackie said,

> I think that we will go [to] more face-to-face as things get more normal, but I have learned that the weather advisory days [are] a perfect way to supplement. When we have students who don't feel well, moms of new children, [or those] who are sick [or] taking care of transportation issues, any of those things, [technology] is a great asset for us. [Online courses are] a way for people to be there and not be there at the same time. I think that when students understand that part, they will understand that this makes it more accessible, especially for our working students.
>
> Now there's gonna be a program where a lot of lectures will be recorded for different programs and students [will be] able to watch those lectures during the day or in the evening. [Even] if they had to miss class, they will still be able to log in and see their classes and still be counted present, still be able to get the knowledge that they need [to] still be able to do the work and not have missed anything. This allows us the space to be able to accommodate so many people with so many different schedules.

Cameron stated,

> Yes, I will keep some [of the technology]. I think [that] one of the biggest things that I will change is [that] I will add online office hours to my traditional classes. I will also have regular in-person office hours, but I will also have a Zoom link and have Zoom open on my computer for students who want to join online. I got so much engagement from that in the spring, so I want to continue that.

Robin noted, "I will still keep Zoom when we go back to face-to-face when all this pandemic stuff is over. I will still use Zoom but nothing else." Taylor observed,

> "We are planning [on using the technology] now. We are planning for all the classrooms [with] seated instructors on the applied side to be the ones [who] return. The applied side

> already has cameras in the classrooms in addition to microphones, and they can use Collaborate at the same time as they are teaching the courses, which means that students who are at home or who can't come to class [can] actually log in and watch me and ask questions while I [am] teaching my class at the same time. That is a way we will be able to manage the half capacity for the classrooms, which is extremely important.

Adrian said,

> I will still use some of the online resources that we use now in the classroom in the face-to-face setting, and so I [will] say yes, because the more resources you have, the better you can help develop the students.

Jamie stated,

> For Fall [2020], we are planning for that class to still be in the hybrid format, where they come in for tests and review and stuff, and the content online. Once the COVID mess is gone, we'll kind of gauge how those state pass rates go, and from that, from when it started till the time we can stop. We'll see and go from there. I mean, if the state pass rates have drastically dropped, we're gonna go back to face-to-face. If that doesn't change much, then we'll probably continue with some of this hybrid form.

Morgan responded,

> Absolutely. I've already planned [on using the technology]. I've already ordered cameras. COVID may peak again. And what if it's not COVID? What if it's something else? I've already got my whole team to order cameras so that they can deliver [content]. If they want to be in the front of the classroom, people have options to either physically come to class or engage virtually.

I think COVID should have helped everybody to think differently, and so I try to be as innovative as I can. I try to be a forward-thinker, so I'm planning for anything that could happen. I will tell you [before] COVID, I was prepared. I noticed they were shutting the school down when it snowed, we had to make the time up, and we weren't getting a break. I didn't like that, so I started making an online version of my traditional class for bad weather days. Then we had a student who was pregnant, and the doctor wanted to take her out before her delivery date. She thought she would have to withdraw, but we gave her an extenuating circumstance, and I taught her via Skype every day, and she didn't miss a beat.

I said to myself, "How can we do this differently?" Remote learning was how. Moving forward, we'll be there and available for them. We'll set the cameras up and deliver from the classroom just like we would normally do. We've got to make sure we're providing all kinds of avenues for them to continue to receive the education they need so they can go back into the workforce.

No/Not Likely. Charlie said,

[I won't use technology] like I'm using it now. We're going to take some out. I do plan to continue making my online classes better. But when it comes to my face-to-face classes, I am hearing my students when they say, "I'm tired of this." I'm going to remove some of it. I don't feel that it's helping them because I feel that they're so overwhelmed at trying to understand the technology that they're not learning the content of the class.

Kelly reported,

I'm probably not [going to use the technology], not as much as I'm having to use it now. It's very challenging. It's very challenging teaching from a console in a big auditorium to

the group that's there, and then having to pay attention to this group that's on the laptop that I'm Zooming with.

Alex stated,

> One thing is that I just do not believe I can teach welding without the lab component part. In fact, I'm mostly to the point that I would say I know [I can't teach welding labs virtually]. But when I say I know something, that doesn't mean I'm closed-minded and I won't change; I just want to see more information. But as of now, with the information I have, I don't see any way possible that I can give credit to welding classes without the lab part.

Personal Thoughts About Online Learning. Charlie said,

> Where my struggle comes in is that the population of students that I teach does not perform effectively or produce quality work. Can online learning be effective? Yes. Can you seek and receive quality instruction online? Absolutely.
>
> But as an instructor, when I look at the work I've received, since, let's just say 2012, consistently [teaching] public speaking [online], it's not the same. I can't speak to being effective or producing quality outcomes. I don't feel that I get students [who] can perform productively in an online environment because they are so overwhelmed with all the other burdens that they have on them. Their education, even though they are actively pursuing it, is not their primary concern.

Kelly related,

> You're talking to the wrong person about [online teaching]. You give me face-to-face any day because I like to see and hear [the students]; see the expressions, hear the nuances. I want to get up close and personal. I want to take that professor to the side and say, "Can

> we go back to your office and talk about this," or whatever. I find that this [student] group wants that same type of attention, and sometimes, I don't feel like the home environment sets up that privacy that they need to be able to share.

Jackie said,

> If the instructor and the student understand it's a partnership and if they're both dedicated, [online teaching] can be successful. The student has to be willing to be open-minded, patient with themselves, and do the extra work because it's extra work. It may not seem like it, but it is, and you have to dig a little deeper. You can't always rely on your instructor to be right there to just answer those questions. Patience is needed from students and instructors. It has to be a level of understanding and empathy, and grace that is offered for things to move forward.

Cameron offered,

> I think online teaching has given a lot more opportunities for students to participate who may be a little bit more shy because there's no harm in sending [a message] to me in chat that you got an answer wrong. I mean, I'm going to see whether you got [the answer] right or wrong at the end anyways. So, setting it to be early is both helpful to my teaching but also beneficial to them. And so, I got a lot of engagement that way, which I don't usually get in class. Talking to me on a Zoom session, when your screen can still just show your name and you don't have to show your face is, I think, a lot easier for a lot of students. I think online grading is a lot harder. It takes me a lot more time to grade than it would if I was teaching face-to-face and had printed copies.

Robin stated,

> I think that online learning is fine for most people. You still have those [who] need a little bit more hands-on [learning], but I think it's a very good platform. The distance learning, I actually think the quality is better because I can look at individual students, [and] they're more apt to discuss stuff when others can't see them, so I get good questioning and good participation. Then, they have to provide me answers and stuff like that in the Zoom lectures, so they are engaged, they are picking it up, so I've been pleased.

Adrian noted,

> I think the biggest thing is trying to have an actual presence in your classroom online, which can be really difficult in order to engage students. In my opinion, [online learning is] never going to be what seated sections allow for. It does what it needs to do, and it provides what it needs to. But I don't think [online learning is] ever going to be what can be the enriching experience of being on campus in a classroom with your instructor. [That's] just hard to replicate [in] that kind of environment. …Online learning provides more accessibility, but I favor face-to-face [learning] more. I'm more of a hands-on approach person.

Alex said,

> A lot of my students, the reason they are in welding is because they may not be as computer-savvy. But I will say that's inevitable; you're going to have to [do online learning] because our machines are becoming more and more computerized. It's moving in that direction whether the students want to or not; it just is. I mean, even I've had to learn a lot more than when I started out. We teach CNC plasma cutter and robotic welding that you can set it up with some type of computer component part to it. So, I would say, I think [online learning has] made my program stronger.

Jamie related,

> I think face-to-face [learning] is much better than online [learning]. It gives students real feedback [and] the instructor gets to ensure that the students are hearing the material because how do we know the students are actually doing it? They can go in, log in, and leave [their] computers open for an hour [to] make it look like they were in there, [when] they actually weren't looking at anything or actually doing the work themselves.
>
> And then, while they're in [a] face-to-face class, they're opening their books, at least for that little bit, during class and looking at me. I like the traditional face-to-face [format] much better. The class that finished is going through the certification process. They're taking the state exams now, and the state exam pass rate is probably not going to be quite what it was when it [was] 100% face-to-face [learning].

Morgan observed,

> I think if we're focusing on the students, then the content will come, no matter whether you're face-to-face, online, [or] however you deliver it. If the instructor is meeting those student learning outcomes and meeting the needs of every student, then the delivery method shouldn't matter.

Chapter Summary

Qualitative data from participant interviews showed how North Carolina community college faculty members transitioned to ERT during the COVID-19 pandemic in the Spring 2020 semester. The chapter contained quotations from the participants which provided authenticity, accuracy, and explicitness to the participants' realities and experiences. This chapter presented the seven findings of this exploratory study.

First, most participants indicated their colleges and programs did not have, as far as they knew, emergency contingency plans for teaching and learning before the COVID-19 pandemic. Seven participants expressed how a lack of emergency plans and guidance through the transition impacted their teaching and learning approaches. A few participants said their colleges or programs had emergency contingency plans, which they found helpful to their transition.

Second, all participants reported facing instructional and technological barriers during their transitions to ERT. Some participants described the impact of the transition on their practicums, labs, and clinicals. Others discussed their increased workload and lack of interpersonal connection with the students. Some spoke about the impact of technological knowledge gaps, access, and issues on their instructional methods.

Third, all participants used the technology accessible through the college for ERT, especially if they found the technology easy to use and useful. Most participants reported having already used some of the provided technology in their courses before the pandemic, progressively adding more technology as needed. The interviewees said they continued to use the clear and helpful technology and discontinued that which was not.

Fourth, most participants received technological and teaching support during the ERT transition. Participants reported getting the most support from their colleagues. Some indicated support from distance education professionals available at their colleges or external training resources.

Fifth, most participants reported adjusting their class requirements and norms during the transition. Some discussed how they adjusted their communication methods with students, whereas others talked about how they changed assignment deadlines, grading, and ensuring

academic integrity in their courses. A few participants reported making minimal adjustments to their courses.

Sixth, all participants identified major barriers to student success in ERT. These were primarily in the areas of technological challenges, motivation and engagement, and socioemotional challenges.

Seventh, six participants said they would supplement their traditional courses with technology after they transitioned back to face-to-face teaching. However, the remaining four said they would not supplement their courses with technology, citing concerns about student engagement, learning quality, and challenges with converting in-person activities to online activities.

This chapter presented the findings from interviews with 10 North Carolina community college faculty members who transitioned their courses from traditional to ERT during the COVID-19 pandemic in Spring 2020. The results of the study included seven findings. Chapter 5 presents the interpretations, conclusions, and recommendations for practice. The chapter also includes recommendations for future research and the study's implications for community college leadership.

CHAPTER 5

Summary, Conclusions, and Recommendations

The purpose of this case study was to explore how North Carolina community college faculty members transitioned from traditional course delivery to ERT during the COVID-19 pandemic. The study's guiding research question was, How did North Carolina community college faculty transition from traditional teaching to ERT during a pandemic?

The rationale behind the research was to find the instructional and technological strategies that the faculty members used to transition to ERT quickly. The findings could provide valuable information for emergency planning and preparing for instruction with minimal disruption during unexpected emergencies and crises. An abundance of research exists on online teaching and learning, crisis preparedness, and technology acceptance and adoption. However, a literature review indicated a gap regarding ERT, specifically at the community college level. This study filled the gap in the literature.

Yin's (2009) exploratory case study design was the approach used to explore the research question. Purposeful sampling commenced to recruit 10 North Carolina community college faculty members who had to transition their traditional courses to ERT in Spring 2020. Qualitative inquiry occurred to collect data by conducting 1-hour, virtual, in-depth interviews with the participants between November 2020 and February 2021 using an interview protocol (see Appendix C). The interview protocol contained guided questions based on the literature and theoretical framework presented in Chapter 2.

Yin's (1994) codes and coding technique commenced to transcribe, code, analyze, and link the data to the research question. Seven major findings emerged from the data analysis:

- Lack of contingency plan—Most participants indicated that their college or programs did not, as far as they knew, have emergency contingency plans for teaching and learning before the COVID-19 pandemic.
- Instructional/technological barriers—All the participants expressed that either instructional or technological barriers had an impact on the transition to ert.
- Technology use—All the participants used technology accessible through their colleges for their emergency remote courses, especially if they found the technology easy to use and useful.
- Teaching support—Most of the participants indicated that they had access to technological and teaching support, with the majority of that support being collegial.
- Adjustments—Most of the participants stated that they adjusted their class requirements and norms during the transition.
- Student success barriers—All the participants identified major barriers to student success in emergency remote classes.
- Adoptions moving forward—Most of the participants indicated that they planned on supplementing their traditional classes with technology after transitioning back to face-to-face learning.

This final chapter provides the interpretations of the findings and conclusions. The chapter presents recommendations for practice. Chapter 5 also includes recommendations for future research, implications for community college leadership, and conclusion.

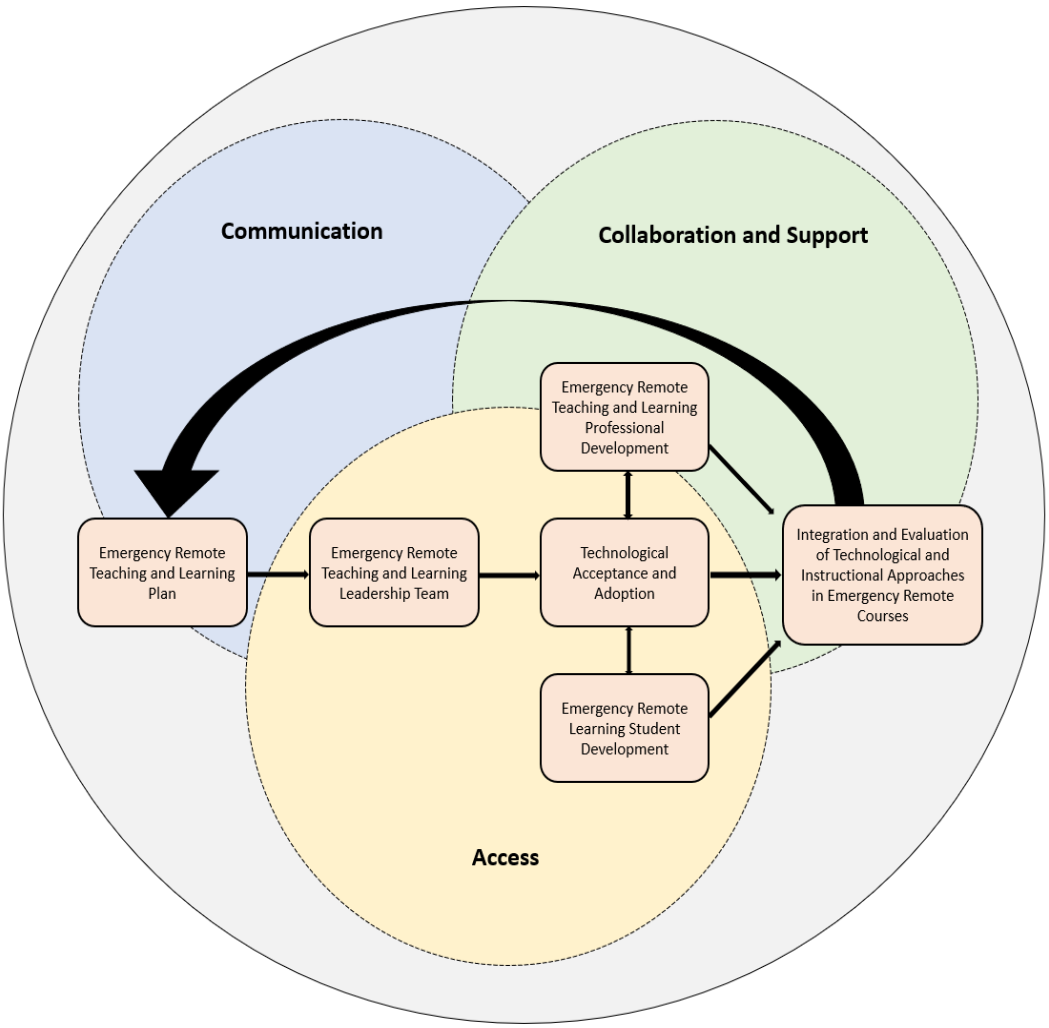
Interpretations, Conclusions, and Recommendations for Practice

The findings from this study have theoretical and practical implications for how to support community colleges during transitions to ERT. Barbour et al. (2020) suggested creating

digital learning frameworks for ERT and online teaching that address web accessibility, technological infrastructure, professional development, and evaluation. This study answered the call for community colleges with the Emergency Remote Teaching and Learning Model for Community Colleges (ERTLM-CC). The ERTLM-CC development occurred via research from the literature, the results of this study, and professional experience. The ERTLM-CC addresses the relationships between the major elements needed to plan, develop, and transition successfully from traditional course delivery to ERT. Figure 5 shows the ERTLM-CC model.

Figure 5

Emergency Remote Teaching and Learning Model for Community Colleges



ERTLM-CC is an adaptation of two models discussed in the literature review: TAM, the study's theoretical framework, and TPACK. TAM suggests that technology users decide whether to use, or accept, technology based on perceived usefulness, ease of use, and attitude toward the technology (Davis, 1989). TPACK (Koehler & Mishra, 2009) suggests that instructors can combine their subject matter knowledge, technological skills, and teaching methods to create technologically and pedagogically sound classrooms. Although the concepts presented in both

models address some of the components needed to produce effective online courses, they do not address these components in the context of ERT. In addition, neither model has solid research in support of its use and effectiveness in a higher education context, specifically the community college. Hence, ERTLM-CC is an amalgamation and extension of these two models.

ERTLM-CC has three overlapping principles based on the findings of this study: communication, collaboration and support, and access. The three principles derive from the perceived shortfalls that the participants reported facing during the pivot to ERT. Throughout the interviews, the participants continuously noted the adverse effects of a lack of communication, collaboration and support, and access on faculty members and students during the transition.

In addition to the three overlapping principles, ERTLM-CC contains a six-phase process that community college stakeholders can use to integrate technological and instructional practices into emergency remote courses. The development of the model's process was based on the study's findings. The process intersects between the three overlapping principles so that all three principles occur throughout every phase of the process. The last phase consists of circling back to the first phase as this process is meant to be recursive. The six phases of the process are emergency remote teaching and learning plan, emergency remote teaching and learning leadership team, technological acceptance and adoption, emergency remote teaching and learning professional development, emergency remote learning student development, and integration and evaluation of technological and instructional approaches in emergency remote courses. Community college leaders could use the six phases to prepare for future pandemics and crises.

Findings, Conclusions, and Recommendations

The following presents the findings from the qualitative data analysis, as well as the conclusions and recommendations for future research.

Finding 1: Lack of Contingency Plan

Seventy percent of the participants indicated that their colleges or programs did not, as far as they knew, have emergency contingency plans for teaching and learning before the COVID-19 pandemic. A lack of emergency contingency plans resulted in communication deficits throughout the transition to emergency remote course delivery for many faculty members. The participants also reported that they lacked guidance on transitioning their traditional courses to emergency remote courses. Well-crafted emergency contingency plans include guidance on communication and information dissemination (U.S. Government Accountability Office, 2018; Warren, 2014). The plans indicate who should disseminate the information; how, when, and where to do so; the information to share; and the reasons for certain decisions. The participants in this study found such plans were unavailable or unattainable. Therefore, they had to make hasty decisions about communication with students and others, course delivery, technology, internships, and class requirements without guidance from college leadership. The lack of guidance resulted in miscommunication between stakeholders, a loss of instructional time, stressed-out faculty members, and upset students.

Conclusion. Clear, constant, and consistent communication between community college leaders, faculty and staff, students, and other stakeholders is vital during ERT situations. Emergency contingency plans should include guidance for successful communication. The development of comprehensive plans must occur collaboratively with stakeholders from the college and the community, including college leaders, faculty, staff, students, board members,

citizens, community business leaders, emergency management staff members, and public health organization professionals (Barbour et al., 2020). All community college stakeholders must have easy access to the plan and review it at least annually.

Recommendation for Practice. Every community college should have a comprehensive emergency contingency plan that includes an emergency remote teaching and learning plan. The COVID-19 pandemic has shown that community college leaders must ensure that their colleges have comprehensive emergency contingency plans. The effects of the pandemic on education remain for colleges in the Summer and Fall 2021 semesters. College leaders must still make important decisions about how to continue education and maintain the health and safety of faculty, staff, and students during uncertain times (Barbour et al., 2020).

Emergency contingency plans should include specific plans for emergency remote teaching and learning. The plan should also include, at a minimum, the comprehensive approaches suggested by the U.S. Department of Education (2013):

- Address how to respond quickly and appropriately to a wide range of potential emergency and crisis situations, including adverse weather conditions, natural disasters, acts of war and terrorism, industrial disasters, cyberattacks, biological pandemics, and loss of life of a community college stakeholder (e.g., leader, faculty members, staff member, student).
- Address how to prevent emergencies and how to secure community college stakeholders if an emergency occurs.
- Address how to reduce or eliminate sickness, loss of life, and property damage.
- Address how to respond to an emergency once it is imminent or happens, including communication with college stakeholders, the community, and the press. The plan

must also address how to stabilize the environment; protect and save lives, property, and important papers; and transition to recovery.

- Address the details of recovery and returning to normal community college operations after the emergency.

Teaching must continue during emergencies to reduce lost instructional time, student enrollment, and student motivation. An ERT plan is a way to mitigate these risks. The emergency remote teaching and learning plan should include, at minimum, the following components:

- A program/departmental communication section aligned with the college's communication plan. The communication section should address who, when, how, and how often program/departmental leaders will communicate to faculty members information, updates, and changes during the emergency remote learning situation. The communication section should also address communication guidelines between faculty and staff and communication guidelines between faculty and students. Communication guidelines are ways to promote regular and consistent information and clear up any miscommunication or misconceptions (Brereton, 2021).
- A section that addresses the roles, responsibilities, and expectations of faculty and staff. During emergency remote teaching and learning situations, faculty and staff members may have to expand their roles above and beyond typical expectations (Barbour et al., 2020). Faculty may have to serve as instructional and technological leads, course developers, communication assistants, or emergency contacts. The plan should provide details on additional roles and responsibilities and the individuals

expected to fill those roles. Those identified must receive communication on these additional roles and expectations.

- An instructional guidance section that addresses how to quickly and effectively transition to emergency remote teaching and learning. The section can include guidance on transitioning instruction from traditional or hybrid courses and practicums, labs, and clinicals to ERT. The section can include the best instructional practices, tips for engaging and motivating students, and links to articles and additional resources for online and emergency remote teaching and learning.
- A technology guidance section that addresses the technological resources and knowledge needed to transition to ERT successfully. This section can include information on delivering courses using the college's LMS, videoconferencing tools, and other technologies adopted and accessible through the college. This section could also provide links to resources on using instructional technologies to enhance online student learning and troubleshoot technological issues.
- A resources and support section that addresses how faculty, staff, and students can access the services they need during emergency remote teaching and learning, including instructional design/course development assistance, IT help, online and emergency remote training, student support services, and human resources support.

Finding 2: Instructional/Technological Barriers and Teaching Support

All 10 interviewees expressed that either instructional or technological barriers impacted the transition to ERT. Most of the participants struggled with the transition to ERT because they lacked instructional and technological preparedness. The participants received the teaching support needed to address these barriers primarily from their colleagues and not formal ERT

professional development. Instructionally, all the participants taught traditional courses during the transition, and some had not received proper training on how to develop and deliver online courses, especially emergency remote courses. The faculty members who lacked training did not know the instructional elements of online teaching, such as how to promote instructor-student engagement and interactions, student-student engagement and interactions, and student engagement and interaction with the course content. Some of the participants did not know how to post materials in their LMS course shell. The transition to ERT occurred within 2 weeks; thus, the distance learning staff and course designers were too overwhelmed to provide the faculty members with sufficient training and support, leaving them feeling hurried and frustrated.

Although all participants said that they used the technological resources accessible through their college, some realized they did not have all the technology they needed to deliver their courses successfully. These participants cited laptops, internet hotspots, software programs, and videoconferencing tools as additional resources they needed during the transition. In addition, some of the participants realized that although they had the technologies, they lacked the training needed to use them properly. As indicated earlier, the participants had limited access to training at this time. Thus, the faculty members had to learn how to use the technology via collegial support or teach themselves. Most of the participants indicated that the available access to collegial collaboration and support helped them find the transition to ERT less challenging.

Conclusion. The findings from the study indicated that faculty members would have benefited from having access to technological resources before the pandemic so they could learn how to utilize them properly in any delivery method. Faculty must have access to resources and associated training before emergencies (Peterson et al., 2020). The findings also showed the power of collegial support. The faculty members reported emotionally supporting each other by

talking, listening, and working through different instructional and student challenges. They also taught each other how to use and integrate newly adopted technologies into their courses. Professionals from other departments, such as the distance education department, conducted online education workshops and provided individual assistance to the faculty members when they were available. These systems enabled the faculty members to feel supported, more productive, and less stressed during the transition.

Recommendation for Practice 1: Access to Instructional and Technological Resources Should Be Readily Available to Faculty and Students Before Emergencies and Crises. Community colleges across the United States have already had substantial growth in FTE due to the expansion of online and hybrid course offerings. Scholars have predicted that this growth trend will continue (Allen & Seaman, 2010; Crawford & Persaud, 2013; Gallien & Oomen-Early, 2008; Straumsheim, 2016). The COVID-19 pandemic has shown the gaps in online education management at community colleges, especially during emergencies. Thus, community college leaders should make instructional and technological resources accessible before an emergency. Community college leaders should mandate that all courses, including traditional courses, have some type of online presence. As such, there should be shells for all courses in the LMS so that faculty members and students can add and access course material remotely. Faculty should also have access to laptops, internet hotspots, videoconferencing software, and other useful technology to conduct synchronous class sessions, record video lectures, and create engaging and interactive modules (Barbour et al., 2020).

Recommendation for Practice 2: Community Colleges Should Provide Mandated College-Wide Professional Development Opportunities Focused on Online and Emergency Remote Teaching and Learning Internally and Regularly. Ensuring that students receive

quality online education during normal and emergency operations requires that all community college employees who directly impact students' instructional growth (i.e., college leaders, faculty members, and student services advisors) know the instructional and technological best practices for online and emergency remote teaching and learning, regardless of whether they teach online courses. Training for the provision of online courses could enable all faculty members to improve their instructional and technological proficiency, which contributes to online course development satisfaction and student outcomes (Bartlett & Warren, 2021; Cornelius & Glasgow, 2007; Evans & Champion, 2007; Stoltenkamp et al., 2007).

Community colleges should also provide internal online and emergency remote professional development training on the quality assurance standards of online learning. The training should address how to meet the instructional needs of student populations at the college. This training should include guidance on online student engagement, accessibility, technology use, instructional materials, and assessments in both traditional and emergency remote online courses (Appana, 2008; Evans & Champion, 2007). If feasible, college leaders should provide this training throughout the calendar year and require it at least once annually. If college leaders cannot conduct the training internally, they can partner with external professional development resources to conduct the training. For example, the Belk Center for Community College Leadership and Research at North Carolina State University provided ERT professional development free of charge to North Carolina community college employees during the ERT transition (NCSU, 2020).

Recommendation for Practice 3: Community College Leaders Should Promote Faculty and Interdepartmental Collaboration and Support, as They Contribute to Collegiality and Increased Technological Acceptance and Integration in Emergency

Remote Courses. The implementation of ERT occurs during times of crisis; therefore, the trauma associated with the crises could contribute to teaching stresses. In addition, the remote nature of ERT may cause faculty members to feel isolated and anxious (Bintliff, 2020). The stress of having to learn how to choose and use new technology could create additional adverse effects. Faculty members can address the challenges of ERT by creating interdepartmental collegial communities to support each other, especially during times of crisis. Communities of practice enable faculty members to increase their collegial support, learn together, share instructional approaches, and reflect on their teaching practices (Brereton, 2021). Community college leaders should promote and support these communities of practice.

Finding 3: Technology Use and Technology Adoption Moving Forward

All the participants in this study used the technology accessible through the college for their emergency remote courses, especially if they found the technology easy to use and useful. In addition, most participants indicated they planned on supplementing their traditional classes with technology after transitioning back to face-to-face teaching.

Conclusion. Faculty members tend to use the technology for which they have positive attitudes, deem useful, and find easy to use. During the COVID-19 pandemic, the faculty members in this study had the opportunity to use college-provided technology and experiment with new technology, some of which they found just as effective as those provided through the college, such as social media platforms and web-based programs. Sixty percent of participants stated that they planned to supplement their traditional courses with technology upon returning to campus post-COVID-19. This finding suggests that early access to instructional and technological resources could benefit both emergency remote and traditional courses.

Recommendation for Practice: Include Faculty in the Technology Adoption Process. Faculty tend to be back-end users of instructional technology and communicate directly with the front-end users: the students. Therefore, faculty members could provide valuable first-hand and second-hand user experience feedback valuable for vetting technologies for adoption. Faculty feedback could provide valuable insight into the technology needed during emergency remote situations, such as web cameras, internet hotspots, videoconferencing software, LMS, web collaboration tools, e-learning and authoring tools, and audio/video recording and editing software.

Finding 4: Student Success Barriers and Adjustments

All the participants in this study identified significant barriers to student success in emergency remote classes. The participants indicated that students who signed up for traditional courses lacked instructional readiness for the nuances of online learning. Many students had never taken online courses before the transition and did not know how to utilize the LMS. Additionally, some students did not know how to interact with discussion boards, online quizzes, and online documents and resources.

The findings also showed that motivation and engagement in ERT courses were a struggle during this time for numerous reasons. The students had other competing factors for their time that affected their motivation and engagement, such as child care due to school closings and the mental stressors of the pandemic. Some participants reported achieving interaction from the students via discussion forums, online chats to ask and answer questions, online games, and verbal encouragement in synchronous sessions. Encouraging student engagement in remote courses is a way to reinforce feelings of community and cooperation, two concepts that can be a challenge in ERT courses (Ferri et al., 2020).

In addition, the participants reported that some students did not initially have access to the technology they needed to transition to online learning. The participants indicated that although most students had access to laptops, tablets, and cellular phones, many still had connectivity issues, especially those in rural communities. The technological barriers caused some students to feel very frustrated, especially because they received limited support due to overwhelmed student services and IT departments.

However, all the participants in this study stated that they adjusted their class requirements and norms during the transition to mitigate learning barriers and accommodate student needs. The participants reported that they communicated with their students regularly via virtual meetings, telephone calls, LMS notifications, and emails. Some of the participants adjusted or extended their office hours to accommodate more students; others provided their students with additional time to complete and turn in assignments.

Conclusion. The findings suggest that community college students who traditionally take face-to-face courses may struggle with online courses. The transition to emergency remote courses in 2020 presented additional challenges, such as technological issues, motivation and engagement, and socioemotional challenges. Online courses should engage and motivate students and promote active student involvement (Zsohar & Smith, 2008). The faculty members in this study supported their students by remaining communicative, flexible, and understanding.

Recommendation for Practice 1: All Students Should Learn the Characteristics, Skills, and Abilities Needed to be Successful Online and Emergency Remote Learners. Students who are successful online learners tend to be organized, intrinsically motivated, self-disciplined, and technologically savvy (Hiltz & Goldman, 2004). Training could be a way to help students who may struggle with these characteristics to become successful online learners

(Appana, 2008). All students, even those who do not plan to enroll in online courses, should take annual, mandated training on online and emergency remote learning. The training could provide all learners with the opportunity to learn the skills they need to complete online or emergency remote courses before they must take such courses due to crises such as the COVID-19 pandemic. The training could provide learners with a chance to interact with their college's LMS and learn about the characteristics of online courses, such as discussion forums, chat tools, downloading and uploading assignments and resources, and embedded quizzes. The training could provide recommendations on active learning strategies for successful online and emergency remote learning, such as logging in regularly, preparing remote learning spaces free from distractions, interacting with the online learning community, and accessing online support when needed. Finally, such training could be a way to decrease the frustration felt by some students when navigating online learning (Magnussen, 2008).

Recommendation for Practice 2: Faculty Members Should Provide Active, Empathetic, and Supportive Learning Environments During ERT Situations. Whether ERT or normal conditions, positive teacher-student relationships are critical components of effective online learning (Garrison & Anderson, 2003). The distress caused by emergency situations only contributes to the plight of students already struggling with online learning. Thus, flexibility, proactivity, consistency, and understanding are critical factors in ERT. During ERT and beyond, it is important for faculty to create flexible and compassionate learning opportunities that promote student engagement, success, and completion (Barbour et al., 2020; Bartlett & Warren, 2021). For example, when conducting synchronous online sessions, faculty can allow students to answer questions in chat boxes or on whiteboards instead of verbally or on camera. Faculty could

also provide asynchronous, low-bandwidth assignments to students who cannot attend the live sessions due to connectivity issues or home-based factors to maintain student engagement.

Faculty should communicate regularly with their students during ERT to ensure the course provides for the needs of each student. Regular communication with students enables faculty members to correct instructional or technological approaches that may not contribute to accessible, equitable, or effective learning experiences (Fish & Wickersham, 2009). Communicating with students also provides opportunities to check on students' well-being and gauge whether they need additional student supports, such as technological support, physical and mental health, financial aid, and tutoring.

Implications for Community College Leadership

The findings of this study indicate that community college leaders should evaluate their approaches to emergency preparedness, especially for transitioning to remote learning and continuing instruction. Although transitioning an entire college to emergency remote operations within 2 weeks due to a pandemic was no easy task, many faculty could have found the transition smoother if they had access to clearly written and distributed emergency plans, better communication, more training and support, and better access to technology. Community colleges should have plans with these components to prepare for subsequent crises. The success or failure of ERTs at community colleges are dependent upon how well leaders have planned, developed, deployed, and evaluated the transition.

Recommendations for Future Research

A need exists for additional research on how community college students, leaders, and other stakeholders (e.g., distance education staff and student advisors) transitioned from traditional course delivery to ERT during the COVID-19 pandemic. Little, if any, research exists

on the experiences of these individuals during the transition period. This gap in the literature provides opportunities for further investigation. Further research should include the following areas:

- Case studies of community college students and how they transitioned from traditional to emergency remote courses during the COVID-19 pandemic. Such research could provide insight to how students' perceived the transition to ERT. Student perceptions and perspectives, coupled with those of faculty, could give leadership a more well-rounded view of ERT's impact, thus, providing valuable information that can be used in the planning for future crises.
- Targeted surveys on whether community college leaders feel they have adequate training to deal with the crises they may face during their tenure. Such research could enable community college leaders to gauge the strengths, weaknesses, opportunities, and risks associated with their crisis preparedness.
- Case studies of community college advisors and how they supported students with the ERT transition during the pandemic. Such research could enable community college leaders to learn about the strategies the advisors used to assist students during the COVID-19 pandemic and how to implement those strategies into emergency contingency plans.

In addition to community colleges, extending research to include K–12 school systems and universities could provide valuable insight into those educational levels. The COVID-19 pandemic affected educational leaders, faculty, staff, and students on every level across the globe. Thus, research on the pandemic's effects could be a springboard for exploring how the

stakeholders in these systems transitioned from traditional course delivery to emergency remote course delivery.

Conclusion

The COVID-19 pandemic affected all aspects of community colleges, including instruction. Understanding how North Carolina community college faculty transitioned from traditional to ERT provided information critical for emergency preparedness, emergency remote instruction, and research for future crises. Community college stakeholders could use the ERTLM-CC, a model created based on the findings of this study, to plan and prepare for future emergencies that could impact teaching and learning.

REFERENCES

Abbot, E. (2020, April 20). *Students and teachers struggle with remote education due to coronavirus*. The Hill. https://thehill.com/changing-america/enrichment/education/493698-students-and-teachers-struggle-with-remote-education

Abbott-Chapman, J., Braithewaite, J., & Godfrey, J. (2004, January). *Promoting access, increasing opportunities for university education: A study of mature aged students from disadvantaged regions*. Commonwealth of Australia Department of Education, Science and Training.

Aguliera, E., & Nightengale-Lee, B. (2020). Emergency remote teaching across urban and rural contexts: Perspectives on educational equity. *Information and Learning Sciences, 121*(5/6), 471–478. https://doi.org/10.1108/ILS-04-2020-0100

Aladsani, H. K. (2021). A narrative approach to university instructors' stories about promoting student engagement during COVID-19 emergency remote teaching in Saudi Arabia. *Journal of Research on Technology in Education*. Advance online publication. https://doi.org/10.1080/15391523.2021.1922958

Allen Interactions. (2020). *Iterative eLearning development with SAM*. https://www.alleninteractions.com/sam-process

Allen, I. E., & Seaman, J. (2008). *Staying the course: Online education in the United States.* Sloan Consortium.

Allen, I. E., & Seaman, J. (2010, January). *Learning on demand: Online education in the United States, 2009* [Monograph]. http://sloanconsortium.org/publications/survey/pdf/learningondemand.pdf

Allen, I. E., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States.* Babson Survey Research Group and Quahog Research Group. http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

Allen, M. W., & Sites, R. (2012). *Leaving ADDIE for SAM: An agile model for developing the best learning experiences*. American Society for Training and Development.

Almaiah, M. A., Alamri, M. M., & Al-Rahmi, W. (2019). Applying the UTAUT model to explain the students' acceptance of mobile learning system in higher education. *IEEE Access, 7,* 174673–174686. https://ieeexplore.ieee.org/abstract/document/8918396

Almala, A. (2006). The community college leadership perspectives of quality e-learning. *Distance Learning, 3*(3), 9–14.

Al-Mushasha, N. F. A. (2013, May). Determinants of e-learning acceptance in higher education environment based on extended technology acceptance model. In *2013 Fourth International Conference on e-Learning "Best Practices in Management, Design and Development of e-Courses: Standards of Excellence and Creativity*" (pp. 261–266). IEEE.

American Institutes for Research. (2015, December 8). *CBAM: The concerns-based adoption model.* https://www.air.org/resource/cbam-concerns-based-adoption-model

American Psychiatric Association. (2020, August). *What is posttraumatic stress disorder?* https://www.psychiatry.org/patients-families/ptsd/what-is-ptsd

Amey, M. (2006). *Breaking tradition: New community college leadership programs meet 21st century needs*. American Association of Community Colleges.

AncaVitcu, E. L., Vitcu, L., & Marcu, A. (2007). Multi-stage maximum variation sampling in health promotion programs' evaluation. *Journal of Preventive Medicine*, *15*, 5–18.

Anderson, S. (1997). Understanding teacher change: Revisiting the concerns based adoption model. *Curriculum Inquiry, 27*(3), 331–367. https://doi.org/10.1111/0362-6784.00057

Anderson, S., & Davies, T. (2000). An ethical decision-making model: A necessary tool for community college presidents and boards of trustees. *Community College Journal of Research and Practice, 24*(9), 711–727. https://doi.org/10.1080/106689200750034487

Anderson, T. (Ed.). (2008). *The theory and practice of online learning*. Athabasca University Press.

Appana, S. (2008). A review of benefits and limitations of online learning in the context of the student, the instructor, and the tenured faculty. *International Journal on E-Learning, 7*(1), 5-22.

Arbaugh, J. B. (2010). Multi-disciplinary studies in online business education: Observations, future directions, and extensions. In *Student satisfaction and learning outcomes in e-learning: An introduction to empirical research* (pp. 1–22). IGI Global. https://www.sciencedirect.com/science/article/pii/B9781843346036500023

Associated Press. (2020, March 31). UN chief says COVID-19 is worst crisis since World War II. *Boston Globe.*

Association for Talent Development (ATD). (2015). *Methodology wars: ADDIE vs. SAM vs. Agile*. https://www.td.org/insights/methodology-wars-addie-vs-sam-vs-agile

Austin, G. A. (2010). Administrative challenges and rewards of online learning in a rural community college: Reflections of a distance learning administrator. *New Directions for Community Colleges, 2010*(150), 27–36. https://doi.org/10.1002/cc.402

Azarian, A., & Skriptchenko-Gregorian, V. (1998). Traumatization and stress in child and adolescent victims of natural disasters. In T. W. Miller (Ed.), *Children of trauma: Stressful life events and their effects on children and adolescents* (pp. 77–118). International Universities Press.

Bach, M. P., Čeljo, A., & Zoroja, J. (2016). Technology acceptance model for business intelligence systems: Preliminary research. *Procedia Computer Science*, *100*, 995–1001. https://doi.org/10.1016/j.procs.2016.09.270

Bacow, L., Garber, A. M., & Lapp, K. (2020, April 13). Economic impact of COVID-19. Harvard Office of the President. https://www.harvard.edu/president/news/2020/economic-impact-covid-19

Badrasawi, K. J., Ahmed, I. O., & Eid, I. M. (2018). Exploring ways to provide education in conflict zones: Implementation and challenges. *Intellectual Discourse*, *26*(2), 567–594. https://journals.iium.edu.my/intdiscourse/index.php/id/article/view/1221/784

Barbour, M. K., LaBonte, R., Hodges, C., Moore, S., Lockee, B., Trust, T., Bond, A., Hill, P., & Kelly, K. (2020). Understanding pandemic pedagogy: Differences between emergency remote, remote, and online teaching. *State of the Nation: K-12 e-Learning in Canada*.

Barchino, R., Gutiérrez, J. M., & Otón, S. (2005, April). An example of learning management system. In *IADIS Virtual Multi Conference on Computer Science and Information Systems* (Vol. 1, pp. 140–141). IADIS.

Barrett, B. (2010). Virtual teaching and strategies: Transitioning from teaching traditional classes to online classes. *Contemporary Issues in Education Research*, *3*(12), 17–20. https://doi.org/10.19030/cier.v3i12.919

Bartlett, J. E., II, & Warren, C. (2015). Community colleges and behavioral intervention teams: A Study of North Carolina community colleges. *The Journal of Campus Behavioral Intervention, 3,* 42–47.

Bartlett, M.E. & Warren, C. (2021). Leadership Support for Helping Community College Faculty Transition to Rapid Online Teaching and Learning (ROTL) During a Worldwide Pandemic. *Online Journal of Distance Learning Administration.*

Barton, L. (1993). *Crisis in organizations: Managing and communicating in the heat of chaos*. Cincinnati, OH: South-Western Publishing Company.

Bauer, J., & Kenton, J. (2005). Toward technology integration in the schools: Why it isn't happening. *Journal of Technology and Teacher Education*, *13*(4), 519–546.

Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *SAGE Open*, *6*(1), Article 2158244015621777. https://doi.org/10.1177/2158244015621777

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, *13*(4), 544–559. https://doi.org/10.46743/2160-3715/2008.1573

Bazelais, P., Doleck, T., & Lemay, D. J. (2018). Investigating the predictive power of TAM: A case study of CEGEP students' intentions to use online learning technologies. *Education and Information Technologies*, *23*(1), 93–111. https://doi.org/10.1007/s10639-017-9587-0

Beeler, J. E. (2015). *Toward an adult learning-based theory of K12 educator professional learning for technology adoption*. North Carolina State University.

Bere, A., & Rambe, P. (2013, June). Extending technology acceptance model in mobile learning adoption: South African University of Technology students' perspectives. In *International Conference on e-Learning* (pp. 52–61). Academic Conferences International Limited.

Bialek, S., Bowen, V., Chow, N., Curns, A., Gierke, R., Hall, A., Hughes, M., Pilishvili, T., Ritchey, M., Roguski, K., & Silk, B. (2020). Geographic differences in COVID-19 cases, deaths, and incidence—United States, February 12–April 7, 2020. https://dx.doi.org/10.15585/mmwr.mm6915e4

Bintliff, A. V. (2020, September 8). How COVID-19 has influenced teachers' well-being: A new study shows decreases in teacher well-being during the pandemic. *Psychology Today*. https://www.psychologytoday.com/us/blog/multidimensional-aspects-adolescent-wellbeing/202009/how-covid-19-has-influenced-teachers-well

Bishop, J. (1995). Emerging administrative strategies for college and university counseling centers. *Journal of Counseling and Development, 74*(1), 33–38. https://doi.org/10.1002/j.1556-6676.1995.tb01819.x

Blackboard. (2021). *Blackboard Collaborate: Virtual classroom tool designed for education.* https://www.blackboard.com/teaching-learning/collaboration-web-conferencing/blackboard-collaborate

Blackburn, H. A. (2014). *A mixed methods study: Assessing and understanding technology pedagogy and content knowledge among college level teaching faculty* (Publication No. 3629463) [Doctoral dissertation, Drexel University]. ProQuest Dissertations and Theses Global.

Blankenberger, B., & Williams, A. M. (2020). COVID and the impact on higher education: The essential role of integrity and accountability. *Administrative Theory & Praxis, 53*(3), 404–423. https://doi.org/10.1080/10841806.2020.1771907

Boone, K. (2020, March). NCAA tournament canceled due to growing threat of coronavirus pandemic. *CBS Sports.* https://www.cbssports.com/college-basketball/news/2020-ncaa-tournament-canceled-due-to-growing-threat-of-coronavirus-pandemic/

Borstorff, P. C., & Lowe, S. K. (2007). Student perceptions and options towards e-learning in the college environment. *Academy of Educational Leadership Journal, 11*(2), 13–29.

Bowman, R. (2020, March 24). The Spanish Flu of 1918 at Elon: We did not know what it was, until we were all sick. *Today at Elon*. https://www.elon.edu/u/news/2020/03/24/weve-been-here-before-elon-the-spanish-flu-of-1918/

Brady, J. (2007). Va. Tech students honor shooting victims as classes resume. *NPR*. https://www.npr.org/templates/story/story.php?storyId=9767767

Brereton, P. (2021). Emergency remote training: Guiding and supporting teachers in preparation for emergency remote teaching. *Language Research Bulletin*, *35,* 1–13.

Brock, S. E. (2002). Crisis theory: A foundation for the comprehensive crisis prevention and intervention team. In S. E. Brock, P. J. Lazarus, & S. R. Jimerson (Eds.), *Best practices in school crisis prevention and intervention* (pp. 5–17). NASP Publications.

Brock, S. E., & Jimerson, S. R. (2004). School crisis interventions: Strategies for addressing the consequences of crisis events. In S. R. Jimerson, A. B. Nickerson, M. J. Mayer, & M. J. Furlong (Eds.), *Handbook of school violence* (pp. 285–332). Routledge.

Brown, V., & Strigle, J. (2019, June). Engaging students through support services. In M. N. Clay & M. B. Fanning (Eds.), *Distance Learning Administration 2019 Annual* (pp. 57–60).

Bruce, P. A. (2010). *Evidence-based practice in online higher education: An exploratory study of the online policies and practices of United States doctoral/research-extensive universities*. The University of Utah.

Burgos, D., Tlili, A., & Tabacco, A. (Eds.). (2020). *Radical solutions for education in a crisis context: COVID-19 as an opportunity for global learning*. Springer Nature.

Casey, D. M. (2008). The historical development of distance education through technology. *TechTrends*, *52*(2), 45–51. https://doi.org/10.1007/s11528-008-0135-z

Catchpole, M. J. (1993). Interactive media: the bridge between distance and classroom education. In T. Nunan (Ed.), *Distance education futures* (pp. 37–56). University of South Australia Press.

Centers for Disease Control and Prevention. (2020). *1918 pandemic*. https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html

Centers for Disease Control and Prevention. (2020). *CDC organization*. https://www.cdc.gov/about/organization/cio.htm

Centers for Disease Control and Prevention. (2020). *Coronavirus disease 2019 (COVID-19): Situation summary*. https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/summary.html

Centers for Disease Control and Prevention. (2020). *Frequently asked questions*. https://www.cdc.gov/coronavirus/2019-ncov/faq.html#Basics

Chang, C. C., Yan, C. F., & Tseng, J. S. (2012). Perceived convenience in an extended technology acceptance model: Mobile technology and English learning for college students. *Australasian Journal of Educational Technology*, *28*(5). https://doi.org/10.14742/ajet.818

Chapman, B. (2010). *How long does it take to create learning?* Chapman Alliance. http://www.chapmanalliance.com/howlong/

Charness, N., & Boot, W. R. (2016). Technology, gaming, and social networking. In K. W. Schaie & S. L. Willis (Eds.), *Handbook of the psychology of aging* (pp. 389–407). Academic Press.

Chen, P. S. D., Lambert, A. D., & Guidry, K. R. (2010). Engaging online learners: The impact of Web-based learning technology on college student engagement. *Computers & Education, 54*(4), 1222–1232. https://doi.org/10.1016/j.compedu.2009.11.008

Cheung, J. M., Basiaga, M., & Olympia, R. P. (2014). Compliance of colleges and universities in the United States with nationally published guidelines for emergency and emergency preparedness. *Pediatric Emergency Care, 30*(5), 319–326. https://doi.org/10.1097/PEC.0000000000000121

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin,* 3–7. http://files.eric.ed.gov/fulltext/ED282491.pdf

Chirinda, B., Ndlovu, M., & Spangenberg, E. (2021). Teaching mathematics during the COVID-19 lockdown in a context of historical disadvantage. *Education Sciences*, *11*(4), Article 177. https://doi.org/10.3390/educsci11040177

Chronicle of Higher Education. (2020, March 4). Coronavirus hits campus. https://www.chronicle.com/package/coronavirus-hits-campus/

Clark, R. C. (2002, September 10). Six principles of effective e-learning: What works and why. *Learning Solutions, 2*(2002), 1–10. https://www.learningguild.com/pdf/2/091002des-h.pdf

Clark, R. C., & Mayer, R. (2016). *E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning* (4th ed.). Jossey-Bass/Pfeiffer.

Connolly, C., & Hall, T. (2021). Designing for emergency remote blended and online education: A response to Bennett et al. (2017). *Educational Technology Research and Development*, *69*(1), 281–284. https://doi.org/10.1007/s11423-020-09892-0

Coombs, W. T. (2014). *Ongoing crisis communication: Planning, managing, and responding*. SAGE Publications.

Cornelius, F., & Glasgow, M. E. S. (2007). The development and infrastructure needs required for success—One college's model: Online nursing education at Drexel University. *TechTrends, 51*(6), 32–35.

Cozens, B. (2020, March 16). 102 years ago, the Spanish flu hit campus. What can it teach us about pandemics? *The Daily Tar Heel.* https://www.dailytarheel.com/article/2020/03/spanish-flu-1918-0317

Crawford, C., & Persaud, C. (2013). Community colleges online. *Journal of College Teaching & Learning, 10*(1), 75–82. https://doi.org/10.19030/tlc.v10i1.7534

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). SAGE Publications.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.

Cuban, L. (2001). *Oversold and underused: Computers in the classroom*. Harvard University Press.

Cucinotta, D., & Vanelli, M. (2020). WHO declares COVID-19 a pandemic: *Acta Bio Medica: Atenei Parmensis, 91*(1), 157–160. https://doi.org/10.23750/abm.v91i1.9397

Culatta, R. (2020). *ADDIE model*. https://www.instructionaldesign.org/models/addie/#:~:text=The%20ADDIE%20model%20is%20the,training%20and%20performance%20support%20tools

Dabbagh, N. (2004). Distance learning: Emerging pedagogical issues and learning designs. *Quarterly Review of Distance Education, 5*(1), 37–49.

Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management Science, 35*(8), 982–1003. https://doi.org/10.1287/mnsc.35.8.982

Dečman, M. (2015). Modeling the acceptance of e-learning in mandatory environments of higher education: The influence of previous education and gender. *Computers in Human Behavior, 49*, 272–281. https://doi.org/10.1016/j.chb.2015.03.022

Dell, C. A., Dell, T. F., & Blackwell, T. L. (2015). Applying universal design for learning in online courses: Pedagogical and practical considerations. *Journal of Educators Online, 12*(2), 166–192. http://files.eric.ed.gov/fulltext/EJ1068401.pdf

Department of Homeland Security. (2007). *Creating a culture of preparedness among schools*. https://cdn.fedweb.org/137/268/school_preparedness_information_sheet-dhs.pdf

Duncan, A., Pelesle, D. S., & Esquith, D. (2013). Guide for developing high-quality emergency operation plans for institutions of higher education. https://www.dhs.gov/sites/default/files/publications/REMS%20K-12%20Guide%20508_0.pdf

Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2019). Re-examining the unified theory of acceptance and use of technology (UTAUT): Towards a revised theoretical model. *Information Systems Frontiers, 21*(3), 719–734. https://doi.org/10.1007/s10796-017-9774-y

Eaves, C. (2001). The development and implementation of a crisis response team in a school setting. *International Journal of Emergency Mental Health, 3*(1), 35–46.

Education Cannot Wait. (2021). About us. https://www.educationcannotwait.org/about-us/

Elder, S. (2002). Support groups in the community. In R. G. Stevenson (Ed.), *What will we do? Preparing a school community to cope with crises* (2nd ed., pp. 163–184). Baywood Publishing Company.

Ertmer, P., & Ottenbreit-Leftwich, A. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education, 42*(3), 255–284. https://doi.org/10.1080/15391523.2010.10782551

Evans, R., & Champion, I. (2007). Enhancing online delivery beyond [PowerPoint]. *The Community College Enterprise, 13*(2), 75–84. https://www.schoolcraft.edu/pdfs/cce/13.2.75-84.pdf

Ezra, O., Cohen, A., Bronshtein, A., Gabbay, H., & Baruth, O. (2021). Equity factors during the COVID-19 pandemic: Difficulties in emergency remote teaching (ERT) through online learning. *Education and Information Technologies*. https://doi.org/10.1007/s10639-021-10632-x

Fabry, D., & Higgs, J. (1997). Barriers to the effective use of technology in education: Current status. *Journal of Educational Computing, 17*(4), 385–395. https://doi.org/10.2190/C770-AWA1-CMQR-YTYV

Federal Emergency Management Agency. (2003, August). *Building a disaster-resistant university handbook*. https://mitigation.eeri.org/resource-library/building-professionals/building-a-disaster-resistant-university-fema-443

Ferguson, H. T. (2020, April 8). *Cuts expected for state higher education funding in the wake of COVID-19*. NASFAA. https://www.nasfaa.org/news-item/21469/Cuts_Expected_for_State_Higher_Education_Funding_in_the_Wake_of_COVID-19

Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies*, *10*(4), Article 86. https://doi.org/10.3390/soc10040086

Fish, W. W., & Wickersham, L. E. (2009). Best practices for online instructors: Reminders. *Quarterly Review of Distance Education, 10*(3), 279–284, 319–320.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: an introduction to theory and research*. Addison-Wesley.

Fuller, F. F. (1969). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal, 6*(2)*,* 207–226. https://doi.org/10.3102/00028312006002207

Gallien, T., & Oomen-Early, J. (2008). Personalized versus collective instructor feedback in the online courseroom: Does type of feedback affect student satisfaction, academic performance and perceived connectedness with the instructor? *International Journal on E-learning*, *7*(3), 463–476.

Gamage, K. A. A., Silva, E. K., & Gunawardhana, N. (2020). Online delivery and assessment during COVID-19: Safeguarding academic integrity. *Education Sciences*, *10*(11), Article 301. https://doi.org/10.3390/educsci10110301

Gares, S. L., Kariuki, J. K., & Rempel, B. P. (2020). CommUnity matters: Student–instructor relationships foster student motivation and engagement in an emergency remote teaching environment. *Journal of Chemical Education*, *97*(9), 3332–3335. https://doi.org/10.1021/acs.jchemed.0c00635

Garrison, D. R., & Anderson, T. (2003). *E-learning in the 21st century: A framework for research and practice.* RoutledgeFalmer.

Gibson, S. G., Harris, M. L., & Colaric, S. M. (2008). Technology acceptance in an academic context: Faculty acceptance of online education. *Journal of Education for Business, 83*(6), 355–359. https://doi.org/10.3200/JOEB.83.6.355-359

Gong, M., Xu, Y., & Yu, Y. (2004). An enhanced technology acceptance model for web-based learning. *Journal of Information Systems Education*, *15*(4), 365–374.

Gonzales, L. D., & Griffin, K. A. (2020). *Supporting faculty during & after COVID-19: Don't let go of equity*. Aspire Alliance.

Green, A., & Cooper, D. (2012). *Auditing the costs of the Virginia Tech massacre*. Center for American Progress.

Gunasinghe, A., Abd Hamid, J., Khatibi, A., & Azam, S. F. (2019). Academicians' acceptance of online learning environments: A review of information system theories and models. *Global Journal of Computer Science and Technology, 19*(1–H).

Gundy, M. S., & Berger, M. J. (2016). Towards a model supporting educational change. *International Journal of Information and Education Technology, 6(*3), 232–236. https://doi.org/10.7763/IJIET.2016.V6.691

Gunter, T., & Gunter, G. (2017). *E-learning training and solutions for campus And Homeland Security*. Kidmore End: Academic Conferences International.

Ha, S., & Stoel, L. (2009). Consumer e-shopping acceptance: Antecedents in a technology acceptance model. *Journal of Business Research, 62*, 565–571.

Hall, B. (2000) *Making sense of e-learning resources, content, tools and services.* http://www.elearningmag.com/issues/july00/coverstory.htm

Hall, G. (1975, November 3–5). *The effects of "change" on teachers and professors: Theory, research, and implications for decision-makers* [Paper presentation]. National Invitational Conference on Research on Teacher Effects, Austin, TX, United States.

Hall, G. E. (1973). A developmental conceptualization of the adoption process within educational institutions.

Hall, G. E., & Hord, S. M. (1987). Change in schools: Facilitating the process. State University of New York Press.

Hall, G. E., & Hord, S. M. (2001). *Implementing change: Patterns, principles, and potholes*. Allyn & Bacon.

Hall, G. E., George, A. A., & Rutherford, W. L. (1979). *Measuring stages of concern about the innovation: A manual for use of the SoC questionnaire* (2nd ed.). Southwest Educational Development Laboratory.

Hall, G. E., Newlove, B. W., George, A. A., Rutherford, W. L., & Hord, S. M. (1991). *Measuring change facilitator stages of concern. A manual for use of the CFSoC questionnaire*. Center for Research on Teaching and Learning.

Harris, J., Mishra, P., & Koehler, M. (2009). Teachers' technological pedagogical content knowledge and learning activity types: Curriculum-based technology integration reformed. *Journal of Research on Technology in Education, 41*(4), 393–416. https://doi.org/10.1080/15391523.2009.10782536

Harting, K., & Erthal, M. J. (2005). History of distance learning. *Information Technology, Learning, and Performance Journal*, *23*(1), 35–44.

Hiltz, S. R., & Goldman, R. (2004). *Learning together online: Research on asynchronous learning networks*. Erlbaum.

History.com Editors. (2019, August 9). *Hurricane Katrina.* https://www.history.com/topics/natural-disasters-and-environment/hurricane-katrina

Hodell, C. (2015). *ISD from the ground up: A no-nonsense approach to instructional design*. American Society for Training and Development.

Hodges, C. B., & Fowler, D. J. (2020). The COVID-19 crisis and faculty members in higher education: From emergency remote teaching to better teaching through reflection. *International Journal of Multidisciplinary Perspectives in Higher Education*, *5*(1), 118–122. http://files.eric.ed.gov/fulltext/EJ1273059.pdf

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review, 27*(1), 1–9.

Holden, H., & Rada, R. (2011). Understanding the influence of perceived usability and technology self-efficacy on teachers' technology acceptance. *Journal of Research on Technology in Education, 43*(4), 343–367. https://doi.org/10.1080/15391523.2011.10782576

Holton, A. J. (2020). Implementation of an emergency multisection online general chemistry curriculum in response to COVID-19 pandemic. *Journal of Chemical Education*, *97*(9), 2878–2883. https://doi.org/10.1021/acs.jchemed.0c00681

Hosman, L., & Cvetanoska, M. (2013). Technology, teachers, and training: Combining theory with Macedonia's experience. *International Journal of Education and Development using Information and Communication Technology, 9*(3), 28–49. https://doi.org/10.1145/2369220.2369238

Imtiaz, M. A., & Maarop, N. (2014). A review of technology acceptance studies in the field of education. *Jurnal Teknologi, 69*(2), 27–32. https://doi.org/10.11113/jt.v69.3101

Imtiaz, M. A., & Mirhashemi, M. T. (2013). *Analyzing trends in technology acceptance studies in education domain* [Conference presentation]. 2013 International Conference on Current Trends in Information Technology (CTIT), Dubai, United Arab Emirates.

Inside Higher Ed. (2020). *Responding to the COVID-19 crisis, Part III: A survey of college and university presidents*. https://www.insidehighered.com/booklet/responding-covid-19-crisis-part-iii-new-survey-college-and-university-presidents

Jenkins, M. W. (2008). *Exploring factors influencing crisis preparedness among Texas community colleges with residential students* (Publication No. 3338718) [Doctoral dissertation, Northcentral University]. ProQuest Dissertations and Theses Global.

Jeong, H. (2018). Rethinking the rationale of open and distance education: A case of the UK Open University. *Asian Association of Open Universities Journal, 13*(2), 169–178. https://doi.org/10.1108/AAOUJ-06-2018-0019

Johnson, N., Veletsianos, G., & Seaman, J. (2020). US faculty and administrators' experiences and approaches in the early weeks of the COVID-19 pandemic. *Online Learning, 24*(2), 6–21. https://doi.org/10.24059/olj.v24i2.2285

Kapucu, N., & Khosa, S. (2013). Disaster resiliency and culture of preparedness for university and college campuses. *Administration & Society, 45*(1), 3–37. https://doi.org/10.1177/0095399712471626

Keengwe, J., & Kidd, T. (2010). Towards best practices in online learning and teaching in higher education. *Journal of Online Learning and Teaching, 6*(2), 533–541. https://jolt.merlot.org/vol6no2/keengwe_0610.pdf

Kegelman, N. M. (2011). *Online courses at a community college: A study of student characteristics* (Publication No. 3490365) [Doctoral dissertation, Rowan University]. Available from ProQuest Dissertations and Theses Global.

Kelly, A. P., & Columbus, R. (2020, July). *College in the time of coronavirus: Challenges facing American higher education*. American Enterprise Institute. https://www.aei.org/research-products/report/college-in-the-time-of-coronavirus-challenges-facing-american-higher-education/

Kember, D., Lai, T., & Murphy, D. (1994). Student progress in distance education courses: A replication study. *Adult Education Quarterly, 46*(1), 286–301. https://doi.org/10.1177/0741713694045001003

Kentnor, H. E. (2015). Distance education and the evolution of online learning in the United States. In D. J. Flinders, C. M. Moroye, & K. Kauper (Eds.), *Curriculum and teaching dialogue* (Vol. 17, pp. 21–34). Information Age Publishing.

Kinnaman, D. E. (1990). Staff development: How to build your winning team. *Technology and Learning, 11*(2), 24–30.

Kocaleva, M., Stojanovic, I., & Zdravev, Z. (2015). Model of e-learning acceptance and use for teaching staff in higher education institutions. *International Journal of Modern Education and Computer Science, 7*(4), 23–31.

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)? *Contemporary Issues in Technology and Teacher Education, 9*(1), 60–70. https://www.learntechlib.org/p/29544/article_29544.pdf

Koh, J. H. L., Chai, C. S., & Tsai, C. C. (2013). Examining practicing teachers' perceptions of technological pedagogical content knowledge (TPACK) pathways: A structural equation modeling approach. *Instructional Science, 41*(4), 793–809. https://doi.org/10.1007/s11251-012-9249-y

Kuh, G. D., & Hu, S. (2001). The relationships between computer and information technology use, selected learning and personal development outcomes, and other college experiences. *Journal of College Student Development, 42*(3), 217–232.

Kuo, Y.-C., & Belland, B. R. (2016). An exploratory study of adult learners' perceptions of online learning: Minority students in continuing education. *Educational Technology Research and Development, 64*(4), 661–680. https://doi.org/10.1007/s11423-016-9442-9

Lai, C. C., Ko, W. C., Lee, P. I., Jean, S. S., & Hsueh, P. R. (2020). Extra-respiratory manifestations of COVID-19. *International Journal of Antimicrobial Agents, 56*(2), Article 106024. https://doi.org/10.1016/j.ijantimicag.2020.106024

Lai, P. C. (2017). The literature review of technology adoption models and theories for the novelty technology. *JISTEM-Journal of Information Systems and Technology Management*, *14*, 21-38. https://www.researchgate.net/publication/317412296_THE_LITERATURE_REVIEW_OF_TECHNOLOGY_ADOPTION_MODELS_AND_THEORIES_FOR_THE_NOVELTY_TECHNOLOGY

Landry, B. J. L., Griffeth, R., & Hartman, S. (2006). Measuring student perceptions of Blackboard using the technology acceptance model. *Decision Sciences Journal of Innovative Education, 4*(1), 87–99. https://doi.org/10.1111/j.1540-4609.2006.00103.x

Lavergne, G. (1966). *University of Texas tower shooting.* Handbook of Texas Online. https://www.tshaonline.org/handbook/entries/university-of-texas-tower-shooting-1966

Lederman, D. (2020, June 29). *Presidents' growing worry? Perceived value of college*. Inside Higher Ed. https://www.insidehighered.com/news/survey/college-presidents-increasingly-worried-about-perceived-value-degrees

Lee, J. (2014). An exploratory study of effective online learning: Assessing satisfaction levels of graduate students of mathematics education associated with human and design factors of an online course. *The International Review of Research in Open and Distance Learning, 15*(1), 111–132. https://doi.org/10.19173/irrodl.v15i1.1638

Lee, K. (2020, March 9). *Coronavirus: Universities are shifting classes online–but it's not as easy as it sounds*. The Conversation. https://theconversation.com/coronavirus-universities-are-shifting-classes-online-but-its-not-as-easy-as-it-sounds-133030

Lee, M. K., Cheung, C. M., & Chen, Z. (2005). Acceptance of internet-based learning medium: The role of extrinsic and intrinsic motivation. *Information & Management Science, 42*(3), 1095–1104. https://doi.org/10.1016/j.im.2003.10.007

Lee, Y., Kozar, K., & Larsen, K. (2003). The technology acceptance model: Past, present, and future. *Communications of the Association for Information Systems, 12*, Article 50. https://doi.org/10.17705/1CAIS.01250

Legris, P., Ingham, J., & Collerette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information & Management, 40*(3), 191–204. https://doi.org/10.1016/S0378-7206(01)00143-4

Lewis, C., Fretwell, C., Ryan, J., & Parham, J. (2013). Faculty use of established and emerging technologies in higher education: A unified theory of acceptance and use of technology perspective. *International Journal of Higher Education, 2*(2), 22–34. https://doi.org/10.5430/ijhe.v2n2p22

Longhurst, G. J., Stone, D. M., Dulohery, K., Scully, D., Campbell, T., & Smith, C. F. (2020). Strength, weakness, opportunity, threat (SWOT) analysis of the adaptations to anatomical education in the United Kingdom and Republic of Ireland in response to the Covid-19 pandemic. *Anatomical Sciences Education*, *13*(3), 301–311. https://doi.org/10.1002/ase.1967

Louho, R., Kallioja, M., & Oittinen, P. (2006). Factors affecting the use of hybrid media applications. *Graphic Arts in Finland, 35*(3), 11–21.

MacKenzie, O., & Christensen, E. L. (1971). *The changing world of correspondence study: International readings*. Pennsylvania State University Press.

Magnussen, L. (2008). Applying the principles of significant learning in the e-learning environment. *Journal of Nursing Education, 47*(2), 82–86. https://doi.org/10.3928/01484834-20080201-03

MarketWatch. (2020, March 27). *With March Madness canceled, schools will lose out on $375 million from the NCAA*.

Marsicano, C., Felten, K., Toledo, L., & Buitendorp, M. (2020). *Tracking campus responses to the COVID-19 pandemic*. APSA Preprints. https://doi.org/10.33774/apsa-2020-3wvrl

McDonough, T. (2015, August 19). *As we remember Katrina and recovery, don't neglect higher education's role.* Higher Education Today. https://www.higheredtoday.org/2015/08/19/as-we-remember-katrina-and-recovery-dont-neglect-higher-educations-role/

Means, B., Bakia, M., & Murphy, R. (2014). *Learning online: What research tells us about whether, when and how*. Routledge.

Merrill, M. D. (2002). First principles of instruction. *Educational Technology Research and Development, 50*(3), 43–59. https://doi.org/10.1007/BF02505024

Meyer, A., Rose, D. H., & Gordon, D. T. (2014). *Universal design for learning: Theory and practice*. CAST Professional Publishing.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). SAGE Publications.

Mirabito, T., Hardin, R., & Pate, J. R. (2020). The fractured messaging of the National Collegiate Athletic Association and its members in response to COVID-19. *International Journal of Sport Communication, 13*(3), 324–334. https://doi.org/10.1123/ijsc.2020-0249

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017–1054.

Mitroff, I. I., Diamond, M. A., & Alpaslan, C. M. (2006). How prepared are America's colleges and universities for major crisis: Assessing the state of crisis management. *Change: The Magazine of Higher Learning*, *38*(1), 61–67. https://doi.org/10.3200/CHNG.38.1.61-67

Molenda, M. (2003). In search of the elusive ADDIE model. *Performance Improvement, 42*(5), 34–37. https://doi.org/10.1002/pfi.21461

Moore, M. G. (1994). Autonomy and interdependence. *The American Journal of Distance Education, 8*(2), 1–5. https://doi.org/10.1080/08923649409526851

Moore, M., & Tait, A. (Eds). (2002). *Open and distance learning: Trends, policy and strategy considerations*. UNESCO.

Moran, M., Hawkes, M., & Gayar, O. E. (2010). Tablet personal computer integration in higher education: Applying the unified theory of acceptance and use technology model to understand supporting factors. *Journal of Educational Computing Research, 42*(1), 79–101. https://doi.org/10.2190/EC.42.1.d

Murphy, M. P. (2020). COVID-19 and emergency eLearning: Consequences of the securitization of higher education for post-pandemic pedagogy. *Contemporary Security Policy, 41*(3), 492–505. https://doi.org/10.1080/13523260.2020.1761749

Murthy, S., Gomersall, C., & Fowler, R. (2020). Care for critically ill patients with COVID-19. *JAMA, 323*(15), 1499–1500. https://doi.org/10.1001/jama.2020.3633

Nam, C. S., Bahn, S., & Lee, R. (2013). Acceptance of assistive technology by special education teachers: A structural equation model approach. *International Journal of Human-Computer Interaction, 29*(5), 365–377. https://doi.org/10.1080/10447318.2012.711990

National Center for Campus Public Safety. (2016, November). *National higher education emergency management program needs assessment*. https://www.nccpsafety.org/assets/files/library/NCCPS_EM_Needs_Assessment_FINAL_113016.pdf

National Center for Education Statistics. (2020). *Back to school statistics.* https://nces.ed.gov/fastfacts/display.asp?id=372

National Center for Education Statistics. (2018). *Fast facts: Distance learning.* https://nces.ed.gov/fastfacts/display.asp?id=80

National Collegiate Athletic Association. (2020). *NCAA cancels men's and women's basketball championships due to coronavirus concerns*. https://www.ncaa.com/live-updates/basketball-men/d1/ncaa-cancels-mens-and-womens-basketball-championships-due

National Committee on Education by Radio. (1931). *Education by radio*. http://archive.org/details/educationbyradio01natirich

The National Press Club. (2013, August 27). *Remarks by Secretary of Homeland Security Janet Napolitano at the National Press Club.* https://www.dhs.gov/news/2013/08/27/remarks-secretary-homeland-security-janet-napolitano-national-press-club

Ndubisi, N. O. (2006). Factors of online learning adoption: A comparative juxtaposition of the theory of planned behaviour and the technology acceptance model. *International Journal on E-Learning, 5*(4), 571–591.

Ngafeeson, M. (2015, October 30–31). *Understanding user resistance to information technology in healthcare: The nature and role of perceived threats* [Paper presentation]. Transactions of the International Conference on Health Information Technology Advancement. Kalamazoo, MI, United States.

North Carolina Community College System & University of North Carolina. (2013). *Joint report on the NCCCS-UNC 2+2 e-learning initiative*. (Session Law 2006-66, Section 9.1) Submitted at the Request of The North Carolina General Assembly.

North Carolina Community College System. (2021). *About us*. https://www.nccommunitycolleges.edu/mission-history

North Carolina Community College System. (2020). *Community colleges extend Spring Break, cancel classes and move to online instruction in response to COVID-19.* https://www.nccommunitycolleges.edu/news-center/news/community-colleges-extend-spring-break-cancel-classes-and-move-online-instruction

North Carolina Community College System. (2021). *Instructional FTE dashboard*. https://www.nccommunitycolleges.edu/analytics/dashboards/instructional-fte-total

North Carolina Community College System. (2020). *State board approves relief measures for community colleges during COVID-19 crisis*. https://www.nccommunitycolleges.edu/news-center/news/state-board-approves-relief-measures-community-colleges-during-covid-19-crisis

North Carolina Community College System. (2020). *State board of community college code. Chapter G. Full-time equivalent*. https://www.nccommunitycolleges.edu/sites/default/files/legal/sbccc/chapter/chapter_g_-_01apr20_0.pdf

North Carolina Community College System. (2021). *Virtual learning community: About us*. https://vlc.nccommunitycolleges.edu/about-us/

North Carolina State University. (2020). *Resources for community colleges*. https://belk-center.ced.ncsu.edu/covid19/

O'Neil, R., Cook, N., Finkin, M., Henry, M., & Kasper, H. (2007). Hurricane Katrina and New Orleans universities. *Academe, 93*(3), 59–126.

Oye, N. D., Iahad, N. A., & Rahim, N. A. (2014). The history of the UTAUT model and its impact on ICT acceptance and usage by academicians. *Education and Information Technologies, 19*(1), 251–270. https://doi.org/10.1007/s10639-012-9189-9

Palloff, R. M., & Pratt, K. (2003). *The virtual student: A profile and guide to working with online learners*. Jossey-Bass.

Pappas, C. (2017). *Merrill's principles of instruction: The definitive guide*. e-Learning Industry.

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Services Research, 12*(5), 1189–1208. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1089059/

Patton, M. Q. (2002). *Qualitative research and evaluation methods*. SAGE Publications.

Pauchant, T., & Mitroff, I. (1992). *Transforming the crisis-prone organization*. Jossey-Bass.

Pearson, C. M., & Mitroff, I. I. (1993). From crisis prone to crisis prepared: A framework for crisis management. *Academy of Management Perspectives, 7*(1) 48–59. https://doi.org/10.5465/ame.1993.9409142058

Peek, L. (2008). Children and disasters: Understanding vulnerability, developing capacities, and promoting resilience—An introduction. *Children, Youth and Environments, 18*(1), 1–29.

Peltier, J. W., Schibrowsky, J. A., & Drago, W. (2007). The interdependence of the factors influencing the perceived quality of the online learning experience: A causal model. *Journal of Marketing Education, 29*(2), 140–153. https://doi.org/10.1177/0273475307302016

Peterson, L., Scharber, C., Thuesen, A., & Baskin, K. (2020). A rapid response to COVID-19: One district's pivot from technology integration to distance learning. *Information and Learning Sciences, 121*(5/6), 461–469. https://doi.org/10.1108/ILS-04-2020-0131

Phillips, J., Phillips, P. P., & Zuniga, L. (2000). *Evaluating the effectiveness and the return on investment of e-learning: What works online*. American Society for Training and Development.

Poland, S. (1994). The role of school crisis intervention teams to prevent and reduce school violence and trauma. *School Psychology Review, 23*(2)*,* 175–189. https://doi.org/10.1080/02796015.1994.12085705

Portz, J., Bayliss, E., Bull, S., Boxer, R., Bekelman, D., Gleason, K., & Czaja, S. (2019). Using the technology acceptance model to explore user experience, intent to use, and use behavior of a patient portal among older adults with multiple chronic conditions: Descriptive qualitative study. *Journal of Medical internet Research, 21*(4). https://doi.org/10.2196/11604

Preston, J. (2012). What is disaster education? In J. Preston (Ed.), *Disaster education* (pp. 1–10). SensePublishers. https://doi.org/10.1007/978-94-6091-873-5_1

Pynoo, B., Devolder, P., Tondeur, J., Van Braak, J., Duyck, W., & Duyck, P. (2011). Predicting secondary school teachers' acceptance and use of a digital learning environment: A cross-sectional study. *Computers in Human Behavior, 27*(1), 568–575. https://doi.org/10.1016/j.chb.2010.10.005

Radovan, M., & Kristl, N. (2017). Acceptance of technology and its impact on teachers' activities in virtual classroom: Integrating UTAUT and CoI into a combined model. *TOJET: Turkish Online Journal of Educational Technology, 16*(3), 11–22. http://files.eric.ed.gov/fulltext/EJ1152624.pdf

Robinson, T. (2019). Using the technology acceptance model to examine technology acceptance of online learning technologies by non-traditional students. *I-Manager's Journal of Educational Technology, 16*(1), 21–32.

Rodríguez-Muñiz, L. J., Burón, D., Aguilar-González, Á., & Muñiz-Rodríguez, L. (2021). Secondary mathematics teachers' perception of their readiness for emergency remote teaching during the COVID-19 pandemic: A case study. *Education Sciences*, *11*(5), Article 228. https://doi.org/10.3390/educsci11050228

Saadé, R. G., Nebebe, F., & Tan, W. (2007). Viability of the "technology acceptance model" in multimedia learning environments: A comparative study. *Interdisciplinary Journal of Knowledge and Learning Objects, 3*(1)*,* 175–184.

Sahu, P. (2020). Closure of universities due to coronavirus disease 2019 (COVID-19): Impact on education and mental health of students and academic staff. *Cureus, 12*(4), Article e7541. https://doi.org/10.7759/cureus.7541

Samaradiwakara, G. D. M. N., & Gunawardena, C. G. (2014). Comparison of existing technology acceptance theories and models to suggest a well improved theory/model. *International Technical Sciences Journal, 1*(1), 21–36.

Sapiro, V. (2020, May 12). *POV: Epidemics, fires, and natural disasters have long shaped universities*. Boston University Today. http://www.bu.edu/articles/2020/pov-epidemics-fires-and-natural-disasters-have-long-shaped-universities/

Saringo-Rodriguez, J. (2014, January 17). *20 years after Northridge earthquake, CSUN is 'not just back, better.'* Daily Sundial. https://sundial.csun.edu/75423/news/former-and-current-csun-administrators-remember-the-1994-northridge-earthquake-aftermath/

Saunders, R. (2012). Assessment of professional development for teachers in the vocational education and training sector: An examination of the concerns based adoption model. *Australian Journal of Education, 56*(2) 182–204. https://doi.org/10.1177/000494411205600206

Scherer, R., Siddiq, F., & Tondeur, J. (2019). The technology acceptance model (TAM): A meta-analytic structural equation modeling approach to explaining teachers' adoption of digital technology in education. *Computers & Education*, *128*, 13–35. https://doi.org/10.1016/j.compedu.2018.09.009

Schlesselman, L. S. (2020). Perspective from a teaching and learning center during emergency remote teaching. *American Journal of Pharmaceutical Education*, *84*(8), Article 8142. https://doi.org/10.5688/ajpe8142

Schlosser, L. A., & Simonson, M. (2003). *Distance education: Towards a definition and glossary of terms*. Definitions and Terminology Committee Association for Educational Communications and Technology.

Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. (2009). Technological pedagogical content knowledge (TPACK): The development and validation of an assessment instrument for preservice teachers. *Journal of Research on Technology in Education, 42*(2), 123–149. https://doi.org/10.1080/15391523.2009.10782544

Schoech, D. (2000). Teaching over the internet: Results of one doctoral course. *Research on Social Work Practice*, *10*(4), 467–487. https://doi.org/10.1177/104973150001000407

Scott, J. C. (2005). The Chautauqua vision of liberal education. *History of Education*, *34*(1), 41-59. https://doi.org/10.1080/0046760042000315318

Sebastianelli, R., Swift, C., & Tamimi, N. (2015). Factors affecting perceived learning, satisfaction, and quality in the online MBA: A structural equation modeling approach. *Journal of Education for Business, 90*(6), 296–305. https://doi.org/10.1080/08832323.2015.1038979

Seckin, G. (2016). Digitized emotions in the pocket. *Emotions, Technology, and Health, 2016*, 41–61. https://doi.org/10.1016/B978-0-12-801737-1.00003-2

Sherwood, G., & McKelfresh, D. (2007). Crisis management teams. In E. Zdziarski II, N. Dunkel, & J. Rollo, J. (Eds.), *Campus crisis management: A comprehensive guide for practitioners* (pp. 55–71). Jossey-Bass.

Shim, T. E., & Lee, S. Y. (2020). College students' experience of emergency remote teaching due to COVID-19. *Children and Youth Services Review*, *119*, Article 105578. https://doi.org/10.1016/j.childyouth.2020.105578

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher, 15*(2), 4–14. https://doi.org/10.3102/0013189X015002004

Shute, V., & Towle, B. (2003). Adaptive e-learning. *Educational psychologist*, *38*(2), 105-114.

Siegel, D., Acharya, P., & Sivo, S. (2017). Extending the technology acceptance model to improve usage & decrease resistance toward a new technology by faculty in higher education. *Journal of Technology Studies, 43*(2), 58–69.

Simonson, M. (2008). Social networking for distance education: Where is the research? *Quarterly Review of Distance Education*, *9*(2), vii–vii.

Stanford-Bowers, D. E. (2008). Persistence in online classes: A study of perceptions among community college stakeholders. *Journal of Online Learning and Teaching, 4*(1), 37–50. https://jolt.merlot.org/vol4no1/stanford-bowers0308.pdf

Stark, C., & Schmidt, K. (2002, August 11–16). *Transitioning to e-learning: A case study* [Conference presentation]. e-Technologies in Engineering Education: Learning Outcomes Providing Future Possibilities. ECI Symposium Series. Davos, Switzerland. https://dc.engconfintl.org/etechnologies/30

State of North Carolina. (2020). *COVID-19 Executive Orders* (Executive Order 117). Author. https://files.nc.gov/governor/documents/files/EO117-COVID-19-Prohibiting-Mass-Gathering-and-K12-School-Closure.pdf

Steen, H. L. (2008). Effective eLearning design. *MERLOT Journal of Online Learning and Teaching, 4*(4), 526–532. http://jolt.merlot.org/vol4no4/steen_1208.htm

Stoltenkamp, J., Kies, C., & Njenga, J. (2007). Institutionalizing the elearning division at the University of the Western Cape (UWC): Lessons learnt. *International Journal of Education and Development Using Information and Communication Technology, 3*(4), 143–152.

Straub, E. T. (2017). Understanding technology adoption: Theory and future directions for informal learning. *Review of Educational Research, 79*(2), 625–649. https://doi.org/10.3102/0034654308325896

Straumsheim, C. (2016, April 3). *Stopping stop-outs*. Inside HigherEd. https://www.insidehighered.com/news/2016/04/13/study-explores-online-learning-trends-community-colleges

Taylor, T. A. (2014). *The economic domino effect: A phenomenological study exploring community college faculty's lived experiences during financial hard times in higher education* (Publication No. 3611014) [Doctoral dissertation, Capella University]. ProQuest Dissertations and Theses Global.

Teo, T. (2009). Modelling technology acceptance in education: A study of pre-service teachers. *Computers and Education, 52*(2), 302–312. https://doi.org/10.1016/j.compedu.2008.08.006

Teo, T. (2011). *Technology acceptance in education: Research and issues*. Sense Publishers.

Teo, T., & Van Schaik, P. (2012). Understanding the intention to use technology by preservice teachers: An empirical test of competing theoretical models. *International Journal of Human-Computer Interaction*, *28*(3), 178–188. https://doi.org/10.1080/10447318.2011.581892

Texas A&M University. (n.d.). *History of Bonfire and the Bonfire Memorial.* Texas A&M: Remembering Bonfire. https://bonfire.tamu.edu/history/

TexasMonthly. (n.d.). *The UT tower shooting.* https://bonfire.tamu.edu/history/https://www.texasmonthly.com/category/topics/ut-tower-shooting/

Tey, T. C. Y., & Moses, P. (2018). UTAUT: Integrating achievement goals and learning styles for undergraduates' behavioural intention to use technology. *EAI Endorsed Transactions on e-Learning*, *5*(17), Article 2. https://doi.org/10.4108/eai.25-9-2018.155573

Thompson, J., Ballenger, J. N., & Templeton, N. R. (2018). Examining quality elements in a high education fully online doctoral program: Doctoral students' perceptions. *International Journal of Educational Leadership Preparation, 13*(1), 51–63. http://files.eric.ed.gov/fulltext/EJ1186051.pdf

Thompson, N. L., Miller, N. C., & Franz, D. P. (2013). Comparing online and face-to-face learning experiences for non-traditional students. *Quarterly Review of Distance Education, 14*(4), 233–251.

Thompson, S. C., & Schlehofer, M. W. (2014). Undermining optimistic denial reactions to domestic and campus emergency warning messages. *Applied Psychology: Health and Welling Being*, *6*(2), 192–213. https://doi.org/10.1111/aphw.12024

Tierney, K. (1996). *Business impacts of the Northridge earthquake.* University of Delaware. https://udspace.udel.edu/handle/19716/645?show=full

Travers, S. (2016). Supporting online student retention in community colleges. *Quarterly Review of Distance Education, 17*(4), 49–61.

Travis, K. (2018, September 20). *Florence revealed need for better community college emergency planning, Hans says.* Carolina Journal. https://www.carolinajournal.com/news-article/florence-revealed-need-for-better-community-college-emergency-planning-hans-says/

TriData Division. (2009, November). *Mass shootings at Virginia Tech: Addendum to the report of the review panel*. https://scholar.lib.vt.edu/prevail/docs/April16ReportRev20100106.pdf

Tung, F., Lee, M. S., Chen, C., & Hsu, Y. (2009). An extension of financial cost and TAM model with IDT for exploring users' behavioral intentions to use the CRM information system. *Social Behavior and Personality*, *37*(5), 621–626.

U.S. Department of Education, National Center for Education Statistics. (2018). *Digest of Education Statistics*. https://nces.ed.gov/programs/digest/

U.S. Department of Education, Office of Elementary and Secondary Education, Office of Safe and Healthy Students. (2003). *Guide for developing high-quality school emergency operations plans*. U.S. Department of Education.

U.S. Department of Education, Office of Elementary and Secondary Education, & Office of Safe and Healthy Students. (2013, June). *Guide for developing high-quality school emergency operations plans*. https://rems.ed.gov/docs/School_Guide_508C.pdf

U.S. Government Accountability Office. (2018). *Emergency management: Federal Agencies could improve dissemination of resources to colleges*. https://www.gao.gov/products/gao-18-233

UNICEF. (2016, September 7). *Nearly 50 million children "uprooted" worldwide*. https://www.unicef.org/press-releases/nearly-50-million-children-uprooted-worldwide

United Nations. (2020). *Education during COVID-19 and beyond* [Policy brief]. https://unsdg.un.org/resources/policy-brief-education-during-covid-19-and-beyond

University of California Online. (2020). *Five pillars of quality online education*. https://cole2.uconline.edu/courses/209413/pages/five-pillars-of-quality-online-education

University of California-San Diego. (2021). *Academic integrity*. https://academicintegrity.ucsd.edu/take-action/covid-19-faculty.html

University of North Carolina System. (2020). *UNC System Coronavirus Resource Center*. https://www.northcarolina.edu/unc-system-coronavirus-resource-center/

University of Rhode Island. (2011). *Hurricanes: Science and society.* http://www.hurricanescience.org/history/studies/katrinacase/impacts/

Urdan, T. A., & Weggen, C. C. (2000, March). *Corporate elearning: Exploring a new frontier*.

USGS. (1994, January 17). *Reseda, CA earthquake*. https://earthquake.usgs.gov/earthquakes/eventpage/ci3144585/impact

Van Brunt, B., Sokolow, B., Lewis, W., & Schuster, S. (2012). *NaBITA team survey*.

Varvel, V. E. (2007). Master online teacher competencies. *Online Journal of Distance Learning Administration, 10*(1). https://www.westga.edu/~distance/ojdla/spring101/varvel101.htm

Vaughan, G. B. (2006). *The community college story* (3rd ed.). American Association of Community Colleges.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science*, *46*(2), 186-204.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 24*(1), 425–478. https://doi.org/10.2307/30036540

Verduin, J. R., Jr., Verduin, J. R., & Clark, T. A. (1991). *Distance education: The foundations of effective practice*. Jossey-Bass.

Virtual Learning Community-NCCCS. (2020). About Us. https://vlc.nccommunitycolleges.edu/about-us/

Wallenfeldt, J. (2020, July 25). Texas tower shooting of 1966. *Encyclopaedia Britannica*. https://www.britannica.com/event/Texas-Tower-shooting-of-1966

Wallis, L. (2020). *Growth in distance learning outpaces total enrollment growth*. https://www.qualityinfo.org/-/growth-in-distance-learning-outpaces-total-enrollment-growth

Walsh, L. L., Arango-Caro, S., Wester, E. R., & Callis-Duehl, K. (2021). Training faculty as an institutional response to COVID-19 emergency remote teaching supported by data. *CBE—Life Sciences Education*, *20*(3), Article 34. https://doi.org/10.1187/cbe.20-12-0277

Warren, C. L. A. (2014). *Crisis intervention and management: Are North Carolina community colleges prepared to prevent a crisis on campus?* (Publication No. 3690213) [Doctoral dissertation, North Carolina State University]. ProQuest Dissertations and Theses Global.

Werbach, K. (2000). Clicks and mortar meets cap and gown: Higher education goes online. *Release 1.0, 18*(8), 1–22. https://moodle.org/pluginfile.php/161/mod_forum/attachment/32482/clicks_mortar.pdf

Whalen, J. (2020). Should teachers be trained in emergency remote teaching? Lessons learned from the COVID-19 pandemic. *Journal of Technology and Teacher Education*, *28*(2), 189–199.

The White House. (2009). *Building American skills through community colleges*. https://obamawhitehouse.archives.gov/the-press-office/remarks-president-american-graduation-initiative-warren-mi

The White House. (2011). Presidential policy directive/PPD-8: National preparedness. https://obamawhitehouse.archives.gov/blog/2011/10/07/ppd-8-announcing-national-preparedness-goal

Whiteman, D. (2020, April 17). *The most expensive natural disasters in US history.* MoneyWise. https://moneywise.com/a/the-most-expensive-natural-disasters

Whittle, C., Tiwari, S., Yan, S., & Williams, J. (2020). Emergency remote teaching environment: A conceptual framework for responsive online teaching in crises. *Information and Learning Sciences, 121*(5/6), 311–319. https://doi.org/10.1108/ILS-04-2020-0099

Windes, D. L., & Lesht, F. L. (2014). The effects of online teaching experience and institution type on faculty perceptions of teaching online. *Online Journal of Distance Learning Administration, 17*(1), Article 12.

Wingo, N. P., Peters, G. B., Ivankova, N. V., & Gurley, D. K. (2016). Benefits and challenges of teaching nursing online: Exploring perspectives of different stakeholders. *Journal of Nursing Education*, *55*(8), 433–440. https://doi.org/10.3928/01484834-20160715-03

Winter, E. (2000). School bereavement. *Educational Leadership*, *57*(6), 80–85.

Wong, M. (2020, June 23). *How Harvard handled the 1918 flu pandemic.* Harvard Magazine. https://harvardmagazine.com/2020/06/how-harvard-handled-the-1918-flu-pandemic

The World Bank. (2020, June 8). *COVID-19 to plunge global economy into worst recession since World War II.* https://www.worldbank.org/en/news/press-release/2020/06/08/covid-19-to-plunge-global-economy-into-worst-recession-since-world-war-ii

World Health Organization. (2020). *About WHO*. https://www.who.int/about

World Health Organization. (2020, March 11). *Coronavirus disease 2019 (COVID-19) situation report—United States*. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/

Yin, R. K. (1994). *Case study research designs and methods* (2nd ed.). SAGE Publications.

Yin, R. K. (2003). *Case study research designs and methods* (3rd ed.). SAGE Publications.

Yin, R. K. (2009). *Case study research designs and methods* (4th ed.). SAGE Publications.

Yoon, C., & Kim, S. (2007). Convenience and TAM in ubiquitous computing environment: The case of wireless LAN. *Electronic Commerce Research and Applications*, *6*(1), 102–112. https://doi.org/10.1016/j.elerap.2006.06.009

Zdziarski, E. L., Dunkel, N. W., & Rollo, J. M. (2007). *Campus crisis management: A comprehensive guide to planning, prevention, response, and recovery*. John Wiley & Sons.

Zsohar, H., & Smith, J. A. (2008). Transition from the classroom to the web: Successful strategies for teaching online. *Nursing Education Perspectives, 29*(1), 23–28.

APPENDICES

Appendix A: Faculty Recruitment Letter

Dear North Carolina Community College faculty member:

My name is Karmen Cooper, and I am a doctoral candidate at North Carolina State University's College of Education. I am conducting a study with feedback from the faculty members who taught at least one (1) traditional (face-to-face) course in Spring 2020 that they transitioned to an emergency remote (online) course due to the COVID-19 pandemic.

The purpose of this study is to examine how North Carolina community college faculty members transitioned from traditional teaching to emergency remote teaching during the COVID-19 pandemic. I have identified you as a faculty member who taught at least one (1) traditional course that you transitioned to an emergency remote course in Spring 2020. Therefore, I invite you to participate in an interview for this study.

I anticipate the interview to last about 60 minutes during [insert dates] in Fall 2020 and Spring 2021. I will conduct the interview online via the Zoom video conferencing tool. I will ask you questions about your instructional and technological practices and experiences during the transition to emergency remote teaching.

If you would like to participate in the study, please click this link [link will be inserted here] to schedule an interview time and access the informed consent form by [date]. **By scheduling an interview, you confirm that you taught at least one (1) traditional course at a North Carolina community college that you transitioned to an emergency remote (online) course during Spring 2020.** This course could have been in any of the following areas: curriculum, continuing education, Career and College Promise, joint high school, and adult high school (GED).

Thank you so much for considering this request. Feel free to contact me at kcmcneil@ncsu.edu if you have questions.

Thank you,

Karmen L. Cooper
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Educational Leadership, Policy, & Human Development – Community College Leadership
North Carolina State University
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Appendix B: Adult Informed Consent Form

Informed Consent for Participation in Research Guidance

Adult Informed Consent Form

Title of Study: How North Carolina Community College Faculty Transitioned from Traditional Course Delivery to Online Course Delivery using Emergency Remote Teaching During the COVID-19 Pandemic: An Exploratory Case Study (**eIRB #** 23596)
Principal Investigator: Karmen L. Cooper, kcmcneil@ncsu.edu
Funding Source: None
Faculty Point of Contact: Dr. Michelle Bartlett, mebartle@ncsu.edu

What is the purpose of this study?
The purpose of this exploratory case study, which is a dissertation in partial fulfillment of the Ed.D. program at NC State in the Community College Leadership program, is to explore how North Carolina community college faculty members transitioned from traditional teaching to emergency remote teaching during the COVID-19 pandemic.

Am I eligible to be a participant in this study?
The study will have approximately 15 participants. To be a participant, you:

- Must agree to participate by scheduling an interview using the link provided in the recruitment email.
- Must have been a full-time, part-time, or adjunct faculty member in one of the 58 North Carolina community colleges who taught at least one traditional course during the Spring 2020 semester that you transitioned to emergency remote teaching during the COVID-19 pandemic.
    - The traditional courses taught include curriculum, continuing education, Career and College Promise, adult high school (GED), and joint high school courses.

What will happen if you take part in the study?
If you agree to participate, you will:

- Participate in one 60-minute interview in Fall 2020 or Spring 2021, which I will conduct virtually using Zoom video conferencing. I will audio or video record the interview to produce a transcript for later use.
- Review the transcript and provide any clarification, if needed.
- The total amount of time you will participate in this study (interview plus transcript review) will be 80 minutes.

Recording and images
Participation requires that you agree to be audio or video recorded during the videoconferencing interview. If you do not agree to be audio or video recorded, you cannot participate. I will transcribe the audio from the interview using the transcription options provided by Zoom and will review the transcript for accuracy.

Risks and benefits
There are minimal risks associated with participation. The risk to you as a result of this research could include feeling uncomfortable answering questions about experiences while transitioning from traditional teaching to emergency remote teaching during the COVID-19 pandemic. The steps taken to minimize this risk include allowing you to take your time with responses during interviews. You may also skip a question or withdraw from the study at any point. There are no direct benefits to your participation. The indirect benefits include helping inform recommendations and future research for community colleges.

Right to withdraw your participation
Your participation in this study is voluntary. You may stop participating in this study at any time for any reason. After you sign the consent form, you can still withdraw at any time and without giving a reason. To stop your participation during the interview, please tell me to stop the interview and that you no longer want to participate. If you decide to revoke your consent after completing the interview, I will return or destroy your data.

Confidentiality, personal privacy, and data management
Trust is the foundation of the participant-researcher relationship. Much of that trust consists of keeping your information private and in the manner that I have described to you in this form. I will hold the information that you share with me in confidence to the fullest extent enabled by law.

Individual responses to this research study will remain confidential. While I will collect your demographic information, I will use this information to analyze trends. The final report will not include your identifying information.

How we manage, protect, and share your data are the principal ways I protect your personal privacy. I will deidentify the data about you in this study.

- Deidentified data are information that at one time could directly indicate you but that I have recorded to separate your identity from the data. I have a master list with your code and real name to connect your information to the research data. While I might have the ability to link your identity to your data at earlier stages in the research, upon concluding the research, there will be no way to link your real identity to the published data. I will destroy the master list, along with all recordings, at the conclusion of my research. I will keep the transcript, which will not contain any identifiable data, for future research.
- I will deidentify the data that I will share with others and will aggregate them with other interviews so that they cannot be linked to your identity. If I use any direct quotes or use specific names of other people or colleges, I will use pseudonyms for the names of people and names of colleges mentioned.

- To maximize the benefits of your participation in this project and further contribute to science and the community, I will store the deidentified information for future research and may share it with other people without your additional consent.
- Virtual interviews will occur on my password-protected computer in a private setting with NCSU's Zoom video conferencing ability. I will store all audio or video recordings, transcriptions, and other data associated with the study electronically on NCSU's Google Drive, which has contractually binding security regulations and restrictions not present in a personal Google Drive; thus, it is a more suitable means of data security and storage.

Compensation

There will be no compensation given for participating in this study, and you are not guaranteed any personal benefits from participating in the study. However, I hope that the findings from this study could be a means of beginning conversations on how to quickly and effectively transition traditional courses online in future emergency situations and crises.

What if you have questions about this study?

If you have questions at any time about the study or the procedures implemented in this study, you may contact the researcher, Karmen Cooper, via email at kcmcneil@ncsu.edu.. You may also contact the faculty advisor, Dr. Michelle Bartlett, at mebartle@ncsu.edu.

What if you have questions about your rights as a research participant?

If you feel you have not received treatment in accordance with the descriptions in this form or feel that your rights as a participant in research have been violated during this project, you may contact the NC State IRB (Institutional Review Board) Office. An IRB office provides participants with assistance if they have issues with research activities. You can contact the NC State IRB Office via email at irb-coordinator@ncsu.edu or via phone at 919-515-8754.

Consent to Participate

I have read and understand the provided information. By scheduling an interview, I agree that I have read and agree to the informed consent and that I agree to participate in the study. I have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason, and without cost. If I decide to withdraw, I will inform the researcher in writing via email. I voluntarily agree to participate in this study.

Appendix C: Interview Protocol

1. What traditional course(s) did you teach when you had to transition to emergency remote teaching?
2. Did you, your program, or college have an emergency contingency plan for teaching and learning in place before the COVID-19 pandemic? If yes, did you find the plan helpful during your transition?
3. Were there any programmatic curricular changes implemented during the COVID-19 pandemic that had an effect on your course (i.e., canceled internships, clinicals, practicum, license testing)? If so, how?
4. What do you perceive to be the major challenges for faculty members during the transition from traditional to emergency remote teaching and learning?
5. At the time of the transition to emergency remote learning, had you utilized any technology in your course to deliver content? If so, what types of technology?
6. After the transition to emergency remote learning, what technology did you use to deliver course content, and how did you use it?
7. Did you choose the technology, or was the technology chosen/previously implemented by college leaders?
8. Did you find the technology chosen easy to use? If yes, how so? If no, why not?
9. Did you find the technology useful? If yes, how so? If no, why not?
10. Were there any drawbacks or barriers while accessing or using the technology?
11. What kind of curricular changes, other than technological, did you implement into the course when you transitioned from traditional to online?

12. How did you ensure that your learners engaged and interacted during synchronous or asynchronous lessons?
13. What technological or teaching resources and support did you have access to for help during the COVID-19 pandemic?
14. What communication measures did you put in place for your course to remain in contact with your students?
15. How would you describe your students' response to the course changes integrated during the pandemic?
16. What did you perceive to be the students' primary challenges during the transition from traditional to emergency remote teaching and learning?
17. What types of resources and support did you make available in your course to help students during the COVID-19 pandemic, if any?
18. What are your thoughts on the effectiveness and quality of online learning as compared to traditional learning?
19. What measures did you put in place to ensure academic integrity during the pandemic?
20. Do you plan to continue to integrate technology into your traditional course if/when traditional courses return to "normal" operations?
21. What mitigation strategies did you use to compensate for the reduction in any clinical/practicum/internship hours (if applicable)?
22. If you had to do it over again, what would you do differently?