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FORCED ADOPTION: DIFFUSION AND PERCEPTION OF ONLINE EDUCATION
BY POSTSECONDARY FACULTY MEMBERS BEFORE AND DURING THE
CORONAVIRUS PANDEMIC

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DEDICATION

This research is dedicated to the memory of my mother and ultimate superwoman

The Honorable Claudette J. Woodard, Ohio State Representative

My mother always made me feel as if I could do anything. Earning my doctoral degree was really one of the last goals we discussed before she passed away in 2010. Although she was not there physically at the end of this journey, I know she has been there spiritually as my angel in Heaven. When I started my undergraduate degree she mailed the poem below to me, which still is so relevant and encouraging in my life today.

Thinking of You

This morning when I wakened
And saw the sun above,
I softly said, "Good Morning, Lord,
-Bless everyone I love!"
Right away I thought of you
And said a loving prayer
That He would bless you specially
And keep you free from care!
I thought of all the happiness
A day could hold in store;
I wished it all for you because
No one deserves it more!
I felt so warm and good inside
My heart was all aglow-
I know God heard my prayer for you
-He hears them all you know!
Just to let you know
I'm thinking of you.

~ Author Unknown

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There are so many people that have had an impact on my doctoral journey mildly and mightily, but I will do my best to be short and concise. As the first in my immediate family to receive a PhD, this has been a lifelong dream come true. As a Daddy's Girl, I must start off by thanking my father, Ken, who kept me calm and focused the whole way. My husband and son, who I affectionately call "The Dudes" have endured my time and attention being taken away from them to do what is best for all of us; I love you Al and Von so much. My sister Deanna and brother-in-law Mark have always been supportive pillars. My journey has been inspired by all the other children and adult children in my village: Lindsey, Kenneth, Kameron (deceased), Jaelyn, Nevaeh, Harold, Lynae, Nadia, Langston, Elise, Zolah, Aria, Eden, and the twins Zaliyah and Zariah (still in the womb). There is a group of people who has given their time, space, and resources to help me reach the finish line. These wonderful individuals are my BFF Naumi, April my line sister, Tekla my sister in Christ, Pandora my coach, and David the owner of GroundWorks DanceTheatre. I also would like to thank Dr. Nicholas Zingale, my amazing chair, for his encouraging guidance throughout the dissertation process. I would also like to thank my committee members, Dr. Kimberly Neuendorf for always finding a way to laugh and make me loosen up too and Dr. Mittie Davis Jones for her expertise, sisterly support, and wise feedback. I cannot forget to thank all my sorority sisters of Alpha Kappa Alpha Sorority, Incorporated, Alpha Omega Chapter who have completed this path already and/or for cheering me on as I was running towards victory. Finally, I could not have accomplished any of this without my church family and spiritual intercessors. There were many times that I thought I would fail or not be able to continue, but thank you Lord Jesus for carrying me and my burdens and giving me the desires of my heart.

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ABSTRACT

Once considered a fringe and unreliable pedagogical approach for higher education, online learning has entered the mainstream. While the adoption of online learning has been on the rise for the past decade, higher education's forced adoption of online learning in response to COVID-19 has accelerated the curve. It has raised questions on the viability, sustainability, and interest in online learning for teachers, students, and administrative leadership. The most important question is: has forced adoption forever changed pedagogical approaches for higher education? This research attempts to answer this question from the perspectives of the teachers and faculty forced to adopt online teaching in response to the pandemic. Working from Roger's innovative-decision process and using a mixed-methods research design consisting of surveys and interviews of faculty, a new theory of diffusion was produced that includes forced adoption as a primary stage. The research focused on three crucial sub questions: (1) Will faculty choose to continue online teaching; (2) how has forced adoption shaped the innovation-decision process; and (3) what opportunities for professional transition does forced-adoption present. A new way of thinking about the diffusion of innovation has been produced, and offers what this might mean for the pedagogical future of higher education.

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CHAPTER I

OVERVIEW OF THE PROBLEM

1.1 Introduction

From the beginning, the Centers for Disease Control and Prevention (CDC) website stated that, “on February 11, 2020, the World Health Organization (WHO) announced an official name for the disease that has caused the 2019 novel Coronavirus outbreak, first identified in Wuhan China”; this disease, abbreviated, is COVID-19, to reflect the year of origin, type of virus, and disease (CDC, 2020). As a result of the onset of COVID-19 in 2020, educators and the rest of the world population have negotiated a variety of forced conditions, or adoptions, socially, economically, medically, and certainly, educationally. The difficult pandemic predicament involving safety, economy, and continuous educational production has changed norms in a colossal way. Notably, educational alteration has been thrust upon a system of educators in primary, secondary, and postsecondary institutions with an emphasis on online education during this public health crisis (Dhawan, 2020). Quick plans to stop all face-to-face classes to follow social distancing orders have made online content delivery the primary solution. In essence, “COVID-19 is affecting most aspects of teaching, learning, and employment at higher education institutions across the United States” (Harper, 2020, p. 1). Without faculty

members teaching online, students could leave, and revenue would be threatened at learning institutions. This was the shocking landscape of 2020. Now in 2022, there has been remarkable progress allowing for more time for reflection about the decisions made and how to handle the consequences of such radical changes.

Prior to COVID-19, online education (OE) was already popular, yet the perceptions of many faculty members about the modality were still varied, controversial, and problematic. Hamilton (2016) suggested that online education offers a solution to many institutions of higher education because “online education promised a solution to economic, organizational, and pedagogical problems in the “traditional” university” (p. 2). Academic leaders, executives, and trustees at brick-and-mortar colleges and universities spend plenty of time figuring out how to increase student enrollment, community engagement, and financial health of their institutions by adding OE courses and degree programs to strategic and long-term growth plans. Many of those innovative decisions, more often than not, were decided without support and involvement of faculty members, especially tenured postsecondary faculty (Tabata & Johnsrud, 2008; Wagner et al., 2008). The friction within the education community has had an impact on the speed of higher education’s evolution in the age of advanced technology. Although the pandemic was not the catalyst to adopt online education for every learning institution in the U.S, in some cases, the pandemic created impetus for improved systems, gave relevance to systems, and ultimately added faculty members willingly or unwillingly to systems of online teaching and learning already in place (Wotto, 2020).

1.2 Statement of the Problem

The problem statement for this research is layered. Undoubtedly, COVID-19 created a sense of urgency in figuring out how to “balance innovation and tradition through a concrete demonstration of their coincidence” and OE became the answer for the majority of decision-makers (Hamilton, 2016, p. 194). Online education was not and still is not always perceived as an acceptable pedagogical modality but is still being adopted as an acceptable response to the recent pandemic. The pandemic has, indeed, temporarily altered teaching and learning through online delivery, online techniques, and OE management systems for both students and faculty. Previously, OE in many places was offered as an academic option for students to take advantage of and a voluntary choice for faculty members to adopt for teaching. In the spring semester of 2020, OE turned into a medically preventative and mandatory reality for both students and faculty members.

OE is umbrella terminology used to describe innovation in education which brings technology and a digital format together demonstrated in different ways. Concerns about inconsistent definitions have been seen as a barrier to accurate reporting, data, and overall acceptance of the modality (Allen & Seaman, 2015). There are many synonyms used to describe OE. Labels that are educator-centered tend to be terms like teaching and instruction. Student-centered labels more commonly include the words learning, e-learning, and distance learning. Examples of both spheres of influence have produced many terms such as distance learning, online instruction, remote learning, online distance learner, online teaching, and virtual learning (Power Thesaurus, 2020). OE and learning are defined by Tabata and Johnsrud (2008) as the “use of technology to deliver

instruction and learning freed from the geographical and time constraints associated with face-to-face instruction” (p. 626). More explicitly, Allen and Seaman (2016) defined a fully online course as one in which 80% or more of the content is delivered online with “no face-to-face meetings” (p.7). The Internet provides the access, convenience, and flexibility needed for students (approximately 6.9 million) to take one or more online courses, and educators provide the pedagogy (U.S. Department of Education, 2020), especially in the prevailing extreme conditions instigated by COVID-19.

Faculty, in light of adoption, rejection, and perception of OE offered at colleges and universities, should be better understood, and considered for decision- making and planning (Kumar et al., 2017). Teaching in any level of education is a highly respected and influential profession (Boboc & Nordgren, 2014). Professors, along with other commonly used titles such as adjunct faculty, instructors, lecturers, and academics are fundamentally necessary for the successful operation of learning organizations and institutions. Therefore, postsecondary faculty members should be valued as major players in academic initiatives of colleges and universities as opinion leaders and influencers. Since COVID-19, brick and mortar colleges and universities have moved many courses online or remotely (terminology also used). The stress and responsibility to deliver quality education and a sense of normalcy have fallen on the shoulders of postsecondary faculty members who may or may not have already adopted OE before the pandemic. Even in a crisis, the problem still lies in the complicated relationship of adaptation and decision-making in higher education that is actively occurring without thorough examination of the perceptions of the key player: the academic professor. Faculty members serve as knowledge workers building colleges and universities all over the

country, via on campus or online. As demonstrated time and time again, professors and all other kinds of knowledge workers all over the world as proclaimed by McFarlane (2008) “are productive and indispensable to organizational survival” (p. 4).

1.3 Purpose of the Study

The purpose of this study is to highlight the importance of faculty members and their perceptions related to OE before and during a pandemic. Higher education should not be exempt from dealing with controversial and reform-driven advancements. Nosta (2021) declared that change in any way is loud, noisy, and “the beast of innovation isn’t smooth and accommodating, it’s rough and disruptive” (p. 2). Institutions of higher education in this country and worldwide are rapidly transforming due to technological innovation and a pandemic happening simultaneously. Gould and Eldredge (1972) introduced this simultaneous effect in the term “punctuated equilibrium” as “[a] change [that] comes in spurts” (p. 1). The pandemic undeniably caused a change which was, at the onset, “in spurts” (p. 1). Also, the use of OE in some shape or form by individuals and institutions has been occurring for many years in spurts or noticeable surges. However, punctuated equilibrium was defined by these authors as “any sudden, rapid change...[that]... can also be the result of other causes, such as huge and sudden changes in the environment...” (p. 1). Arguably, it would be difficult to deny the “huge and sudden changes in the environment” (p. 1) generated by COVID-19. Institutions of higher education are faced with new approaches to balancing supply and demand, tradition, reputation, finances, and employee morale, with the co-existing challenges of technological innovation and a pandemic. These challenges have interrupted culturally

and socially revered norms and interpersonal communication causing imbalance and disruption which has resulted in new approaches and processes.

The punctuated equilibrium event of a pandemic is speeding up change, and that change is connected to OE (Cheifetz, 2020). Institutions of higher education will need to move out of panic mode and figure out how to develop more sustainable systems as a result. In the mid 1990's, this same type of radical thinking and punctuated change in higher education transformed how internationalization and studying abroad accelerated (Parsons & Fidler, 2005). Currently, all over the world students and faculty alike travel (real or virtually) to learn, teach, and engage, which is now a commonplace occurrence. This paradigm shift transformed organizations and reduced the uncertainty about decisions that really needed to happen. Based on ignored warning signs, "punctuations may be forced by a crisis when the future of the organization is under threat" (Parsons & Fidler, 2005, p. 462).

At this moment, OE can possibly achieve the same goal of becoming normative practice. Even through resistance, reform still requires acceptance, adoption, and implementation by individuals, groups, and institutions; OE is the reform agent in higher education right now (Fenwick, 2013). Faculty members teaching students, expounding knowledge, and helping students fulfill dreams of course completion and ultimately degree attainment are a production line which "produces the same product over and over again" (Moore, 1995, p. 223). Online courses and programs cannot successfully be implemented without the continual acceptance and adoption of OE (the innovation) by educators. Purcell and Lumbreras (2021) have urged "the sector to accept that higher education [sic] is forever changed and embrace this moment of punctuated equilibrium to

advance higher education's profound transformational impact on people, prosperity and planet" (p. 11).

Subsequently, the many changes brought forth by the pandemic have had perhaps the greatest impact on faculty members who have been placed in a position to urgently adopt or adapt OE usage and completely adjust to academic processes since the onset of the pandemic and much longer. As a result of COVID-19, the right to choose using OE instead of unmediated face-to-face was temporarily abandoned and substituted with forced and mandatory usage. The pandemic has expedited the diffusion of OE and altered or advanced the style of instructional strategies of the academic professor employed in a brick-and-mortar college or university. The matter of mandatory usage of OE during COVID-19 has also caused a professional transition and a new social and instructional expectation for the established role of the professor that needs to be better understood through this life-altering pandemic. Therefore, understanding this social phenomenon from the viewpoint of forced adoption, rejection and perception can contribute to research for academic communities and beyond.

1.4 Research Question and Hypotheses

This research sought to gain a deeper understanding of the subject matter and richly describe the existing social phenomenon (Gustafsson, 2017). Rogers' (2003) Diffusion of Innovations theory was the framework for this research and was intentionally integrated with fidelity. In guiding the findings of OE perception, continued adoption or discontinuance, diffusion theory was expanded with new concepts introduced in the results and discussion section (McCombes, 2019). The researcher examined how factors associated with perception and adoption of innovation affect the continuance or

discontinuance of using online education by faculty members. The focus of this investigation is understanding how the pandemic has shaped or has not shaped perceptions of faculty members. Answers from one university that was already utilizing OE prior to the pandemic more specifically address the research question and support acceptance or rejection of the following hypotheses:

RQ: What are the similarities and differences in the perceptions of postsecondary faculty members in an urban, research level-2 public university before and after adopting online education in the COVID-19 pandemic?

H₁: The perceived characteristic of relative advantage for online education (as an innovation) will have a significant impact on faculty members' decisions to continue adopting past spring semester 2021.

H_{1a}: The perceived characteristic of compatibility for online education (as an innovation) will have a significant impact on faculty members' decisions to continue adopting past spring semester 2021.

H_{1b}: The perceived characteristic of complexity for online education (as an innovation) will have a significant impact on faculty members' decisions to continue adopting past spring semester 2021.

H_{1c}: The perceived characteristic of trialability for online education (as an innovation) will have a significant impact on faculty members' decisions to continue adopting past spring semester 2021.

H_{1d}: The perceived characteristic of observability for online education (as an innovation) will have a significant impact on faculty members' decisions to continue adopting past spring semester 2021.

H₂: In current conditions, being naturally oriented towards innovation will have a significant impact on the decision of faculty members to continue adopting online education past spring semester 2021.

H_{2a}: In current conditions, the culture and influence of the college/university will have a significant impact on the decision of faculty members to continue adopting online education past spring semester 2021.

H_{2b}: In current conditions, technology skills and capabilities of an individual will have a significant impact on the decision of faculty members to continue adopting online education past spring semester 2021.

1.5 Methodology Overview

This study was a mixed-methods research design examining the perceptions about online education by faculty members before and during the Coronavirus pandemic as related to diffusion and adoption outcomes. This investigation utilized a self-administered online survey. Lastly, the study used an optional in-depth interview for participants who wanted to share further to understand the perceptions of faculty members to ascertain how variables and the Coronavirus pandemic impact the final decisions and perceptions about online education.

1.6 Definitions of Relevant Terms

Adoption- A decision to make full use of an innovation as the course of action available (Rogers, 2003).

Asynchronous- Communication and learning that has anytime access with multiple simultaneously occurring discussions such as Blackboard, podcasts, and modules (Oztok et al., 2013).

Coronavirus pandemic (COVID-19)- is an ongoing global pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Centers for Disease Control and Prevention (CDC) website stated that, “on February 11, 2020, the World Health Organization (WHO) announced an official name for the disease caused the 2019 novel Coronavirus outbreak, first identified in Wuhan China”; this disease, abbreviated, is COVID-19, to reflect the year of origin, type of virus, and disease (CDC, 2020).

Decision- That which occurs when an individual engages in activities that lead to a choice to adopt or reject an innovation (Rogers, 2003).

Diffusion- The process in which an innovation is communicated through certain channels over time among the members of a social system (Rogers, 2003).

Discontinuance- A decision to reject an innovation after it has previously been adopted (Rogers, 2003).

Forced Adoption- Occurs when decision-making unit of an organization has already decided to adopt the innovation, but the acceptance/adoption of the individual end users is uncertain” (Ram & Jung, 1991, p.117)

Fully Online Course- No face-to-face meetings with 80% or more of content delivered online (Seaman, 2016).

Innovation- An idea, practice, or object that is perceived as new by an individual or other unit of adoption (Rogers, 2003).

Online education- Umbrella terminology for technology and digital format together; many different terms used (Allen & Seaman, 2015). Use of technology to deliver instruction and learning freed from the geographical and time constraints associated with face-to-face instruction (Tabata & Johnsrud, 2008, p. 626).

Perception- The processing of stimulus that gives something awareness using the senses that leads to thoughts, behaviors, and feelings (Démuth, 2013).

Punctuated Equilibrium- Long periods of time with no change or status with sudden radical change that disturbs the equilibrium or status quo (Gould & Eldredge, 1972).

Synchronous- Communication and learning that is in real-time at an appointed time even if mediated face-to-face such as Zoom meetings/lectures (not recorded) or Messenger (Oztok et al., 2013).

1.7 Limitations, Delimitations, and Personal Biases

The limitations of this research are based on the time-bound nature of the pandemic and bound sample population specifically which makes the findings not generalizable to other samples, settings, and times. Neuendorf (2019) discussed the importance of inter-coder reliability using content analysis. There were only two coders so reliability testing could be improved with multiple coders and percent agreement.

One threat to internal validity includes mortality/attrition. Examples of this would include faculty members working at CSU in the specific timeframe or no longer working at the institution when the survey was administered for reasons of retirement and relocation. Many emails bounced back when requesting participation. Other threats exist if a faculty member was unable to complete the lengthy survey in the 8-week window or felt uncomfortable based on minimal professional risks.

Other challenges in this research include bias; for example, a faculty member may not have been honest about how they really feel about online education because they were concerned about CSU officials seeing results or feel that his/her job was in jeopardy. These challenges are minimized as much as possible through clear and concise

instructions per the consent agreement. The primary investigator is personally biased as an adjunct faculty member at a private university teaching the same course on-line and unmediated face-to-face. Before the pandemic, the investigator tried teaching online classes three times and finally decided to discontinue adoption of OE as a faculty member.

1.8 Significance of Study

This research is significant because the world changed with a pandemic called Coronavirus. This time-sensitive situation with online education could be the moment that is researched over the next one hundred years. The effects will be long-lasting for many reasons. As reminded by Yin (2009), this work is focused on a real-life, real-time, contemporary phenomenon related to COVID-19, which gives the researcher little control in this unique situation. Prior to the onset of the Coronavirus, many colleges and universities were already using OE as a voluntary teaching and learning modality; however, in many cases, OE adoption was forced upon faculty members during the pandemic and punctuated world-changing event.

Perceptions about OE from the viewpoint of faculty are relevant and worthy of being heard. Prior research has laid out many perceived barriers that have caused faculty members to reject OE that could be considered selfish or self-centered (Allen et al., 2012; Andrews, 2018; Kirschner, 2012; Moon, 2017; Telmesani, 2009). Activities related to OE have been catapulted into high gear because of a pandemic. The decision to continue adopting or discontinue using OE will be faced by many and will perhaps be the most traumatic for tenured faculty members. Unfairly, in many prestigious colleges and universities in the United States, tenured faculty members are stereotypically depicted as

cantankerous and change-resistant individuals with little to no technology skills or usage. This research will hopefully dismantle those beliefs and offer more description about the complexities of OE adoption by faculty members. As a result of Coronavirus, no longer is the adoption of OE voluntary for some faculty members. The decision will be made to continue adoption or discontinue moving forward. Timeframe of the forced adoption in the spring semester of 2020 will forever be a remarkably scary and memorialized transition. Consequently, the educational metamorphosis is affecting the role and profession of all faculty members in colleges and universities.

1.9 Summary

OE has saved many institutions from financial ruin or shutdown. OE requires a demand from students and participation of highly engaged faculty members. Faculty members who had already voluntarily participated using technology to engage with students, teaching classes online, and fully using learning management systems on a regular basis were able to move forward with more ease under the unprecedented circumstances of COVID-19 (Wingo et al., 2017). The pressure was more intense for those faculty members who had not previously adopted OE prior to Coronavirus because they were forced to adopt and be compliant (Ram & Jung, 1991). The goal of this research is not to draw negative attention to the faculty members who chose not to adopt OE before COVID-19, but instead, better understand the forced adoption experience of OE in a more in-depth way. This research study was partly inspired by the work of Glass (2017) who focused on faculty members and emotion-laden communication because it “conveys information about a person’s perception of events or conditions that impinge on concerns of significance to that person” (p. 242). The perceptions and behaviors of

faculty members who had and had not adopted OE prior to Coronavirus and the decisions they will make after is a social phenomenon that will expand research in the areas of diffusion theory, education reform, organizational communication/culture, and professional transition.

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CHAPTER II

REVIEW OF RELEVANT LITERATURE

2.1 Introduction

Online education (OE) is not a new concept; it has been around for hundreds of years going as far back as correspondence schools. In 1840, the first correspondence school was established in England, and over 30 years later, in 1873, in the United States (Kentnor, 2015). From the establishment of the first American public school in 1635 in Boston, to the early 2000s, there was increased activity with colleges and universities adding online courses, programs, and entire degrees to traditional brick and mortar locations (Chatlani, 2017; Fish & Gill, 2009; Udermann, 2015). The traditional framework required a teacher or professor to meet students in a classroom or lecture hall. For centuries, this concept was natural and comfortable for student and teacher which led to student success and persistence in primarily face-to-face classrooms.

Tinto (1997) described classrooms as communities and mandatory spaces for “academic and social involvement or integration” (p. 599). The term “communities” implies an educational, social, and trusting, physical intimacy with all constituents of the classroom. Changing the classroom from a physical space of “communities” to a virtual space is one characteristic about OE that makes it so monumental. Students, in 2020,

began mastering virtual environments in elementary, secondary, and postsecondary education confirming educators' direct impact on people, culture, and the growth of this country. This paradigm shift in education regarding time, space, attitudes, and behaviors of both educators and students simultaneously created uncertainties and possibilities.

Currently, the centuries-old practice of students and a professor in an unmediated face-to-face classroom and lecture hall is changing, but it is still too early to determine if this practice will become obsolete. What *is* new, and now proven not to be a fad, is online teaching and learning (Levernier, 2005) as are the Internet, learning management systems, student demand, and new excitement for using technology socially and educationally. The demand for online courses for students has soared and many types of learning institutions have responded by adding courses, curriculum, and resources as OE was the “proposed way to bring a broader base of Americans into postsecondary education” (U.S. Department of Education, National Center for Education Statistics [NCES], 2011, p. 1). Wallis (2020) offered statistics regarding the immense numbers of current online learners and projected estimates of future online learners:

The number of students taking at least one online course has grown by 151 percent – from 24,682 (21.3%) in 2008-09 to 61,995 (48.3%) in 2018-19. The number of university students taking only online classes also increased from 7,163 in 2008-09 (6.2%) to 18,241 (14.2%) in 2018-19 (p.1)

OE is idealized as a technological utopia because of the flexibility and accessibility of online learning to accommodate persons who not only have family, work, and financial obligations but to the general population who enjoy ubiquitous access to

such technology (East Coast Polytechnic Institute [ECPI University Online], 2020; Bejerano, 2008; Goodman et al., 2019; Jaggars, 2014). OE, as experienced through hybrid, blended, synchronous, asynchronous, and fully online courses, continues to allow individuals to earn degrees (associate, bachelor's, master's, and doctoral).

This chapter organized relevant literature about online education perception by faculty members that supported the need for further knowledge with this current investigation. Prior to Glass' (2017) research, there was a gap in understanding the barriers and concerns from the perspective of faculty members only about OE adoption. Much of the research limited the choices and actions of faculty members to complaining and resistant behavior instead of being interpreted as perceptions about "the quality of student learning, but also the quality of their own experiences expressing subject matter and performing valued social roles in their online courses" (p. 250). In addition to the literature review, the theoretical framework for this study is discussed to provide an acceptable foundation for the current study.

2.2 Perceptions and Barriers

The adoption process of any innovation goes through a cycle because there are always perceptions, concerns, and barriers that present a blockage permanently or temporarily. Research focused on trying to understand the perceptions of faculty members about OE is important and "is critical to finding the way to a sustainable strategy and possibly building trust for the challenges that exist in the economy" (Boyers, 2017, p. 10). Research that examined barriers and/or concerns with technology are useful since OE has been established because of technological advancements, but technology should not be the only focus. The cognitive process and attitude of a faculty member is

exceptionally shaped by one's experiences with OE resulting in fear or confidence in teaching. Younger faculty members feel that they had the skills to teach online because of their experiences with online courses in graduate school or as a teaching assistant in comparison to more seasoned/tenured colleagues (Fish & Gill, 2009; Udermann, 2015).

Training and E-learning readiness (commonly referred to as e-readiness) is described as fundamental in supporting faculty as well as ensuring quality instruction for students. E-readiness is the conceptualized term for online/e-learning delivery of education and competence to use the system and technology tools "from the need to assess the technological, social, and organizational preparation of users" (Gay, 2016, p. 200). Clay (1999) pointed out that by offering adequate online course support, faculty members save time and receive a "true understanding of the technologies involved through hands-on practice [which] will usually result in an instructor feeling more confident, and thus providing a course of higher quality" (p. 4). Training options should always be available in different learning styles and offer faculty the opportunity to share information, suggestions, and best practices with one another. The goal must be meeting the needs of faculty versus adding more apprehension and confusion (Everson, 2009).

Faculty training, development, and e-readiness are largely tied to the leadership of administrators and executives employed by a college/university to manage implementation and oversight of online courses. Being e-ready is a barrier for an individual faculty member's participation with OE, but also is a direct reflection of an institution's readiness to serve and implement holistically (Samarawickrema & Stacey, 2007). Colleges and universities have developed departments for OE to be more transparent about readiness of faculty members rather than making assumptions about the

skill set and desire of current faculty to teach online and/or design classes (Indiana University, 2018). Managing the perceptions of online education should be the primary responsibility of distance learning/online education administrators, especially as it relates to quality and value (McFarlane, 2011). In general, being ready or not being ready to teach online courses is subjective to some extent; however, scales and survey instruments have been used to measure this concept displayed in educators and students alike nationally and internationally (Doe et al., 2017; Eslaminejad et al., 2010; Farid, 2014; Gay, 2016; Hung, 2016).

Perceptions about teaching online come from a faculty member's feelings about his/her own experiences with technology. Teaching self-efficacy "is a construct that represents teachers' confidence in their ability to facilitate the development of students' knowledge, abilities, and values" (Horvitz et al., 2015, p. 306). Teaching online is accused of being more time-consuming than face-to-face due to always being available to students and in material preparation for a course. In contrast, Zhen et al. (2008) discovered that the amount of time used was not the most significant factor in deciding to teach with an online course management system, but self-efficacy. Faculty members who see online as a useful and valuable option to face-to-face and "who have high self-beliefs about efficacy regarding the use of online tools will most likely invest time and appl[y] their knowledge to post course materials online, design course web pages, or create online tests" (p. 9). Self-efficacy is a concern in both the classroom and online, but easily evolves into a larger barrier and area of discomfort when technology is introduced. Some faculty members like to be technologically well informed in their personal time. Activities such as being active on social media platforms, staying up-to-date on cell

phones and digital apparatuses, and enjoying the conveniences of life with information technology and upgrades is a natural attribute. Other faculty members must be provided professional development over time to develop a greater sense of efficacy online (Bhagat et al., 2016; Farkas, 2014; Richter & Idleman, 2017).

After comparing faculty member groups between 2002 and 2016, Perry and Steck (2019) found that there was a shift in who was teaching online courses from “predominantly midcareer tenured professors” to more “early career non-tenured faculty with less teaching experience” (p. 10). This shift was presumed to be a result of technology adeptness of younger faculty members and/or faculty responsibilities of publishing, community-building, and researching as mandated by the institution for tenured faculty. OE, for some faculty members, has become a mental shift in instructional perceptions, beliefs, and practices. Although it may sometimes appear that pedagogy is inert, pedagogy, in terms of content and delivery, has constantly morphed to meet the needs of those who teach and learn, whether in face-to-face environments or online environments. No matter the instructional model, the goals have remained the same which is to “have a deeper understanding of the knowledge gained by the learner, including the analysis of relevant information regarding this knowledge and the ability to intelligently evaluate its value and use” instead of rigidly spoon-feeding loads of data for credit requirement or tests (Boboc & Nordgren, 2014, p.16).

Communication is essential in a healthy academic and social environment. It promotes interaction and engagement for student-instructor and student-student relationships. OE interaction and delivery is bifurcated in two methods: asynchronous and synchronous. Asynchronous communication is considered the most traditional form

of online education and provides the benefits of convenience and flexibility for “anytime-anywhere e-learning” (Watts, 2016, p. 24). Examples of asynchronous communication are email, discussion boards, and prerecorded video. The self-directed and work at your own pace ability of asynchronous OE has been attractive to students. Students have also had more time to digest material for critical thinking and robust discussions. For faculty members who embraced a constructivist approach to teaching are more attracted to asynchronous (Perry & Steck, 2019). With advancements in technology, synchronous communication gives opportunity for learning “that happens in real time, often with a set class scheduled and required login times” (TBS Staff, 2020, para. 2). Examples of synchronous communication are video conferencing, live streaming, and audio with instantaneous feedback. Huang and Hsiao (2012) expanded the perception that the use of synchronous communication was less desirable because of scheduling conflicts that prohibited getting students together at one time, decreased participation, and time for processing thoughts and information. Faculty members teaching courses online have used one form of communication or the other exclusively or a combination of both for engaging with students, disseminating information, and promoting critical thinking and in-depth learning (Watts, 2016).

As OE and social networking options are being utilized, it is important to remember the inherent limitations of physically not being in the same space at the same time. When individuals are in the same unmediated space, communication, and connection is more robust and engaging based on fully taking in all the cues that add meaning and connection to the interaction and knowledge. Connaturality is more complex than just missing some non-verbal cues, it is the knowledge known from a more

naturally instinctive way, like faith. Zingale (2013) concluded that “computerized social networks, even with all their technological advances, virtual environments, and democratizing access, cannot replace what it means to share in an experience and actually be there (be in)” (p. 296). After interviewing faculty members who had taught classes online using Blackboard, a learning management system, one of the perception themes discovered by Huang and Hsiao (2012) was “miscommunication due to the lack of visual cues” (p. 19).

In summary, there are varieties of factors that shaped the perceptions of faculty members. Perceptions about OE can be the same for faculty who have taught online courses just as those who have not taught online courses. The relevant and compelling research findings discussed in this chapter are pre-pandemic and provided a pathway to this study, so it was essential to re-evaluate as much as possible based on the current punctuated state of affairs. The many different perceptions of academics about OE are created by the processing of sensory stimuli that is organized and influenced by one’s prior experience and knowledge (Démuth, 2013). Barriers and concerns of faculty members related to the voluntary adoption of OE in literature mainly fall in the overarching categories of training, technology, quality, and readiness. Researchers have summarized the primary barriers to OE based on perceptions of faculty broadly as “fear of change, concerns about reliability of technology, skepticism about student outcomes in online learning environments, workload issues, and other factors” related to, self-efficacy, image, and role of professor (Wingo et al., 2017, p. 15). Additional factors less studied are related to type of higher learning institution, level of autonomy, academic freedom of professor/researcher and complexity of handling the three-fold responsibility

of education, research/publishing, and outreach that influence perception of OE (Buć & Divjak, 2015; Harrison et al., 2017; McFarlane, 2011) as well as compensation (Udermann, 2015) and overall commodification of education (Chau, 2010).

2.3 Diffusion of Innovations and Forced Adoption

The Diffusion of Innovations model is a theoretical framework used to explain interpersonal and mediated communication of an innovation in a social system.

According to Rogers (2003), “diffusion is the process by which 1) an innovation, 2) is communicated through certain channels, 3) over time and, 4) among members of a social system” (p. 11). This model frames categories of adopters, rate of adoption, and the characteristics of opinion leaders and change agents. The innovation for this research is OE. Prior to COVID-19, OE was being diffused. The external factor of COVID-19 has accelerated OE diffusion through a process of forced adoption. It has been estimated “that between 750,000 and a million faculty were involved in some way in making this emergency transition” at the onset of Coronavirus in March 2020 (Johnson et al., 2020, p. 18).

Rogers (2003) broadly defined an innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption” (p. 12). Newness is still subjective, meaning “someone may have known about an innovation for some time but not yet developed a favorable or unfavorable attitude towards it, nor have adopted or rejected it” (p. 12). Diffusion researchers expand over many disciplines including education, public administration, and medical. The use of computers in schools for instructional tools is a normative practice now (critical mass) but started off as an innovation that went through the diffusion process (Dooley, 1999). In studying

technology acceptance, Diffusion of Innovations is a reliable model used to predict adoption behavior using “unidirectional causal relationships lined up from external factors to cognitive beliefs that affect attitudes and behavior” (Gunasinghe et al., 2019, p. 6).

A major component of this framework is the five perceived characteristics of an innovation. These variables are important in the decision process that leads to the adoption or rejection of an innovation, which are Relative Advantage, Compatibility, Complexity, Observability, and Trialability. Each perceived innovation characteristic is defined by Rogers et al. (2005):

innovations that are perceived as (a) relatively advantageous (over ideas or practices they supersede), (b) compatible with existing values, beliefs and experiences, (c) relatively easy to comprehend and adapt, (d) observable or tangible, and (e) divisible (separable) for trial, are adopted more rapidly. (p. 4)

Although the decision to adopt or reject an innovation is based on the individual, the individual is a part of a social network full of communication, diverse opinions, and interaction. While the diffusion process is gradual and requires a lot of information to break down barriers, it is normal for an individual’s perceptions of new technology, ideas, and practices to be characterized by “a certain degree of uncertainty” (p. 8). Figure 1 displays Rogers’ (2003) model of the five stages in the Innovation-Decision process (p. 170). This research study focused on the last stage of the innovation-decision process, which is confirmation, based on the decision of faculty members to continue adoption or discontinue of online teaching. In the confirmation stage, innovations can continue to be

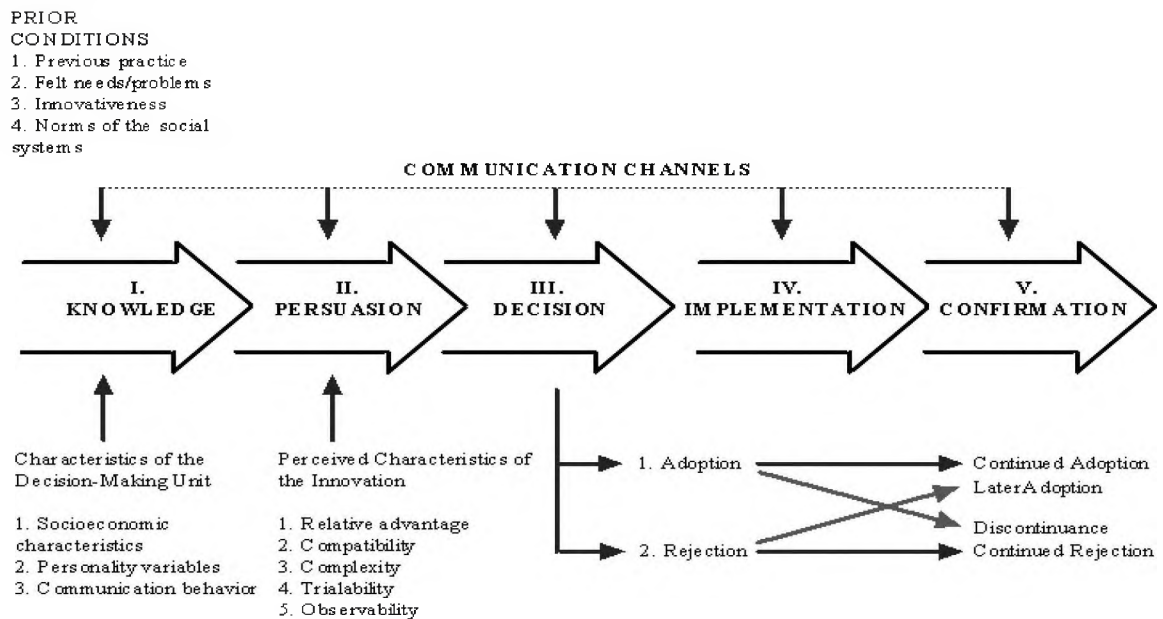
adopted or discontinued. Discontinuance can occur because of disenchantment with the performance of the innovation or by replacement of the innovation by what supersedes it. Rogers (2003) detailed that “dissatisfaction may come about because the innovation is inappropriate for the individual and does not result in a perceived relative advantage over alternatives” or meet acceptable standards of complexity, trialability, compatibility, and observability (p. 190). Teaching online in the midst of a pandemic may have been just a face-saving act for individual faculty members; no one wants to stand out negatively in the social system. Another example is a tenured faculty member with dedicated years to the profession of being a professor is torn about the reform of education by way of OE, but not sure what options he or she has based on many years of doing the same thing. The findings of this work are about all faculty members, with a special interest in tenured members, provides a better explanation for OE diffusion, and continuance and discontinuance by faculty members in postsecondary education in relation to COVID-19.

Diffusion of Innovations theory is primarily focused on the individual and voluntary process of an innovation spreading that can lead to adoption or rejection. A portion of Rogers’ (2003) work can be applied to this forced adoption research on an organizational level. One of the three types of innovation-decisions is called authority innovation-decision based on individuals who possess power, status, and expertise making decisions for “which the organization’s employees must comply” (p. 403). The distinguished presidents and select leaders of colleges or universities with power declared the launching of all online and/or remote classes once the pandemic hit in spring semester 2020. Faculty members and other employees of institutions had to forcibly comply in order to remain employed. As a result of the forced adoption of OE by institutions of

higher education, there will be a time, later, when individual faculty members will be able to make a choice based on current conditions and individual perceptions. Rogers (2003) described this occurrence as “contingent innovation-decisions [as] choices to adopt or reject that can be made only after a prior innovation-decision” whether voluntary or not (Rogers, 2003, p. 403). The perceptions of faculty members about OE versus face-to-face will be factored into the decision to continue or discontinue when it is under their control to do so.

Figure 1

Rogers’ (2003) Model of Five Stages in the Innovation-decision Process



Source: Rogers (2003)

As the presence of OE had become more salient, literature to expand knowledge about adoption and diffusion behaviors of academics became more robust. Scott (2012) concluded faculty members who decided to teach online adopted because of four overarching themes: (a) internal motivation, (b) perceived advantages, (c) incentives, and

(d) social influences. In addition, Scott (2012) found that “early perceptions were based upon conversations with colleagues, reading literature or popular knowledge” versus current perceptions came from their own experiences from teaching online and not just generic or overall opinion (p. 145). The participants in Scott’s (2012) research were from four out of the five adopter groups of innovator, early adopter, late majority, and laggard; missing is early majority group (Rogers, 2003). After creating an instrument using Rogers’ (2003) constructs of perceived characteristics of an innovation, Ball et al. (2014), asserted that “communication channels and characteristics of distance education (the innovation) were the best predictors of distance education adoption among health education faculty” (p. 244). Samarawickrema and Stacey (2007) described a safe adoption environment as one “that recognizes career priorities of academics” and involves healthy negotiation between institutions and creative staff (p. 313).

Telmesani (2009) found a new trend in the modern type of contract that many tenured faculty members had not experienced because newer “instructors [were] hired to teach online courses or were asked to do so as part of their teaching loads, so they felt they had no choice” (p. 8). Diffusion of Innovation Theory poignantly denoted that acceptance of change and new ideas, things and process take time, so that “innovation, by whatever door it is entered, involves complicated relationships” (Unruh & Alexander, 1970, p. 14). Gardner (2017) warned that “laggards” (p. 1) or faculty reluctant to change, monopolize the discussion and negatively change the atmosphere for others. It has been reported that before the pandemic, faculty members have gone even further by being “fierce guardians of the status quo” of face-to-face classes by publicly protesting and showing disdain for OE (Kirschner, 2012, p. 5).

Since the onset of the pandemic, much has changed. Although there may be many similarities, faculty members in higher education are not a monolithic group when it comes to adoption behavior, teaching preferences, and the propensity to be innovative. Those educators, who had no experience with online teaching, were forced to adopt OE, learn new instructional strategies, and use learning management systems and other approved technologies. This group of new users of OE may have previously rejected the innovation or never even considered using it in the past. Other faculty members who had already adopted online contrarily, were implementing regular usage of online teaching and/or content delivery. No matter the online adoption background pre-pandemic, all faculty members had to adjust and adapt in some fashion to a pandemic that changed how regular operations occurred at their university campus starting in March 2020.

Coronavirus created a suddenly scary and unfathomable crisis which was less about differences, “but a situation that demand[ed] humanity and unity” (Dhawan, 2020, p. 6).

In the midst of a health crisis, forced adoption of OE may have been a favorable decision to the masses for a short-term solution; however, forced adoption as a permanent state is still a concern (Williamson et al., 2020). Forced adoption is defined as occurring “when the decision-making unit of an organization has already decided to adopt the innovation, but the acceptance [adoption] from the individual ‘end-users’ within the organization is uncertain” (Ram & Jung, 1991, p. 117). Heidenreich and Talke (2020) updated the conceptualization of forced adoption with the distinction of passive and active innovation resistance relating to attitudinal and behavioral responses. Ram and Jung (1991) also found that a shocking consequence is “when forced to comply with adopting an innovation, even innovative individuals resist it” which is usually not

expected from this type of individual, but more likely from laggards or late adopters (p. 121). Even when forced, Zhou (2008) reconfirmed that the roles of perceived attributes of the innovation (the Internet) as asserted by Diffusion of Innovations framework are still strong predictors of adoption or continued adoption, in particular relative advantage.

In studying the perceptions of faculty members and the diffusion of OE before and during COVID-19, there is an opportunity to understand this population more and the multidimensional responses associated with the forced situation. COVID-19 is causing adults to reconsider retirement plans, career paths, living situations, family time, and entertainment choices. Nonetheless, this professional transition has caused discomfort and disruption and individuals will decide to make necessary adjustments or move on to other opportunities. In essence, “professionals frequently must cope with transitions to new levels of responsibility, implementation of new protocols for practice, and migration to new work sites and cultures” (Fenwick, 2013, p. 352). Academics in the U.S. and worldwide are in the midst of this forced professional transition at the hands of a pandemic right now; therefore, there is much to be learned and applied to praxis and provide guidance for other disciplines.

2.4 Crises and Emergencies

The narrative about OE in a crisis is crucial in offering increased knowledge, peace, and persuasion efforts. Sharing and storytelling creates public value and helps convince “faculty members and other stakeholders that the innovation is legitimate and worthwhile” (Bickerstaff, 2014, p. 1). Traumatic events such as hurricanes, mass shootings, and tornadoes have historically plagued institutions of higher education. Instructions on how to plan for emergencies have been put in place to protect faculty,

staff, and students and maintain progress by the U.S. Department of Education (2013) and partnering agencies. OE has proven to be helpful in these kinds of events. It is certain many stories will come out of the Coronavirus pandemic that include OE.

Throughout history there have been epidemics and pandemics that have ravaged humanity (Jarus, 2020). As a result of COVID-19, Gallagher and Palmer (2020) proclaimed that “this moment is likely to be remembered as a critical turning point between the ‘time before,’ when analog on-campus degree-focused learning was the default, to the ‘time after,’ when digital, online, career-focused learning became the fulcrum of competition between institutions” (para. 3). There is pre- and post-research for many emergency events, but one in particular that involved education is the 2005 Hurricane, Katrina, in New Orleans, Louisiana. Prior to Hurricane Katrina, the New Orleans Public School System was perceived negatively. Katrina caused a large amount of structural damage, displaced, or moved residents, and illuminated the racial and socioeconomic injustices existing in the impoverished and low performing urban school district. Post-Hurricane Katrina had shown changes in the overall system to include charter schools, increased attendance of White students, improved management, and financial funding based on using contingency theory for all stakeholders (Alzahrani, 2018). This is one example of how a punctuated event, a natural catastrophe, produced a radical phenomenon of changed “perspective” (p. 93).

2.5 Summary

The literature reviewed in this chapter is essential to this current investigation about the effects of perception and other variables on the adoption decision of online education (OE). The results from this study provide an opportunity to give more clarity and insight to online teaching and learning from the perspective of faculty members.

Postsecondary education had already started to morph from a traditional classroom-only learning environment into a globalized and space-less entity prior to the pandemic. New ways of thinking, and increased information dissemination, and access are offered to the many stakeholders of higher education using technology. A pandemic has given the higher education community an opportunity to show its resilience by “rapidly pivoting from in-person to online course delivery on a mass scale” (p. 18). The next phase of change and continual adoption of OE is still unclear for students, faculty members, institutions because the pandemic is not over, yet.

CHAPTER III

METHODOLOGY

3.1 Research Design

This study was a mixed-methods research study examining the perceptions about online education by faculty members before and during the Coronavirus pandemic as they relate to diffusion and adoption outcomes. This investigation utilized a self-administered online survey that included a modified version of an instrument created to measure elements of Diffusion of Innovations Theory (Rogers, 2003) and elements of distance education adoption by faculty members in a health education department of a midwestern university (Ball et al., 2014). This was an investigation into the five characteristics of the innovation (online education) which are Relative Advantage, Observability, Trialability, Compatibility, and Complexity in addition to factors of Generalized Domain Innovation (Blake et al., 2019), technology skills and capabilities, social system culture and influence, and perceptions of faculty members that affect adoption decisions. Finally, the study used a scripted interview to further understand the perceptions of faculty members to ascertain how current conditions and the Coronavirus pandemic impact the final decisions and perceptions about online education.

This research used a mixed-methods research design using a survey, in-depth interviews, and content analyses of open-ended responses. Data were collected by using a survey instrument with open- and close-ended items on SurveyMonkey and a second qualitative method of phone interviews with respondents who wanted to give further feedback. The multi-methods research strategically focused on the timeframe of spring semester 2020 through spring semester 2021 when the Coronavirus pandemic caused sweeping shutdowns and mandatory social distancing safety protocols to a year later.

3.2 Procedures

The research timeline was essential for capturing the necessary data and authentic disclosure from the respondents of the urban, midwestern, public, tier-two research university. The Cleveland State University (CSU) Internal Review Board (IRB) granted approval to start the study of faculty members at the end of March 2021. Following that important milestone, the final stage of pilot testing of the electronic survey instrument and technology software was conducted in mid-April. The “questions were placed together as expected on the final questionnaire” in the attempt to improve validity and reliability (Bowden et al., 2019, p. 328). The investigator administered pilot survey to 10 target participants at the real and full scale for maximum testing (Rea & Parker, 2014). The pilot was considered an internal survey pilot because the final survey was administered to a “small group of target participants who will not be included in the main survey” (Sincero, 2012, p. 1). One pilot participant volunteered to be interviewed for more depth following the electronic survey via SurveyMonkey to test the Google Voice recording logistics and scripted interview delivery. Finally, in mid-April, the university’s General Counsel honored the request of the researcher and provided a secured database

of all faculty members and their email addresses who were eligible to teach during spring semesters 2020 and 2021. The list of 2,261 people was used for the final sampling frame to which an email request and reminders were sent with a survey link.

There was an initial email sent out to faculty members asking for participation in the study, two reminder emails, and one final notice with a thank you message starting on April 22, 2021. The data collecting process was eight weeks. As approved by the IRB, participants were able to participate in the study in one or two ways. The first way was to complete the survey via SurveyMonkey. The second way was to complete the survey via SurveyMonkey, and volunteer to participate in an optional telephone interview. Both the survey and the interview were approximately 25 minutes to complete each. Participants were given space in SurveyMonkey to indicate interest in an in-depth interview or graciously decline. Interested participants provided an email address via which the researcher followed up with reply and ability to schedule an interview at the faculty member's convenience based on calling a Google Voice telephone number. To eliminate pressure of any kind, the researcher never called the participants. Surveys provided anonymity, and the interviews promised confidentiality. Each participant was offered an incentive by way of a raffle at the end of the survey if so desired to enter. On June 30, 2021, a winner was randomly selected and awarded a \$50 Amazon gift certificate.

3.3 Instrumentation

Based on the variables measured, the research design, and the specifics of the theoretical framework for this research Diffusion of Innovations (Rogers, 2003), I decided to use an instrument found while studying literature in a peer-reviewed journal (Ball et al., 2013; Ball et al., 2014). The researcher received permission from Dr. James

W. Ball in an email of support to use and adapt his original instrument for research (Appendix A). The Ball et al. (2014) instrument contained 97 items: including 15 demographic items, 37 items to measure characteristics of innovation (distance education), 15 items to measure social system, 10 items to measure communication, 3 items for perception of need, and 17 items to measure time elements. The final version used for this research after adaptation was an 88-item instrument administered via survey link. The newly revised and adapted instrument contained 88 items: including 13 demographic/characteristic items, 37 items to measure characteristics of innovation (online education), 10 items to measure social system culture and influence, 6 items for perception and decision, 15 items for technology skills and capabilities, 6 items for innovativeness index, and 1 item for consent to participate in the study. Careful attention was paid to keeping the fidelity of the original instrument to measure perceptions of online education by faculty members (Ball et al., 2014) to effectively modify it based on current language, the pandemic, and new variables to measure; these changes have been tracked with updated labeling (Appendix B).

The final adapted 88-item survey instrument used for measuring perception for this study is a combination of closed- and open-ended questions. The survey primarily utilized a 5-point Likert response scale to designate agreement or disagreement on the statements that measured the independent variables of Relative Advantage, Compatibility, Complexity, Observability, Trialability, Generalized Domain Innovation, Social System Culture and Influence, and Technology Skills and Capabilities. There was a total of 69 items designated to measure the eight aforementioned variables. The respondents chose from a Likert-type response scale in which they responded to each

statement on a one-to-five rating scale (1= strongly disagree; 5= strongly agree; 0= don't know (missing). The items on the survey used for measuring each specific variable were mixed throughout the survey instead of being consecutively ordered in one session only. For example, the items constructed to measure the variable of Compatibility were statements in question numbers 3, 16, 33, 51, and 67. Based on negative wording of 32 items, reverse coding was used (including all seven items for the Complexity scale, as complexity is predicted to be negatively related to adoption). Analyses were conducted using Statistical Package for Social Sciences (SPSS) version 26. Thirteen questions on the survey asked about demographic and online background about the respondent. There is one dependent variable, the decision of the faculty member to continue adoption or discontinuance of OE, which was measured by two different questions on the survey (Likert-type scale and close-ended question with category selection).

In seeking a deeper understanding about the perceptions of faculty members about OE, the participants were asked the following open-ended questions in this study in the survey, interview or both:

1. Prior to the Coronavirus pandemic in spring 2020, what did you perceive as the advantages and disadvantages of online education? Question 2
2. As a result of the Coronavirus pandemic, have your perceptions about online education changed or remained the same? Question 72
3. When you have the opportunity to decide, will you choose to continue or discontinue teaching courses using online delivery? Question 73
4. How do you feel about teaching online in a synchronous or asynchronous manner? An example of synchronous online instruction is using real-time

meetings/lectures. An example of asynchronous online instruction is using PowerPoints, podcasts, and other materials that are posted online that students can access at any time. Question 74

5. If you had complete control, would you choose to continue using Blackboard as learning management system for online education?

Question 75

6. Looking at past literature about perceptions of faculty members and online education, some barriers and/or concerns were academic freedom of professor, role of the professor, and three-fold responsibility of professor of teaching, publishing, and outreach. Can you share your thoughts about these concepts? (Interview only)
7. Looking at past literature about perceptions of faculty members and online education some barriers and/or concerns were technology, training, and quality and commodification of higher education. Can you share your thoughts about these concepts? (Interview only)
8. Is there anything else you want to share about your perceptions of online education as a faculty member and academic leader? Or anything about the pandemic specifically? (Interview only)

The final adapted survey added a new variable to measure trait innovativeness and self-realized readiness by adding six items called the Generalized Domain Innovativeness Index ([GDI], Blake et al., 2019). The GDI is unique in that it refers to “one’s orientations (suspicion, trust, caution, reluctance, consideration, skepticism) rather than behaviors” (p. 30). GDI is already constructed to measure hesitancy or disinclination

towards innovation; therefore, the higher the number the less innovative one is in thinking and behavior. GDI is suggested as a new and viable approach to understanding innovation adoption. The scale allows the researcher to give attention to the perceptual “type of newness is referenced within the scale [i.e., any of the specific three- novelty, recency, or network penetration- or when specificity is not feasible, the inclusive “new”] (p. 28). Online education is not brand new, but as an innovation falls into the newness dimension of network penetration because a portion of one’s family-friend-acquaintance-student-colleague social network have or perceived to have used online education (Blake et al., 2019).

Scales have been created by combining specific items on the survey to measure the independent variables. In efforts to increase reliability and be able to use the variables and instruments repeatedly, the internal consistency among individual measures must be evaluated. One of the most popular reliability estimates is Cronbach’s alpha coefficient to understand the average inter item correlations on a scale. There is a delicate balance on the range of .0 to 1.0. Too many items on a scale can cause redundancy and measuring the same thing repeatedly or too little is a poor measurement (Carmines & Zeller, 1979). Neuendorf (2014) explained that Cronbach’s alpha scores can be too high which creates a risk of being “artificially inflated by simply adding more redundant measures” (p. 1). Table 1 indicates the Cronbach’s alpha scores, number of items, and Mean Inter-item Correlation of the scales used for this study to measure the eight independent variables that are considered reliable and acceptable.

While it is important to report the internal consistency coefficients or homogeneity, there is still some subjectivity based on the researcher’s purpose and the

meaning of the data for a scale as to what is too or too low. Cronbach's alpha coefficients generally between .6 and .9 are considered most acceptable, even though "there are no longer any clear standards regarding what...is considered acceptable" (Clark & Watson, 1995, p. 315). Briggs and Cheek (1986) stated that the stronger marker of internal consistency is the mean interitem correlation because "the optimal level of homogeneity occurs when the mean interitem correlation is in the .2 to .4 range" (p. 114). The scales for this study fit into the recommended and preferred ranges set by both Clark and Watson (1995) and Briggs and Cheek (1986) which are current reliability criteria and standard. The Trialability scale has the lowest Cronbach's alpha of .630 which consists of three items and a mean interitem correlation of .375 and the Relative Advantage scale has the highest Cronbach's alpha of .926 which consists of 16 items and a mean interitem correlation of .435.

Table 1

Reliability of Scales

Scale	# of items	Cronbach's α	Mean Inter Item Correlation
Compatibility	5	.654	.272
Complexity	7	.787	.351
GDI	6	.812	.412
Observability	6	.692	.272
Relative Advantage	16	.926	.435
Social Sys Culture	10	.727	.205
Tech Skills	13	.753	.206
Trialability	3	.630	.375
5 Innovation Characteristics	37	.955	.371

3.4 Participants

The participants in the study included 152 CSU faculty members during the spring 2021 semester. From the master database provided by CSU General Counsel, all 2,261 faculty who taught in spring 2020 and/or spring 2021 semester were invited to participate in the study via the researcher's student email. The sample population represented a diverse array of teaching titles, service years, disciplines, courses, and schools/college of CSU faculty members. There are 11 college/schools at CSU listed under the academic department as: Monte Ahuja College of Business, College of Education and Human Services, Washkewicz College of Engineering, College of Liberal Arts and Social Sciences, School of Nursing, College of Sciences and Health Professions, Maxine Goodman Levin College of Urban Affairs, College of Graduate Studies, Cleveland-Marshall College of Law, Jack, Joseph and Morton Mandel Honors College, and Undergraduate Studies and Academic Programs. Of the 152 participants, there was a range from 27 years to 79 years of age with a variety of years of teaching at the university level from new starts to emeritus. Indicated in Table 1, the participants were more female than male. Participants were asked to write in the race or ethnicity that they were most comfortable with as a description instead of prewritten options. As shown in Table 1, participants identified five race/ethnicity categories and the largest frequency was Caucasian/White with 83.9%.

Table 2*Participant Demographics- Female Versus Male*

	#	%
Female	77	63.1
Male	43	35.2
Other	2	1.6
No indication	30	-
Total	152	100

Table 3*Participant Demographics- Race/Ethnicity*

	#	%
African-AM/Black	5	4.2
Asian	6	5.1
Caucasian/White	99	83.9
European	5	4.2
Mixed/Biracial	3	2.5
No indication	34	-
Total	152	100

After the completion of the survey, there were 17 interviews conducted using the IRB approved script (Appendix B). The script contained three open-ended questions from the survey and three open-ended questions generated from literature and other areas on the subject that generated rich responses. These interviews were recorded, with

permission, and transcribed by the primary investigator. The transcribed interviews were shared by the investigator for synthesis with the quantitative data.

3.5 Thematic and Content Analysis

This mixed-methods approach produced a healthy amount of rich content. The open-ended questions provided rich written and oral narratives. The content from the surveys aligned with what was found in previous literature and research about online education and perceptions. However, there were some new concepts that emerged that gave meaning and depth of understanding for the coding scheme to support the punctuated nature of the pandemic, innovation adoption decision, and other matters which were more reflective of the process used in thematic analysis. Neuendorf (2019) stated “that the conclusion of thematic analysis is the identification of a (hopefully) saturated set of themes and a meaningful codebook” (p. 212). For this investigation, thematic analysis was used first to create a saturated set of themes which to use content analysis for final quantitative output. There are 32 themes, in total, that emerged from the thematic analysis, and that were subsequently used for human content analysis coding to summarize and explain the findings. Open-ended questions on the survey and responses to the phone interview have been quantitatively analyzed using content analysis, which produced “a numerically based summary of a chosen message set” (Neuendorf, 2002, p. 14).

The presence of a theme was accounted for in coding directions and not the frequency of occurrence of such theme, which tends to be common practice of thematic analysis. This blended or hybrid approach has been integrated into mixed method research designs more with proven viability through reliability assessments (Neuendorf,

2019). The content shared by the respondents covered many topics of value in understanding thinking and behavior while giving insight to decisions made about online adoption continuance or discontinuance. The themes are a mixture of valence-free and valence-based positive or negative designations. In addition, the faculty members created variance by choosing to respond directly about themselves or students in mind when answering questions; therefore, some of the themes created have a focus that is student learning, faculty leaning, and student-faculty leaning in meaning. The coding scheme allowed for this type of adaptability and forethought of the faculty members when answering open-ended questions. The full codebook with more information for each theme is available in Appendix D. The 32 themes are:

1. Necessary
2. Forced
3. Pedagogy Concerns
4. More Comfortable
5. Student-Focused
6. Faculty-Focused
7. Upgrade in Higher Education
8. Finally Tried
9. Time Consuming
10. Flexibility
11. Staying at Home
12. Face to Face Needed
13. Async Preferred
14. Sync Preferred
15. Academic Freedom
16. Quality of Education Concerns
17. Institution Standards
18. Technology Issues
19. Training Issues
20. Blackboard
21. Benefits Outweigh Risks
22. Using Zoom
23. No Concerns

24. Overreacting Faculty
25. More Time for 3-Fold
26. Less Need for a Professor
27. Competitive
28. Branding
29. Expansion
30. Department Size
31. Bad Reputation
32. Tuition Costs

Utilization of content analysis for quantitative results required that a codebook be created, and training occurred so that another coder could replicate the work and increase reliability of the coding scheme and research method. With the blended approach, the researcher operated in respect to knowing that in thematic analysis that “reliability among investigators is not typically assessed” in contrast, content analysis assumes “reliability between coders is paramount” (Neuendorf, 2019, p. 219). Intercoder reliability analysis was based on 16 cases between the primary researcher and one coder which has been considered acceptable. After training and coding using the codebook directions, themes with lower reliability based on intercoder correlation levels showing a score under .60 for Gwet ‘s AC₁ were flagged in findings (Gwet, 2016). Reliabilities varied across the 32 codes as they were applied to four different questions within the survey. There is a total of 160 intercoder reliability coefficients for the tested cases (Appendix E).

In summary, this research developed a detailed coding scheme to comprehensively capture the various perceptions of the faculty member responses. The 32 themes were derived from previous literature and survey responses, and more emerged from the in-depth interviews. The diligent process of blending the thematic and content analyses produced a coding scheme in which to thoroughly explain and capture the full

range of the shared thoughts, emotions, and behaviors of faculty members about online education. The 32 themes were used for this research and its findings.

CHAPTER IV

RESULTS AND DISCUSSION

4.1 Introduction

The current investigation sought to examine factors and their impact on adoption decisions of online education by faculty members at Cleveland State University (CSU). The research evaluated perceptions of faculty members before retrospectively and during the Coronavirus pandemic. Due to the emergency state of the pandemic, CSU like many other institutions in the spring semester of 2020 went into a remote and all online delivery mode. CSU was already delivering fully online courses, hybrid/blended courses, and supporting online education prior to the pandemic. The administration of Coronavirus vaccinations, health screenings, and safety protocols were helping stop the spread, but still numbers of new hospital cases in Cuyahoga County and the state of Ohio of affected and dying people from the virus were on the rise. The university campus fully reopened to on-campus classes and continued the variety of online options in Fall semester of 2021. Based on the mutations and emerging variants of Coronavirus, in April 2022 it is generally accepted to refer to the status of the pandemic as on-going. Pre-pandemic or before the pandemic time frame in the U.S. is January 2012 through January 2020 (CDC, 2022).

This chapter presents results and discussion on the mixed methods analysis that was conducted based on the research question and hypotheses guiding the study. The quantitative and qualitative results examined perception and independent variables influencing the dependent variable of making a choice to continue or discontinue using online education by faculty members. Open- and closed-ended questions answered by the participants have provided a healthy amount of data and rich content for bivariate analysis and anecdotal exemplars.

4.2 Research Question

The focus of this study is to better understand the perceptions of faculty members about online education, additionally how the pandemic has shaped or has not shaped those perceptions as a decision is made about usage. Prior to the pandemic, CSU was already utilizing OE and many faculty members were using online education; however, there were faculty members who had never used the modality until the university decided that learning would continue via online education in spring semester 2020. The essential research question of this study is:

What are the similarities and differences in the perceptions of postsecondary faculty members in an urban, research level-2 public university before and after adopting online education in the COVID-19 pandemic?

4.2.1 Perceived Advantages and Disadvantages of Online Education

The relevant literature in chapter two of this paper discussed previous research on the perceptions of faculty members about online education prior to the pandemic. A brief summary of that chapter included barriers and concerns related to technology, pedagogy, and training as well as a deep concern for the overall quality of the student's education

experience. To investigate this question further, the first question on my survey addressed this matter with an open-ended question to prevent respondent bias by the wording contained within the survey. The open-ended question on the instrument “had no preexisting response categories and permit[ted] the respondent a great deal of latitude in responding” which added authenticity and efficacy to the survey (Rea & Parker, 2014, p. 50). The question asked: Prior to the Coronavirus pandemic in spring 2020, what did you perceive as the advantages and disadvantages of online education? The responses to the question were captured within the 32 themes from the codebook used for content analysis based on occurrence (Appendix D). The respondents answered the question with both students and faculty members in mind and in a few cases the best interest of the university. The transparency in the answers was enlightening and truly organic.

The top perceived advantages of online education are flexibility, more comfortable, student-focused, upgrade in higher education, staying at home, expansion of the university, faculty-focused, competitive, necessary, asynchronous ability preference, and more time for three-fold responsibility of the professor. The theme of flexibility was the number one advantage with 80.6% occurrence in all written responses. In the codebook, flexibility was defined with an example as: Online education offers flexibility and freedom in learning and teaching beyond the confines of brick and mortar. (i.e., I never knew all the responsibilities my students have had to juggle; online education helps them manage and still earn a degree.). Flexibility is a perceived advantageous characteristic for both the student and the faculty member about OE that removes limits and restraints from the academic process. Table 4 displays the themes for advantages of online education in rank order.

The top perceived disadvantages of online education are concerns about the quality of education, concerns about pedagogy, the need for unmediated face-to-face, technology issues, the need for institutional standards, time-consuming nature, bad reputation, concerns about academic freedom, staying at home, expansion of university, and forced usage. The theme of quality education concerns was the number one disadvantage with 91.8% occurrence in all responses. In the codebook quality education concerns was defined with an example as: OE poses concerns about the effectiveness and quality of higher education that is received by students. (i.e., Students are receiving a less efficient educational experience from a large portion of online courses because of the lack of student engagement, interaction, equity, and impactful communication.). Concerns about the quality of education of OE was a perceived disadvantageous characteristic for students that is detrimental to learning and the academic process. Table 4 displays the themes for disadvantages of online education in rank order.

Table 4

Q2: Perceived Advantages and Disadvantages of Online Education

Rank Order	Advantage	Percentage	Disadvantage	Percentage
1	Flexibility	80.6%	Quality of Education Concerns	91.8%
2	More Comfortable	71.5	Pedagogy Concerns	74.7
3	Student-Focused	50.7	Face to Face Needed*	20.5
4	Upgrade in Higher Education	49.3	Technology Issues	19.3
5	Staying at Home*	39.6	Institution Standards*	11.0
6	Expansion	20.1	Time Consuming	11.0
7	Faculty-Focused*	15.3	Bad Reputation	8.2
8	Competitive	9.0	Academic Freedom*	4.1
9	Necessary	9.0	Staying at Home	4.1
10	Async Preferred	8.3	Expansion	3.4
11	More Time for 3-fold	4.6	Forced	3.4

* Theme with lower reliability based on intercoder correlation levels.

The responses collected from the open-ended question (Q2) have resulted in two themes being both an advantage and disadvantage of OE by the respondents: Staying at home and Expansion. Staying at home was defined with an example as: Online education allows faculty members to stay at home and teach or be anywhere other than the college/university campus. (i.e., I am so happy to cut out expenses for transportation and parking, and time for travel, but sometimes I feel isolated and alone.). Staying at home to be safe and save resources are perceived advantages of OE (39.6%) and perceived disadvantageous (4.1%) characteristics for faculty members because of isolation and lack of contact. Expansion was defined with an example as: Companies and institutions of education actively find ways to extend their reach and scope in new and creative ways. While trying to produce quality services products and experiences, there is the threat of commodification or just putting a price tag on earning a college degree. (i.e., Just because the university is expanding, that does not mean it is better or the alumni feel connected.). Expansion of the university in creative new ways was a perceived advantage of OE (20.1%) and perceived disadvantageous (3.4%) characteristic based on commodification and mass production of degrees. All the above perceptions about OE are valid representations about the innovation related to institutions and faculty members, but more than likely are highlighted since the pandemic.

4.2.2 Changing Perceptions about Online Education

In efforts to comprehensively answer the research question about perceptions, survey question 72 were formatted as a follow-up open-ended question. The question allowed the respondent to answer in a concise way and still vent. Rea and Johnson (2014) suggested that it is beneficial to allow venting for the respondent “to be asked to add any

information, comments, or opinions that pertain to the subject matter of the questionnaire but have not been addressed in it” (p. 54). Question 72 asked: As a result of the Coronavirus, have your perceptions about online education changed or remained the same? Please thoroughly explain your thoughts. Out of the 32 themes, 26 were represented in the responses given. Table 5 displays the rank order and percentages for each theme mentioned whether the theme was connected to a changed perception or an affirmation for perceptions to remain the same. Additionally, 55.3% (63) of the respondents had admitted that their perceptions had changed about online education while 44.7% (51) wrote that their perceptions had remained the same before and during the pandemic. The theme with the largest percentage (36.6%) was upgrade in higher education. Upgrade in higher education was defined with an example as: Online education is an important and long overdue upgrade in higher education that existed prior to the pandemic but has gained more relevance as a result. It also provides students with a more independent and self-paced experience. (i.e., It is time for traditional institutions and old traditions to catch up to new century thinking and technology.) Using the 32 themes to analyze and categorize the data provided more dimension to the perceptual responses. Consequently, this process has helped the study give more insight and dimension to how faculty members think, feel, and behave in reference to online education.

Table 5*Q72: Perceptions about Online Education Changed or Remained the Same*

Rank Order	Theme	Percentage
1	Upgrade in Higher Education*	36.6%
2	Necessary	35.8
3	Quality of Education Concerns*	34.1
4	Forced*	31.7
5	Benefits Outweigh Risks*	26.8
6	Pedagogy Concerns	26.8
7	Student-Focused*	25.2
8	More Comfortable*	24.4
9	Faculty-Focused*	21.3
10	Face to Face Needed*	17.9
11	Flexibility*	17.1
12	Finally Tried	15.4
13	No Concerns	15.4
14	Zoom	15.4
15	Expansion	13.0
16	Institution Standards	10.6
17	Bad Reputation	7.3
18	Technology Issues	7.3
19	Competitive	6.5
20	Training Issues	5.7
21	Blackboard	4.9
22	Staying Home*	4.9
23	Time Consuming	4.9
24	Academic Freedom	4.1
25	Branding	2.4
26	Overreacting Faculty	2.4

* Theme with lower reliability based on intercoder correlation levels.

In answering the research question, results of this study have shown that there are some clear similarities in perceptions about online education adoption before and after the pandemic. The differences found from the study have more to do with the immediate

nature of the pandemic and the evolution of online education in general. The most prominent differences are found under the themes of academic freedom, Zoom, forced, necessary, and async or sync preferred. Previous literature discussed faculty concerns about academic freedom as a larger and prevailing problem and concern; however, this investigation found that concept was not a big concern for the majority of the respondents. Academic freedom of the professor was listed as a disadvantage of OE by only 4.1% and as a perception that required mentioning for change or remaining the same for only 4.1% of the total responses (Tables 4 and 5). In the coding scheme, academic freedom was defined with the following example as: Online education restricts, interrupts and/or hinders faculty members from expression of ideas and running classes as desired and not using online could result in job loss. (i.e., Being forced to use online [education] has infringed on my academic freedom.). Interviewees from the in-depth interviews also agreed that academic freedom of the professor and concept of intellectual property should not be a barrier or concern when using online education platforms of the higher education institution:

Interviewee #8 who is an experienced online educator said, *“Academic freedom is not the same as academic speech or just freedom of speech. I think academic freedom means you teach to the standard that you need to teach in the modality that you feel that works best for the student. So you can pick your readings, you pick the activities, you know but you still need to reach whatever standard or objectives you are required to. I think you can do that online or um as face-to-face. And of course, there are different skills required for instructor and student to make that work”* (6:09).

Interviewee #10 adamantly stated, *“They [teachers/faculty] have a proprietary understanding of their material. Like, hello we are a state school. You are paid to put that stuff together. If your chair wants to give that to someone else, so they can use it to teach students, what’s your problem with that? So people think they are so f’ing special. Okay, look we are all cogs in the wheel here... Don’t have all this ownership. Don’t be a legend in your own mind!”* (15:07).

In the U.S. and all over the world, “the outbreak triggered new ways of teaching online” (Almahasees, 2021, p. 1). CSU followed this blueprint as well by introducing software such as Zoom, Panopto, and introducing Blackboard (to those who never used it). Zoom is a video platform that many educational and business institutions started using because of the pandemic for maintaining operations and communications (Dhawan, 2020). In Table 4, Zoom is listed as the 14th theme for perceptions about online education (15.4%). Respondents expressed the benefits of using Zoom and found the software to be helpful in the remote experience for both students and faculty members. In the coding scheme, Zoom was defined with the following example as: During the pandemic, the video conferencing software and app Zoom became extremely popular for educators to communicate with students and colleagues synchronously and asynchronously. Zoom can be a positive or negative reality for faculty members. (i.e., Even if students did not show up to a scheduled class via Zoom, I was able to record the class session for them to watch later.). Interviewees also agreed that Zoom was an added resource in the implementation of OE triggered by the pandemic, positively and negatively:

Interviewee #5 who is technically savvy stated that *“Doing a synchronous lecture via Zoom is a challenge. Definitely difficult. A lot of times it feels like hours (4:20).”*

Interviewee #12 who is adjunct faculty enthusiastically said *“I like the fact that when I use Zoom. Uh, a platform that I can record the lectures. Then I go back through to see Zoom analytics and see who was present during the live lecture and who went back in and utilized the recording later” (5:20).*

Themes that are time-sensitive based on the pandemic and are different from previous literature are necessary and forced as evidenced on Tables 4 and 5. Necessary is perceived as an advantage of online education (9.0%) and a perception about the

pandemic ranking number two at 35.8%. In the codebook, necessary was defined with the following example as: Online education is the most viable solution to continue learning and teaching in the pandemic because it is a safe and healthy use of technology. (i.e., Online education allowed students to still learn in the pandemic or finish the semester.). Staying safe and protected while finishing the semester was the goal of CSU and other institutions of higher education in the spring semester of 2020 and online education in multiple forms was necessary to achieve this goal (Lockee, 2021). Consequently, a forced shift to online education caused students and faculty members alike to feel overwhelmed and lost. Bolland (2020) summarized this sentiment by stating, “Human beings are four dimensional-computer monitors [are only] two. We have been learning and teaching face to face for hundreds of thousands of years. That is a hard habit to break” (p. 4). In the codebook, the word forced was defined with an example as, online education is/was mandated by authority of institution to be used by faculty members, whether it was desired or not. (i.e., I had no choice but to use online education to keep my job.). Forced is perceived as a disadvantage of online education (3.4%) and forefront in thoughts regarding changed perceptions during the pandemic ranking number four at 31.7%. In-depth interviewees did share their thoughts about being forced to start using OE in the pandemic as well as the necessity of the learning and teaching abilities of such option:

Interviewee #1 who was positive and decisive stated, *“Yeah, I’m going to discontinue [online delivery] when I can. So, I know that certain courses we have, the convenience of online is just necessary. And these are for classes, I think are amenable to online instruction. For instance, I teach an introduction to the major course in...”* (4:07).

Interviewee #13 who was a faculty member new to OE declared, *“Uh and now having, you know, being forced into that space [online education]. I, I, I, [stuttering] it has taken time, but I have seen how I can deliver a really quality*

course. It is not the same as it would be in person, but I am surprised how deep and rich of a course I could teach in the online environment” (2:22).

4.2.3 Synchronous vs. Asynchronous Online Education

Technological advancements have allowed online education instructional strategies and communications to occur both synchronously and asynchronously. This ability has provided options in the teaching and learning dynamic. The evolution from only an asynchronous (async) modality to synchronous (sync) capabilities is believed to have “increas[ed] focus for engagement in online courses” but this notion is still debatable (Watts, 2016, p. 24). Faculty members are now equipped to understand how both forms of communication work and have a preference based on what works best for their personal teaching style and/or the learning style of their students. In the coding scheme, Async preferred is defined with an example as: Online education instruction delivery that allows anytime access by students such as PowerPoint, podcasts and other posted materials. (i.e., Async allows me to respond in mass, upload lecture videos and other supporting materials.). Sync preferred is defined with an example as: Online education instruction delivery that allows for real-time lectures and meetings. (i.e., Having set class times in Zoom was very beneficial for my students.). Async preferred was ranked number 10 on the list of advantages of online education with 8.3%

The async-sync comparison is now a big part of the conversation around adoption and perception of online education. Question 74 of the survey asked how the faculty member felt about the two options in order to discover his/her teaching preference. This study found that 41.4% of the respondents preferred asynchronous and 55.3% preferred synchronous. The current async-sync debate and comparison about online

communication and usage suggests that more faculty members are adopting the innovation and can actively share experiences and best practices. Colleague to colleague dialogue benefits students and faculty members because it produces optimal utility of OE. Huang and Hsiao (2012) discovered that there are clear rationales and biases for using one versus the other (or both) throughout a course, but perceptions and faculty experiences are the leading determining factors for choice. Even when using both forms of media communications, Oztok et al. (2012) warned about assuming “that the combination of synchronous and asynchronous media carries the benefits of each type of media in isolation” (p. 87). The interviewees had strong opinions for preferring one over the other in the same way the debate is currently being discussed in academia everywhere:

Interviewee #17 who discussed the student in preference said, *“I have also followed an asynchronous format. I have done this because in previous classes when I was teaching online. The selling point or the beauty or the benefit to the student is that they can complete at the times that is best for them”* (2:44).

Interviewee #4 who has taught online since late 1980s and does not use Blackboard or modules instead only gives weekly assignments online focused on the content and said, *“To me that is synchronous. It builds upon the skills. And everybody is pretty much in the same place at the same time and at the same conceptual point of reference”* (9:50).

Interviewee #6 focused on degrees of separation from the students based on just recently teaching hybrid, async, and sync said *“The online synchronous ups it one stage. The more real-time feedback you’re getting. The stronger the incentive is to adjust, answer questions, and react to the feedback from the students. But, you know, the asynchronous I had zero. No changes or adaptations I had to do. The virtual synchronous was in between”* (7:02).

In conclusion, this investigation strategically sought to answer the research question using multiple questions with variety and richness. Although not new, online education was relatively a new innovation to a large number of faculty members who

never used it prior to the pandemic. As a result of this social phenomenon and world health crisis called Coronavirus, there is more to understand about the perceptions of faculty members about OE. Based on literature and research pre-pandemic 2012-2020, there were viable perceptions of postsecondary faculty members that prevailed. Since the pandemic, in addition to the past perceptions there is an emergence of perceptions that need to be considered in understanding adoption of OE decisions. There are similarities and differences to be noted in moving forward as well as a sharpened view of the key perceived advantages and disadvantages of OE. The perceptions are from the lenses of faculty members who are professionals, devoted to the students they teach, and the institutions which connect them to each other. The emphasis should be on the perceptions that are now top of mind based on current conditions and a reality that teaching and learning in institutions of higher education will forever be changed because of the pandemic.

4.3 Hypotheses

Online education (OE) has radically changed the experience and function of traditional postsecondary educational institutions and academic professionals (Brubacher & Rudy, 1997). Many faculty members were successfully teaching students and actively using the modality to excel professionally. In the 2000's, higher education at large had been experiencing reform through OE, but activities at higher education institutions had been catapulted into high gear because of the Coronavirus pandemic. During the onset of the pandemic, the adoption of OE no longer was voluntary; it had become forced and mandated by leaders of institutions all over the world (Rapanta et al., 2020). This study focused on understanding the choices faculty members will make when given the

opportunity to do so. The decision of the faculty member to continue or discontinue adopting OE is the last stage (V) in the Innovation-Decision process called Confirmation in the Diffusion of Innovations model (Rogers, 2003). There were many faculty members at CSU who had already fully adopted online education prior to the pandemic and would more than likely choose to continue. Their perceptions and adoption rationale about OE are valuable and need to be identified in the same way as the faculty members who were in a forced situation and started teaching using OE because of the pandemic. The extreme nature of the pandemic (punctuated equilibrium), perceptions, and forced adoption of OE is important to study from the perspective of the relied upon faculty member.

Signifying the importance of confirmation and decisions, the survey asked the participants in two different ways about the decision they would make or have made. The first way was in a format with a 5-point Likert scale (Q71) like the majority of the survey and secondly, with a close-ended/open-ended question with two predestined choices and space to write an explanation (Q73). To discern the perceptual factors associated with the decisions of faculty members to continue adoption of online education or discontinue later is the goal of this investigation. There are eight hypotheses for this study that are related to the decision of the faculty member that need to be accepted or rejected are:

H₁: The perceived characteristic of relative advantage for online education (as an innovation) will have a significant impact on faculty members' decisions to continue adopting past spring semester 2021.

H_{1a}: The perceived characteristic of compatibility for online education (as an innovation) will have a significant impact on faculty members' decisions to continue adopting past spring semester 2021.

H_{1b}: The perceived characteristic of complexity for online education (as an innovation) will have a significant impact on faculty members' decisions to continue adopting past spring semester 2021.

H_{1c}: The perceived characteristic of trialability for online education (as an innovation) will have a significant impact on faculty members' decisions to continue adopting past spring semester 2021.

H_{1d}: The perceived characteristic of observability for online education (as an innovation) will have a significant impact on faculty members' decisions to continue adopting past spring semester 2021.

H₂: In current conditions, being naturally oriented towards innovation will have a significant impact on the decision of faculty members to continue adopting online education past spring semester 2021.

H_{2a}: In current conditions, the culture and influence of the college/university will have a significant impact on the decision of faculty members to continue adopting online education past spring semester 2021.

H_{2b}: In current conditions, technology skills and capabilities of an individual will have a significant impact on the decision of faculty members to continue adopting online education past spring semester 2021.

The bivariate hypotheses of this study were carefully rejected or accepted based on bivariate analyses. Questions 71 (closed-ended) and 73 (two designated categories to choose and space for explanation) were carefully worded in an attempt to measure the dependent variable of adoption decision of continuance or discontinuance of online education when able to do so or when "after" the pandemic actually happened. Question 71 was a statement that read: I will continue teaching online even after the Coronavirus pandemic. The results of question 71 on the survey showed that 64.1% (75) of respondents would agree or strongly agree to continue teaching online and 16.2% (19) would disagree or strongly disagree to continue while 19.7% (23) were undecided

(neither agree or disagree). Table 6 displays the frequencies of these data points. In close agreement to these same results, question 73 had two drop down categories and space for explanation for the question: When you have the opportunity to decide, will you choose to continue or discontinue teaching courses using online delivery? From question 73, the responses of the dichotomous decision were that 62% (78) of faculty members will choose to continue online education and 38% (45) of faculty members will choose to discontinue online education.

Table 6

Q71: I Will Continue Teaching Online even after the Coronavirus Pandemic

Likert Scale	#	%
1 = Strongly Disagree	9	7.7
2 = Disagree	10	8.5
3 = Neither Agree nor Disagree	23	19.7
4 = Agree	45	38.5
5 = Strongly Agree	30	25.6

Many universities would like for the pandemic to be over, but it really is not. Either way campuses such as CSU reopened completely in Fall semester 2021. As mentioned in the Methodology chapter, there are eight specific scales created to measure the independent variables which are: Relative Advantage, Compatibility, Complexity, Observability, Trialability, Generalized Domain Index, Social System Culture and Influence, and Technology Skills and Capabilities. Both questions are essential in the final analysis to comprehend the results and discuss.

In the prediction of faculty members continuing to adopt online education after the pandemic, a five-block hierarchical multiple regression analysis was conducted with question 71 which is in an interval ratio format. Blocks are presented in forced hierarchical entry to utilize all the variance of the 5-point scale of question 71 in the regression model. Multicollinearity was not a serious concern, as the majority of tolerances were .51 and above (majority of tolerances $\geq .50$, VIFs ≤ 2.00). The analysis results indicate that 15 predictors explain 41.1% of the total variance of Online Continuance ($F(15,86) = 3.992, p < .001$). Results are summarized in Table 7.

First, Block 1, which included the Demographics of Age, Sex (female), and Race (nonwhite), explained 1.9% of the total variance of Online Continuance ($F(3, 98) = .618, ns$). All demographics were non-significant unique predictors. Second, Block 2, Academic Status of Tenure Track and Part-Time explained an additional 2.6% of the total variance of Online Continuance ($F(2, 96) = .904, ns$). As result, this research concludes that demographics and academic status do not play a significant role in the online adoption continuance.

The Block 3 group, Previous Experience of Years of Online Delivery and Rate of Experience explained an additional 15.7% of total variance of OC ($F(2, 94) = 3.436, p < .01$). Although the block was significant, it contained two unique predictors that were not significant throughout the model. Years of online delivery (final $\beta = .091, ns$) and being able to rate his/her online experience prior to the pandemic (final $\beta = .035, ns$) are positive influences to continuing online education, while not significant when controlling for other predictors. Block 4, Perceived Characteristics of Innovation is comprised of five components as laid out by Rogers (2003) (and representing Hypotheses H1 through H1a)

of Relative Advantage, Compatibility, Complexity, Observability, and Trialability scales explained another 15.9% of the total variance of Online Continuance ($F(5, 89) = 4.187, p < .001$). The Relative Advantage scale is positive and nearly a significant unique predictor for Online Choice, when controlling for all other predictors (final $\beta = .294, .05 < p < .10$). When online education is considered a relative advantage, then there is likely a positive increase in continuance by a faculty member.

The final grouping Block 5, Perceptions of Current Conditions and Instructor Skills, including Generalized Domain Index (GDI), Social System Culture and Influence, and Technology Skills and Capabilities scales explained an additional 5.0% of total variance of Online Continuance ($F(3, 86) = 3.9922, .05 < p < .10$). Based on the specificity of the GDI for understanding hesitancy towards innovation, the negative representation is accurate. However, Technology Skills and Capabilities have a positive significant unique contribution to Online Continuance (final $\beta = .269, p < .001$) when all other predictors in the full regression model are controlled.

Overall, this analysis included five separate blocks of predictor variables that as a whole did contribute a significant amount of variance to the prediction of Online Continuance, as indicated by the nearly significant R^2 for the total equation. Block 1 (Demographics) and Block 2 (Academic Status) did not contribute a significant amount of variance to the prediction of Online Continuance. However, Block 3 (Prior Experience), Block 4 (Perceived Characteristic of Innovation), and Block 5 (Perceptions of Current Conditions and Instructor Skills) each contributed a significant amount of variance to Online Continuance after pandemic as indicated by significant R^2 change figures for each block. Also, the final Beta coefficients indicate that when controlling for

the impact of all the other variables in the final equation, there is one independent variable that maintained significant unique contributions toward Online Continuance and one variable that is nearly significant. Greater tendency towards online continued usage by a faculty member after the pandemic is uniquely predicted by the technology skills and capabilities of the individual and perhaps the perception that online education is relatively advantageous to the faculty member, to students or both in comparison to the status quo.

Table 7

Hierarchical Multiple Regression Predicting Online Continuance after Pandemic

Block	Independent Variables	<i>r</i>	Final β	ΔR^2	Total R^2
1	Demographics			.019	.019
	Age	.093	.004		
	Gender (Femaleness)	.025	.069		
	Race (Nonwhite)	.080	.006		
2	Academic Status			.026	.045
	Temre Track	-.154 ^a	-.102		
	Part-Time	.061	-.062		
3	Prior Experience			.159***	.204***
	Years Online Delivery	.279**	.091		
	Rate Experience	.404***	.035		
4	Perceived Characteristics of Innovation (Rogers)			.157***	.361***
	Relative Advantage scale	.542***	.294 ^a		
	Compatibility scale	.526***	.073		
	Complexity scale	.467***	.127		
	Observability scale	.470***	.105		
5	Perceptions of Current Conditions & Instructor Skills			.050 ^a	.411 ^a
	GDI scale	-.399***	.218		
	Social System Culture & Influence scale	.114	-.132		
	Technology Skills & Capabilities scale	.523***	.269*		

$R^2 = .411$, Adjusted $R^2 = .308$, $F = 3.992$, $df = 15,86$, $p < .001$

Note. ^a $.05 < p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Logistic Regression was used in predicting the likelihood of a faculty member choosing to continue teaching online when able to do given a chosen set of variables. Logistic regression analysis was needed and appropriate to focus on the forced-choice dichotomous decision of continuance or discontinuance of OE as asked in question 73.

The independent variables were grouped into the same blocks used in the Hierarchical Multiple Regression analysis in order to run the Logistic Regression hierarchically: Block 1 Demographics, Block 2 Academic Status, Block 3 Prior Experience, Block 4 Perceived Characteristics of Innovation and Block 5 Perceptions of Current Condition and Instructor Skills. I used the forced entry method for each of these blocks in the logistic regression using choice as dependent variable. As indicated in Table 8, eight independent variables had significant correlation (r) to Q73 at the $p < .001$ level. These are Rate Experience ($r = .386$), Relative Advantage ($r = .603$), Compatibility ($r = .550$), Complexity ($r = .514$), Observability ($r = .510$), Trialability ($r = .346$), GDI ($r = -.455$), and Technology Skills and Capabilities ($r = .550$). There is only one independent variable significant at $p < .01$ which is Years Online Delivery Q21 ($r = .291$).

The contribution of Demographics of Block 1 was non-significant. Block 2 contributed to the prediction of online continuance significantly, with a Chi-square for the block of 7.116 ($p < .05$) and Model Chi-square of 11.065 ($p < .05$). In Block 2, the Part-Time status of the faculty had significant final Exp(B) of .186, which indicated an 82% decrease in the odds of a person continuing online for each unit increase in part-time status of faculty member, when all other independent variables were controlled for. As the model was run hierarchically, the addition of Block 3 Prior Experience increased the model Chi-square to 23.060 and block Chi-square to 11.995, both were also significant ($p < .01$).

Block 4 Perceived Characteristics of the Innovation was found to have a significant impact with a Block Chi-square of 31.394 ($p < .001$) and the Model Chi-square increased to 54.454 ($p < .001$). All variables in this block had significant

correlations. The most significant final Exp(B) in Block 4 is Relative Advantage at 9.835 ($p < .001$) which indicates a predicted increase in the odds of 883% that a faculty member continuing online is based on relative advantage when all other independent variables are controlled. A second variable in Block 4 of Complexity had a significant final Exp(B) of 4.545 ($p < .05$). Adding Block 5 Perceptions of Current Conditions and Instructor Skills increased the Model Chi-square to 58.630 and remained significant at the $p < .001$ level while the block itself was non-significant, and both GDI and Technology Skills were significant correlations without being significant final Exponentiated(B)s.

The Model Log Likelihood ratio (Model-2LL) for the full model is 102.921, which, given its high dependence on n , is often thought to be better interpreted by Cox & Snell R^2 and Nagelkerke R^2 . The Cox & Snell R^2 value of .379 with all five blocks indicating the independent variables in the full model explained approximately 38% of the variance in the dependent variable. This is further confirmed by the Nagelkerke R^2 of .519 for the full model, estimating nearly 52% of the variance of the dependent variable was explained by the independent variables included in the overall model. This Logistic model correctly classified 81.3% of the cases. The Press' Q calculation of 48.20 supports this finding, as it exceeds the critical chi-square of 10.83 at the 0.001 significance level. Therefore, the accuracy of the model's predictions is significantly greater than what could be expected by chance.

Table 8*Logistic Regression Predicting Online Teaching Continuance*

Block	Independent Variables	<i>r</i>	Final Exp (B)	Block Chi Sq	Model Chi-Sq	Model -2LL	Cox & Snell	Nag R ²
1	Demographics			3.950	3.950	157.602	.032	.043
	Age	.078	.981					
	Gender (Femaleness)	.047	1.495					
	Race (Nonwhite)	.108	2.148					
2	Academic Status			7.116*	11.065*	150.486	.086	.118
	Tenure Track	-.134	.637					
	Part-Time	.040	.186*					
3	Prior Experience			11.995**	23.060**	138.491	.171	.234
	Years Online Delivery	.291**	1.028					
	Rate Experience	.386***	1.021					
4	Perceived Characteristics of Innovation (Rogers)			31.394***	54.454***	107.098	.358	.489
	Relative Advantage scale	.603***	9.835***					
	Compatibility scale	.550***	1.343					
	Complexity scale	.514***	4.545*					
	Observability scale	.510***	.497					
	Trialability scale	.346***	1.537					
5	Perceptions of Current Conditions & Instructor Skills			4.176	58.630***	102.921	.379	.519
	GDI scale	-.455***	1.171					
	Social System Culture & Influence scale	.138	.405					
	Technology Skills & Capabilities scale	.550***	.326					

Note. a .05 < *p* < .10; * *p* < .05; ** *p* < .01; *** *p* < .001

4.4 Summary

The current investigation sought to examine factors and their impact on adoption decisions of online education by faculty members at CSU. The research evaluated perception before and during the Coronavirus pandemic. Due to the emergency state of the pandemic, CSU like many other institutions in the spring semester of 2020 went into a remote and all online delivery mode. This study focused on understanding the choices faculty members will make when given the opportunity to do so, which is the decision to continue or discontinue adopting OE. One major research question sought to discover if there are differences and similarities in perceptions of faculty members before and during the pandemic which was answered and supported by the survey data and in-depth interviews. Lastly, two types of regressions were used to answer the eight hypotheses and the analytical find the significance that specific independent variables had on the decision

to continue online. Table 9 displays a hypotheses summary. It was found that seven of the eight hypotheses were supported based on each being a significant factor. This investigation has indicated that Relative Advantage, Compatibility, Complexity, Observability, Trialability, GDI, and Technology Skills and Capabilities all have had a significant impact on faculty members' decisions to continue adopting past spring semester 2021. The hypothesis which was rejected was focused on Social System Culture and Influence because it was found not to have a significant impact.

There are various partial coefficients that control for other variables in the final Beta and final Exp(B)s which show little significance. In Block 3, prior experience contains two variables: years online delivery and rate experience. Results from the multiple regression and logistic analysis indicate significant correlations for online continuance and online choice. The full questions from the survey are as followed: Question 85 asked, When did you first begin using online delivery for at least some course content and communication? Question 87 asked, Prior to spring 2020, how would you rate (positive or negative your overall online teaching experience (sliding scale -5 to +5 and 0 was not applicable). The frequency of years of online delivery ranged from 0 years to 31 years with the largest percentage of respondents at 1 year (34.6%). On the sliding scale for online teaching experience there was complete variance from positive to negative ends, but the largest response was zero at 41.4%. These responses have shown the variety of faculty member respondents for this research and their range of online teaching backgrounds from novice to experienced online education user.

Table 9*Hypotheses Summary*

Hypothesis	Accepted or Rejected	Conclusion Details
1. The perceived characteristics of relative advantage for online education (as an innovation) will have significant impact on faculty members' decisions to continue adopting past spring semester 2021.	Accepted	As shown in Table 7, the bivariate correlation between relative advantage and online continuance was .542 ($p < .001$). As shown in Table 8, when submitted to a multivariate test that controlled for additional variables, this relationship remained significant with Final Exp (B) of 9.835 ($p < .001$).
2. The perceived characteristics of compatibility for online education (as an innovation) will have significant impact on faculty members' decisions to continue adopting past spring semester 2021.	Accepted	As shown in Table 7, the bivariate correlation between compatibility and online continuance was .526 ($p < .001$). As shown in Table 8, however, when submitted to a multivariate test that controlled for additional variables, this relationship was reduced to non-significance.
3. The perceived characteristics of complexity for online education (as an innovation) will have significant impact on faculty members' decisions to continue adopting past spring semester 2021.	Accepted	As shown in Table 7, the bivariate correlation between complexity and online continuance was .467 ($p < .001$). As shown in Table 8, when submitted to a multivariate test that controlled for additional variables, this relationship remained significant with Final Exp (B) of 4.545 ($p < .05$).
4. The perceived characteristics of trialability for online education (as an innovation) will have significant impact on faculty members' decisions to continue adopting past spring semester 2021.	Accepted	As shown in Table 7, the bivariate correlation between trialability and online continuance was .303 ($p < .001$). As shown in Table 8, however, when submitted to a multivariate test that controlled for additional variables, this relationship was reduced to non-significance.
5. The perceived characteristics of observability for online education (as an innovation) will have significant impact on faculty members' decisions to continue adopting past spring semester 2021.	Accepted	As shown in Table 7, the bivariate correlation between observability and online continuance was .470 ($p < .001$). As shown in Table 8, however, when submitted to a multivariate test that controlled for additional variables, this relationship was reduced to non-significance.
6. In current conditions, being naturally oriented towards innovation will have a significant impact on decision of faculty members to continue adopting online education past spring semester 2021.	Accepted	As shown in Table 7, the bivariate correlation between GDI orientation/hesitancy and online continuance was -.399 ($p < .001$). As shown in Table 8, however, when submitted to a multivariate test that controlled for additional variables, this relationship was reduced to non-significance.
7. In current conditions, the culture and influence of the college/university will have a significant impact on decision of faculty members to continue adopting online education past spring semester 2021.	Rejected	As shown in Table 7, the bivariate correlation between social system culture & influence and online continuance was non-significant and shown in Table 8 when submitted to a multivariate test that controlled for additional variables, this relationship was also to non-significant.
8. In current conditions, technology skills and capabilities of an individual will have a significant impact on decision of faculty members to continue adopting online education past spring semester 2021.	Accepted	As shown in Table 7, the bivariate correlation between technology skills and capabilities and online continuance was .523 ($p < .001$). As shown in Table 8, however, when submitted to a multivariate test that controlled for additional variables, this relationship was reduced to non-significance.
	7 Accepted + 1 Rejected	

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

Enrollment in online courses was on the rise prior to COVID-19. According to the U.S. Department of Education (2020, reported from Fall, 2018), 35.3% % of all students were enrolled in any distance [online] education courses, which is approximately 6.9 million students. Prior to the Coronavirus outbreak, the union of OE and postsecondary faculty members was not necessarily amicable. Many faculty members felt pressure from external sources such as other colleges and universities, department chairs, business leaders, and other administrators (Wilkes et al., 2006). Online programs were increasing, but “only 29.1% of chief academic officers believe their faculty accept the value and legitimacy of online education” (Allen et al., 2012, p. 6). According to the responses to question 18 on the survey for this study, 29% of the respondents were unaware of the degree to which online education was being used at CSU prior to the pandemic. The outbreak of COVID-19 was swift and left little time for colleges and universities to come up with new plans of teaching courses. It was logical to move academic operations to remote and online platforms to be safe, smart, and accommodating. Learning had to continue. With the unanticipated “punctuated equilibrium” (Gould & Eldredge, 1972)

phenomenon of COVID-19, an expedited overhaul of many types of innovation adoptions have advanced in all sectors not just education. According to Cheifetz (2020), “punctuated equilibrium can help explain some of the radical changes we have seen take place in 2020” similar to online education which “took decades to build up” (p. 2). Now, institutions of higher education are trying to define the pedagogical future with online education by adopting, adapting, and adjusting.

5.2 Inferences from Findings

The current study was able to support previous research and offer new findings about online education and faculty members. Previous research has suggested that tenured faculty members, who are the largest percentage group with the most influence, are not accepting OE and are choosing not to participate with planning, development, and instruction (Andrews, 2018; Moon, 2017). The focus of this investigation was not only about tenured faculty, but all faculty members at CSU to better understand their perceptions about online education adoption choices to continue or discontinue in the future. Tenured faculty members represented 44.1% of the respondents (67) in this study.

The bivariate tests for this research used five blocks for independent variables for demographics, academic status, prior experience, perceived characteristics of the innovation, and perceptions of the current conditions and instructor skills for analysis (Tables 7 and 8). For both the multiple regression and the logistic regression, blocks 1 and 2 demographics and academic status were non-significant. This means that variables of race, sex, and the amount of time of being a postsecondary faculty member were not significant in the decision to continue teaching online. Although nearly significant, tenured faculty members were found to be less likely to continue OE on the multiple

regression and correlation (-.154) on Table 7. Even though the first two blocks were non-significant they granted greater importance to the later blocks which were significant, in that significant findings of this research were after controlling for demographics and academic status for the remaining blocks of prior experience, perceived characteristics of the innovation, and perceptions of the current conditions and instructor skills. These findings support one of Rogers' (2003) generalizations that stated "earlier adopters are no different from later adopters in age" (p. 288). Deciding to use online teaching for faculty members is not based on the time in the professional role but on personal perceptual factors, the five perceived characteristics related to the innovation (online education), and the skills and capabilities of the individual.

This study has produced evidence to answer the research question and accept and/or reject the eight hypotheses. Additionally, tapping into the perceptions of the faculty members about online education is important to policymaking and processes created in the future. The occurrence of the Coronavirus pandemic has abruptly and radically changed educational teaching and learning for the last two years. It is still not clear how long the pandemic will last as the world is starting to create a new normal. Also, it is not clear what are the long-term effects and consequences on people and processes based on all the decisions made because of the pandemic. However, this study offers a small view on the decisions and perceptual factors of faculty members about ongoing adoption or discontinuance of online education for teaching is based on the unprecedented worldwide pandemic. Lockee (2021) summarized it as "the forced shift to online education is a moment of change and a time to reimagine how education can be delivered" (p. 1).

5.2.1 Perception Themes

The research findings about the similarities and differences about perceptions of online education have shown how the concepts of necessary, forced, academic freedom, Zoom, and async versus sync debate are top of mind thoughts for faculty members about online education right now. The themes/concepts above are connected to the interaction amongst faculty member and students. There are still perceptions that are directly connected to the higher education institution that were denoted in the theme of Institution Standards that also have an impact on adoption choices. Based on the leaders and trustees of CSU, many decisions had been made that drastically changed the daily activities and operations of faculty members. From the codebook, Institution Standards were defined with an example as online education instruction is perceived to be more efficient when there are clear guidelines and protocols of implementation set by the institution that are followed by all faculty members; some examples are course design, delivery methods, screen presence, and testing fidelity. (i.e., I have been doing things online that many other faculty members are not and students are complaining about it.). Respondents expressed their concerns about testing fidelity policies, student screen policies, and building consistent standards so that faculty members are unified in online education practices through the survey and interview. In Tables 4 and 5, Institution Standards was listed as the fifth disadvantage of OE at 11% and ranked 16th on the list of perceptions with 10.6% that changed or remained the same. Administrators, trustees, and academic leaders of American institutions of higher education are at varying levels of utilizing and integrating online education while preserving democracy are “in a state of dynamic evolution, much

like the culture which surrounds it and sustains it” which requires evaluation of what is working and what needs improvement (Brubacher & Rudy, 1997, p. 44).

5.2.2 Technological and Pedagogical Implications

Online education has made many promises to the traditional university such as contributing to the democratization of higher education and creating solutions to “economic, organizational, and pedagogical problems” (Hamilton, 2016, p. 2). With all the glitter and confetti flowing about the high-tech progress and creativity of OE, this research has to highlight some of the technological and pedagogical perceptions that are present. While technology advancements offer some opportunities, there is still a reality that grapples with online education and digitized education not being in the best interests of disadvantaged, disenfranchised, and/or disabled students and educators seeking protected and respected approaches to teaching and learning during a pandemic (U.S. Dept. of Education [OCR], 2021).

While adopting, adapting, and adjusting to online education in a pandemic, faculty members were faced with filling in the digital gap when it came to technology issues as the frontline and first person to go to for resolution. Due to the lack of access to reliable Wi-Fi and Internet connectivity and apparatuses, many low-income students in elementary, secondary, postsecondary institutions were provided help during spring onset of pandemic (Harper, 2020). The obligation of helping students with technology in OE is an additional barrier to adoption. Dhawan (2020) reminded leaders and educators in a forced online world due to a pandemic, that as a college or university remains open and expands, “steps must be taken to reduce the digital divide” (Dhawan, 2020, p. 16). Students who are already victims to digital disparities due to race and socioeconomics

prior to the pandemic were just as polarized and “have been disproportionately affected by digital inequities throughout the pandemic” (Harper, 2020, p. 6).

This research shows that the perceptions of faculty members about online education are not only related to their own technology skills and capabilities, but the skills and capabilities of the students whom they teach. In the codebook, Technology Issues was defined with example as: Online education causes more disruptions to teaching and learning because of problems, lack of experience or confidence and/or access to quality technology and devices for both student and faculty. (i.e., When students have a technology problem, I [faculty member] do not want to be the first person they contact to problem-solve.). Online education caused more barriers for unprepared students and an increased burden on faculty members. Technology issues were ranked as fourth (19.3%) highest perceived disadvantage of OE by faculty members (Table 4). Additionally, a little over 33% of respondents agreed or strongly agreed to question 10 on the survey that stated: I have difficulty helping students with technology issues. The results from this research further emphasizes the importance of social and digital changes at institutions of higher learning that keep in mind that “technology cannot fix social inequality” (Williamson et al., 2020, p. 111). Many students are not e-ready or capable of being successful in the online environment which puts an additional burden on faculty members and impacts perceptions towards adoption.

Prior to the pandemic and now during the pandemic, online education’s ability to be an acceptable pedagogical modality is still questionable, especially for courses beyond entry-level (Fox et al, 2021). From this research, perceptions about online education related to pedagogy concerns was ranked as the second highest disadvantage with 74.7%

and was top of mind during the pandemic ranked sixth by respondents at 26.8% (Tables 4 and 5). From the coding scheme, Pedagogy Concerns was defined with example as: Online education is oftentimes viewed as problematic with adherence to traditional pedagogical practices and/or theories of classroom teaching and learning. (i.e., The very essential student-teacher interaction, rapport, and testing/academic fidelity is [are] missing in online modality.). There are constraints on how teaching and learning occurs in the online environment that are considered limiting and in opposition to traditional theories and practices. The innovative technology of online education challenges long held beliefs to educators that provide respect, protection, and professional stability. A few examples of beliefs that are becoming uncomfortable and disconcerting due to OE versus for the unmediated face-to-face classroom are concepts of intellectual property, academic freedom, and classroom management.

The shift to online education by faculty members is cognitively a delicate balance between tradition and innovation. Elements of time, space, content, attitudes, and behaviors of both educators and students have to be adjusted and altered to a certain to degree to reap the full benefits. Technology can indeed change things. Technology by way of steamboats, trains, railroads, and roads changed how Western explorers traversed across the land freely without rules and limits. After the innovation of trains and railroads and such, rules and constraints were put into place to regulate and govern travel, people, and the environment (National Museum of American History, n.d.). Analogous to this transportation transition in U.S. history, higher education was forced to transition to online education in the pandemic, and possibly permanently, while trying to understand the new constraints and limitations of the innovation.

The carbon or academic footprint of a faculty member is hard to completely control virtually and in person. New policies to protect the intellectual property and copyright of faculty members, many institutions such as University of California Santa Cruz, are currently being added specifically for online education for faculty members to digest (Lee, 2020). New language had been created to account for the instructor content and ownership based on the sudden and increased quantity because of COVID-19. However, in most cases the content posted and course design belongs to the university (Flaherty, 2020). Udermann (2022) summarized the complexities of intellectual property into three options “1) Either the institution retains ownership of course materials; 2) the instructor retains ownership; or 3) there is joint ownership” (para. 10). Challenges and concerns as forementioned about online education have interrupted culturally and socially revered norms and practices, and interpersonal communication in education that have caused an imbalance and disturbance requiring diffusion in a forced adoption scenario to be reevaluated.

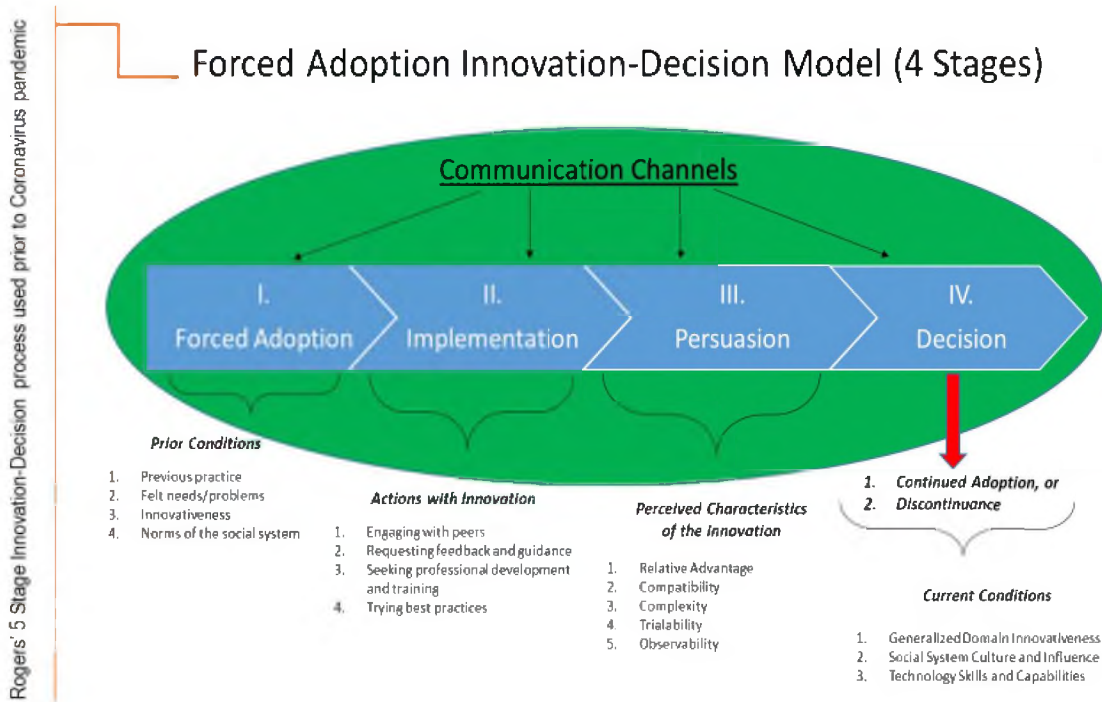
5.3 Theory Implications- Forced Adoption Innovation-Decision Process

Rogers’ (2003) Diffusion of Innovations theory has been used in multiple disciplines in understanding the elements and characteristics of adoption, types of adopters and influencers, Innovation-Decision process and more. Rogers’ 2003 work and other adoption models “have unidirectional causal relationships lined up from external factors to cognitive beliefs that affect attitudes and behaviors” are limited when dealing with crises and emergencies beyond the individual level of agency (Gunasinghe et al., 2019, p. 5). The concept of forced adoption of an innovation within an organization based upon a pandemic is an opportunity to expand the theory. The hypotheses of this

investigation were the catalysts for developing a new Forced Adoption Innovation-Decision model to expand the diffusion theory based on the institutional level and/or social pressure.

Figure 2

Forced Adoption Innovation-Decision Model



5.3.1 Forced Adoption Trigger and Framework

The original 5-stage Innovation-Decision process is displayed in Figure 1 (in Chapter II). The 5 stages are: Knowledge, Persuasion, Decision, Implementation, and Confirmation. The new model introduced from this research in Figure 2 has 4 stages instead of 5: Forced Adoption, Implementation, Persuasion, and Decision. In the new model, stages of Knowledge and Confirmation are removed and the order of Implementation, Persuasion and Decision are inverted. This new Innovation-Decision model is formulated within a punctuated equilibrium that can be triggered based on any

emergency or crisis, war, pandemic or other large level innovation pushed by institutional leaders, in other words a forced dynamic. As shown in Figure 2, the new model is reorganized with Forced Adoption as the first stage instead of Knowledge because in the forced adoption model, the individual understanding components and voluntary nature to adopt the innovation are stripped away based on the institutions leadership decision. The prior conditions were still the same throughout the communication channels and networks. Again, online education was not new to all faculty members so previous practice is included, in addition to felt needs/problem of the pandemic, innovativeness of all parties involved, the norms of the social system around online.

As result of the pandemic, implementation of online education (stage two) started immediately by novice and experienced online users. Due to the quick shift to remote and online learning brought on by the Coronavirus pandemic there was not ample time to prepare in March 2020. Fortunately, CSU already had an E-Learning Department in place with dedicated training, guidelines, and practices. In this stage, there is a wide variety of actions and activities taking place with the innovation by the forced individuals and/or the individuals who have already adopted the innovation previously. Actions with the innovation fall in these four categories: (1) engaging with peers, (2) requesting feedback and guidance, (3) seeking professional development and training, and (4) trying best practices. Implementation changed to the stage of learning more about OE while using the innovation. Participants in this research shared their implementation experiences of increased responsibilities and pressure which were similar circumstances of staff and faculty colleges and universities all over the country (Gallagher & Palmer, 2020). Stage three in the forced adoption model is Persuasion which is happening while using the

innovation versus before the adoption or rejection decision in Rogers' (2003) original model. While using OE, Persuasion (stage 3) is an on-going process of evaluating the perceived characteristics of the innovation since the onset of the pandemic that propelled faculty members from this research to make a choice when given the opportunity. Persuasion is occurring because the five perceived characteristics of Relative Advantage, Compatibility, Complexity, Observability, and Trialability are being evaluated and determined by adopter.

The focus of this research based on the Rogers' (2003) original model was called Confirmation which is now called Decision (stage 4) in this new forced adoption model. The critical thinking process of a faculty member trying to decide if s/he will continue adopting OE or discontinue involves the current conditions of Generalized Domain Innovation (GDI), Social System Culture and Influence, and Technology Skills and Capabilities. The adoption of the innovation, online education, initially was forced but in stage 4 the adopter will decide to continue adoption or discontinue. Additionally, the concept of current conditions is new and important in forced adoption model. The current conditions of the pandemic (or any other forced dynamic), the perceptions of the individual about the social system, his/her natural disposition towards innovation, and technology skills and capabilities are integral parts in making an adoption decision. This dynamic situation encapsulates what many faculty members are experiencing right now. Understanding this complicated situation was the focus of this study with emphasis on the decision made to continue or discontinue and the impact key factors had on the choice that can be applied to other institutions outside of education.

5.3.2 Forced Adoption and Leadership Implications

The Forced Adoption Innovation-Decision model developed from this research study is viable for use by leadership in all levels of education and other public and private sectors for innovation diffusion. In a punctuated equilibrium event or forced dynamic situation, leadership of an organization or institution can apply the four stages for innovation adoption, especially the stages of implementation and persuasion. Instead of doing nothing, leadership should be more proactive in promoting the innovation and addressing the “invisible pressure to employees” (Zhou, 2008, p. 477). Ram and Jung (1991) suggested that organizations that force adoption of an innovation should use three strategies to ensure successful implementation which are to “facilitate trials”, “develop employee competence”, and “encourage peer interaction during implementation” (p. 125).

Forcible decisions made by leaders is commonplace, but the goal of the forced nature is to infuse viable long-term and sustainable innovations and initiatives throughout the organization that can be continually adopted and diffused. Through this study, the forced adoption principles have been conjoined with diffusion theory to expand knowledge and create praxis. Leaders, trustees, executives, and administrators can use the Forced Adoption Innovation-Decision model strategically when rolling out innovations to ensure optimal execution while getting employee buy-in without decreasing employee morale. The implementation and persuasion stages of the model should be supported and facilitated by the organization as much as possible by way of events, resources, enlarged departments, and incentives, just to name a few options. Increased efforts should be geared towards promoting the innovation in a manner that demonstrates that the

perceived characteristics are relatively advantageous, compatible with values, beliefs and needs, positively observable, easy to try and test, and not too complex. The findings of this study support the importance of Rogers' (2003) five perceived characteristics of the innovation even in a forced adoption situation for diffusion with an emphasis on establishing relative advantage immediately.

5.4 Adoption Decision Implications

This study has studied the variables that have an impact on the pedagogical future of higher education in the U.S. Through the perceptual viewpoint of faculty members about online education, there were eight hypotheses for this investigation. Seven of the eight were accepted based on the findings. The premise of each hypothesis was to examine the variables that significantly made an impact on the decision of adoption continuance of the faculty member. The first five factors were related to Rogers' (2003) research and perceived characteristics of the innovation of Relative Advantage, Compatibility, Complexity, Observability, and Trialability which all proved to be significant in the decision process of faculty members. The last three were related to perceptions more immediate and reflective of current conditions of Generalized Domain Innovation (GDI) or the hesitancy towards innovation, the Social System Culture and Influence, and the Technology Skills and Capabilities of the faculty member. Both GDI and Technology Skills were found to be significant and so the two hypotheses were accepted. The hypotheses related with Social System was rejected. The final findings of this research were the decision results of the faculty members to continue or discontinue online education after the pandemic. The final choice to continue adoption was made by 78 respondents and 45 respondents decided to discontinue. This research is not making a

judgement on the faculty members' decisions to continue of adoption or discontinue, but sought to get a better understand the perceptions of faculty members that could influence the choice. The rapid changes forced or unforced, comfortable or uncomfortable have had short and long-term consequences that are being accepted or being evaluated to this day as a result of the Coronavirus pandemic. Being able to adapt and change is necessary in one's profession, as transition is inevitable. The pandemic has been hard on people and systems that existed prior and catapulted many changes and transitions.

5.4.1 Professional Transition

The punctuated equilibrium nature of the Coronavirus pandemic has radically changed the world and the operation of higher education institutions. In doing so, the profession of postsecondary faculty members has begun a transition. Prior to the pandemic, the changes that online education was making was slow and gradual and not mandated (Miller & Ribble, 2010). The choice to adopt online education was primarily at the discretion of the faculty member and/or the expressed need for change by students. Since early 2000s, more and more postsecondary faculty members were finding new purpose and joy in teaching by using online education, while many were still apprehensive to try it because of perceptions and fear of change. Learning to teach online allowed tenured faculty an opportunity to start over and move forward with freedom and rejuvenation (Ruth, 2006; Wood, 2016). As a result of the pandemic, the process of professional transition was thrust upon many. Some faculty members are creating new identities for themselves that include adopting online education and new possibilities for career longevity and options, while others are feeling uncomfortable in the future of their profession based on OE. Fenwick (2013) reminded that “transition is inevitable and

continuous” (p. 362), but it is important for the faculty members to feel valued, respected, and understood through the transitional process and not just thrown in a forced situation without proper support. There will always be risks and anxiety, but if the purpose and direction are clear and compelling, explained by leaders, then the transition will not be so traumatic.

Some of the respondents were quite open and honest about online education and the fact that they had never tried using it before the pandemic based upon a myriad of reasons. The pandemic and forced shift to online education was what some faculty members really needed to make the necessary changes as a professional. In the coding scheme, Finally Tried was defined with an example as online education and instructional strategies are consistently and intentionally used by faculty member as a direct result of the pandemic. (i.e., I never used online until the pandemic.). The pandemic opened their eyes and understanding in a positive way. In Table 5, Finally Tired was ranked as number 12 with 15.4 for being a perception that has changed. Interviewee #13 stated that “teaching online makes me a better face-to-face faculty”. Instead of being overwhelmed with all the changes, committed faculty members, like interviewee #13, took advantage of the situation to improve their technological skillset and upgrade their educational prowess.

Research like this study gives more depth and understanding about the current perceptions and perspectives of postsecondary faculty members that is needed to create policy and evaluate procedures that directly involve their profession short-term and long-term. A recent report by the College and University Profession Association of Human Resources (CUPA-HR) concluded from studying higher education professionals that feel

misaligned with preferred and actual work arrangements are more likely to leave so “taking even small steps to provide employees with more flexible working arrangements [remote] for even part of the week may lead to greater employee satisfaction and retention (Bischsel et al., 2021, p. 10). Working away from campuses and standard offices while in pandemic, has opened the door to new working conditions that are more satisfactory to employees without a decrease in productivity.

There were two specific questions on the survey that offer immediate insight to how faculty members feel about teaching online on both ends of the continuum. Question 58 states: Teaching online is just as enjoyable as teaching face-to-face and 58% of the respondents disagreed with this statement. Question 67 states: Online education is not consistent with the goals and objectives of my profession and 54% of the respondents also disagreed with this statement. There is still much more to understand about the professional transition of postsecondary faculty due to the pandemic and the shift to online education, but it is clear that “faculty buy-in does matter” for successful implementation of OE for the future of U.S. institutions of higher education (Udermann, 2014, p. 7). In essence, “faculty members need to step up their game” as proclaimed by interviewee #14 in this education environment of online teaching.

5.4.2 Past, Present, and Future of Higher Education

The history of higher education in America is made up of a rich and diverse past which catered to multiple populations achieving higher learning. This can be seen by the many different categories of colleges and universities such as private, public, for-profit, faith-based, historically Black (HBCU), trade, and community-based. The distinguishing social-utility of U.S. institutions of higher education from the past has been described as

furthering knowledge and democracy while demonstrating ideas of service to improve life (Brubacher & Rudy, 1997). The beautiful campuses of learning serve as public spaces and as a “hub of activities that serves not only students and staff, but the larger population of a town and region” (Gumprecht, 2007, p.72). The Coronavirus pandemic impacted everyone.

The present-day healing process requires changes in the journey to finding balance again and a new normal. Simply, OE is not the same as unmediated face-to-face but is now a part of the pedagogical future of higher education. It is more like an apple to a pineapple fit, suggesting that teaching and learning are still the foundation but the taste, growing conditions, and the outer shells are totally different. Institutions of higher education are faced with new approaches to balancing supply and demand, tradition, reputation, finances, and employee morale, with the co-existing challenges of technological innovation and a pandemic. Faculty members and institutions are moving forward knowing that OE is helpful in keeping traditional campus universities and colleges open and making them competitive, in spite of unfavorable perceptions. Attention for the future should be to make sure both students and faculty members are e-ready and feeling efficacious in teaching and learning in the online environment. Hamilton (2016) argued that “online education should be seen as on-going process, one that has been, and is still, open to multiple articulations, each of which bears different implications and consequences for the university” (p. 15).

5.5 Summary

Whether ready or not, the Coronavirus pandemic starting in 2020 caused a change in teaching and learning by way of online education for new users and even experienced ones too, in the middle of a semester. Institutions of all kinds had to adjust and adapt radically on a worldwide stage in a health crisis. Institutions of higher learning and the postsecondary faculty members that held everything together were on the frontline and delivered in the midst of uncertainty while facing “enormous levels of pressure and disturbance to their professional roles and practices” (Lee et al., 2021, p. 1). The pandemic caused a disruption everywhere, but many will argue that the educational systems in the U.S. were already technologically behind, losing relevance, and in need of a change or upgrade to effectively educate students in secondary and postsecondary education (Li & Lalani, 2020). The findings of this investigation support the importance of at least relative advantage in addition to other variables in choosing to continue using online education by faculty members. The perceptual advantages of using technological platforms, instructional strategies, and forms of communication for teaching versus unmediated face-to-face carry a relatively burden of weight in making decisions.

Prior to the pandemic, online education was considered a disruptive innovation since it could make quality postsecondary attainment more affordable and accessible as a “technology enabler” for the good of the market and people (Christensen et al., 2011, p. 2). Online education in its many digital forms has been hailed as the superhero in this punctuated educational state to save the day. In longitudinal studies of faculty teaching introductory courses, Fox et al. (2021) found that “the increased exposure to digital learning practices and tools has positively altered faculty perception of online learning

and has prompted enduring changes to teaching and learning” (p. 4). Advanced theory in forced adoption and diffusion, choices, and perceptions of faculty members in regard to online adoption continuance by faculty members were studied in this investigation at an urban, public, research level 2, Midwestern university. Moving forward it will be essential to examine what life looks like post-pandemic because the possibility of new themes and perceptions will develop from the current upsurge of online education usage and delivery. Future investigations should also be less bound and more generalizable to postsecondary faculty members in the U.S.

BIBLIOGRAPHY

- Allen, I. E., & Seaman, J. (2015). *Grade level: Tracking online education in the United States*. Babson Survey Research Group. ERIC. <https://eric.ed.gov/?id=ED572778>
- Allen, I. E., & Seaman, J. (2016). *Online report card: Tracking online education in the United States*. Babson Survey Research Group. ERIC. <https://eric.ed.gov/?id=ED572777>
- Allen, I. E., & Seaman, J. (2017). *Digital compass learning: Distance education enrollment report 2017*. Babson Survey Research Group. ERIC. <https://eric.ed.gov/?id=ED580868>
- Allen, I. E., Seaman, J., Lederman, D., & Jaschik, S. (2012, June 21). Conflicted: Faculty and online education, 2012. *Inside Higher Ed*.
- Almahasees, Z., Mohsen, K., & Amin, M. O. (2021). Faculty's and students' perceptions of online learning during COVID-19. *Frontiers in Education*, 6, 1-10. <https://doi.org/10.3389/feduc.2021.6388470>
- Alzahrani, S. (2018). New Orleans educational system in public schools pre/post [sic] Hurricane Katrina as perceived by special education teachers. *World Journal of Education*, 8(2), 88-94. <https://files.eric.ed.gov/fulltext/EJ1178306.pdf>
- Andrews, M. (2018, November). What do college faculty and businesses think about online education? *eLearn Magazine*. <https://elearnmag.acm.org/featured.cfm?aid=3274758>
- Ball, J., Ogletree, R., Asunda, P., Miller, K., & Jurkowski, E. (2014). Diffusion of innovation elements that influence the adoption and diffusion of distance education in health. *American Journal of Health Studies*, 29(3), 240-246.

- Ball, J., Ogletree, R., Jurkowski, E., Fetro, J., Asunda, P., & Miller, K. (2013). The development of a tool to measure the adoption of distance education in health. *American Journal of Health Studies*, 28(4), 183-189.
- Ball, J. W. (2013). *Factors affecting adoption and diffusion of distance education among health education faculty* [Published doctoral dissertation]. Southern Illinois University, Carbondale, IL.
<https://ehs.siu.edu/phrp/common/documents/announcements-dissertation/ball-j.pdf>
- Bejerano, A. R. (2008). The genesis and evolution of online degree programs: Who are they for and what have we lost along the way? *Communication Education*, 57(3), 408-414. <https://doi.org/10.1080/03634520801993697>
- Bhagat, K. K., Wu, L. Y., & Chang, C. Y. (2016). Development and validation of the perception of students towards online learning (POSTOL). *Educational Technology & Society*, 19(1), 350-359. ERIC. <https://eric.ed.gov/?id=EJ1087144>
- Bischsel, J., Fuesting, M., & McCormack, M. (2021, November). Providing remote work opportunities will aid your retention efforts. *College and University Professional Association of Human Resources* [CUPA-HR]. Research Report, 1-10. <https://www.cupahr.org/wp-content/uploads/2021-11-CUPA-HR-Remote-work-Aid-Retention-1.pdf>
- Bickerstaff, S. (2014, Feb.). Faculty orientations toward instructional reform. *Inside Out: A Publication of the Scaling Innovation Project*, 5, 1-10.
<https://www.achievingthedream.org/sites/default/files/initiatives/faculty-orientations-toward-instructional-reform.pdf>

- Blake, B. F., Neuendorf, K. A., Given, S., LaRosa, R., Horvath, M., & Brandt, E. (2019, November). *Individual innovativeness revisited and reconfigured: Generalized domain innovativeness* [Conference Session]. Midwest Association for Public Opinion Research Conference in Chicago, IL, United States.
<http://www.mapor.org/2019-annual-conference/>
- Boboc, M., & Nordgren, R. D. (2014). Modern and post-modern teacher education: Revealing contrasts in basic educational beliefs and practice. *Journal of Research in Innovative Teaching*, 7(1), 14-26.
https://www.ncpeapublications.org/images/JRIT_Boboc_Nordgren_2013.pdf
- Bolland, P. (2020, March 27). Commentary: I am forced to teach online. Now I'm grieving my classroom and my identity. *San Diego Union Tribune*.
<https://www.sandiegouniontribune.com/opinion/commentary/story/2020-03-27/coronavirus-leads-to-online-education-and-professors-grieve-loss-of-classrooms>
- Bowden, A., Fox-Rushby, J. A., Nyandieka, L., & Wanjau, J. (2002). Methods for pre-testing and piloting survey questions: Illustrations from the KENQOL survey of health-related quality of life. *Health Policy and Planning*, 17(3), 322-330.
<https://doi.org.10.1093/heapol/17.3.322>
- Boyers, J. (2017). *A leader's understanding: Faculty perception of academic quality and effective implementation of online modality in higher education* (UMI No. 10273325) [Published doctoral dissertation]. Creighton University. ProQuest Dissertations & Theses Global.
- Briggs, S. R., & Cheek, J. M. (1986). The role of factor analysis in the evaluation of

- personality scales. *Journal of Personality*, 54, 106-148.
- Brubacher, J. S., & Rudy, W. (1997). *Higher education in transition: A history of American college and universities* (4th ed.). Transaction Publishers.
<https://doi.org/10.4324/9780203790076>
- Buč, S., & Divjak, B. (2015, July 21-24). *Innovation diffusion model in higher education: Case study of e-learning diffusion* [Paper presentation]. International Association for Development of the Information Society (IADIS) International Conference on e-Learning, Las Palmas de Gran Canaria, Spain.
<http://www.iadisportal.org/>
- Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment, Issue 17*. Sage Publications.
- Centers for Disease Control and Prevention [CDC]. (2020, June 16). *About COVID-19*.
<https://www.cdc.gov/coronavirus/2019-ncov/cdcresponse/about-COVID-19.html>
- Centers for Disease Control and Prevention [CDC]. (2022, January 5). *CDC Museum COVID-19 Timeline*. <https://www.cdc.gov/museum/timeline/covid19.html>
- Chatlani, S. (2017, July 6). How administrators can get teacher buy-in on change initiatives. *Education Dive*. <https://www.educationdive.com/news/how-administrators-can-get-teacher-buy-in-on-change-initiatives/446550/>
- Chau, P. (2010). Online higher education commodity. *Journal of Computing in Higher Education*, 22(3), 177-191. <https://doi.org/10.1007/s12528-010-9039-y>
- Cheifetz, I. (2020, September 19). Punctuated equilibrium speeds change. Business section. *Star Tribune*. <https://www.startribune.com/punctuated-equilibrium-speeds-change/572434812/?msclkid=f8157856b92811ec919c7430e45a7ee1>

- Christensen, C. M., Horn, M. B., Caldera, L., & Soares, L. (2011, February). Disrupting college: How disruptive innovation can deliver quality and affordability to postsecondary education. *Innosight Institute and Center for American Progress*, 1-62. ERIC. <https://eric.ed.gov/?id=ED535182>
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319.
- Clay, M. (1999). Development of training and support programs for distance education instructors. *Online Journal of Distance Learning Administration*, 2(3).
<https://www.westga.edu/~distance/clay23.html>
- Démuth, A. (2013, January). *Perception theories* (1st ed.). University of Trnava.
https://www.researchgate.net/publication/310832124_Perception_Theories
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5-22.
<https://doi.org/10.1177/0047239520934018>
- Doe, R., Castillo, M. S., & Musyoka, M. M. (2017). Assessing online readiness of students. *Online Journal of Distance Learning Administration*, 20(1), 1-13.
https://www.westga.edu/~distance/ojdl/spring201/doe_castillo_musyoka201.htm
- 1
- Dooley, K. E. (1999). Towards a holistic model for the diffusion of educational technologies: An integrative review of educational innovation studies. *Educational Technology & Society*, 2(4), 35-45.
- East Coast Polytechnic Institute. (2020). *Flexibility of online education: How flexible is it?* <https://www.ecpi.edu/blog/flexibility-of-online-education-how-flexible-is-it>

- Eslaminejad, T., Masood, M., & Ngah, N. A. (2010). Assessment of instructors' readiness for implementing e-learning in continuing medical education in Iran. *Medical Teacher*, 32(10), 407-412.
<https://doi.org/10.3109/0142159X.2010.496006>
- Everson, M. (2009). 10 things I've learned about teaching online. *eLearn Magazine*.
<https://elearnmag.acm.org/featured.cfm?aid=1609990>
- Farid, A. (2014). Student online readiness assessment tools: A systematic review approach. *Electronic Journal of e-Learning*, 12(4), 375-382. ERIC.
<https://eric.ed.gov/?id=EJ1035667>
- Farkas, K. (2014, October 29). Online education options increase for students but many faculty doubt their value: Higher education roundup. *The Cleveland Plain Dealer*.
https://www.cleveland.com/metro/2014/10/online_education_options_incre.html
- Fenwick, T. (2013). Understanding transitions in professional practice and learning: Towards new questions for research. *Journal of Workplace Learning*, 25(6), 352-367. <https://doi.org/10.1108/JWL-06-2012-0047>
- Fish, W. W., & Gill, P. B. (2009). Perceptions of online instruction. *The Turkish Online Journal of Educational Technology*, 8(1), Article 6, 1-12. ERIC.
<https://eric.ed.gov/?id=ED503903>
- Flaherty, C. (2020, May 19). IP problems. Who owns all course content you're putting online? *Inside Higher Ed*.
- Fox, K., Bryant, G., Lin, N., Khedkar, N., & Nguyen, A. (2021). *Time for class- COVID-*

19 edition part 3: The impact of 2020 on postsecondary teaching and learning of introductory faculty. Tyton Partners. <https://tytonpartners.com/time-for-class-covid-19-edition-part-3/>

Gallagher, S., & Palmer, J. (2020, September 29). The pandemic pushed universities online. The change was long overdue. *Harvard Business Review*.
<https://hbr.org/2020/09/the-pandemic-pushed-universities-online-the-change-was-long-overdue>

Gardner, L. (2017, June 18). 4 ways professors respond to change. *The Chronicle of Higher Education*, 1-3. Retrieved from Nexis Uni.
<https://www.chronicle.com/article/4-ways-professors-respond-to-change/>

Gay, G. H. E. (2016). An assessment of online instructor e-learning readiness before, during, and after course delivery. *Journal of Computing in Higher Education*, 28(2), 199-220. <https://doi.org/10.1007/s12528-016-9115-z>

Glass, C. R. (2017). Self-expression, social roles, and faculty members' attitudes towards online teaching. *Innovative Higher Education*, 42(3), 239-252.
<https://doi.org/10.1007/s10755-016-9379-2>

Goodman, J., Melkers, J., & Pallais, A. (2019). Can online delivery increase access to education? *Journal of Labor Economics*, 37(1), 1-34.
<https://doi.org/10.1086/698895>

Gould, S. J., & Eldredge, J. (1972). *Gradualism and punctuated equilibrium*.
<https://necsi.edu/gradualism-and-punctuated-equilibrium>

Gumprecht, B. (2007). The campus as a public space in the American college town. *Journal of Historical Geography*, 33, 72-103.

<https://doi.org/10.1016/j.jhg.2005.12.001>

- Gunasinghe, A., Hamid, J. A., Khatibi, A., & Azam, S. M. F. (2019). Academicians' acceptance of online learning environments: A review of information system theories and models. *Global Journal of Computer Science and Technology: H-Information & Technology*, 19(1), 1-10. [10.34257/GJCSTHVOL19IS1PG31](https://doi.org/10.34257/GJCSTHVOL19IS1PG31)
- Gwet, K. L. (2016). Testing the difference of correlated agreement coefficients for statistical significance. *Educational and Psychological Measurement*, 76(4), 609-637. <https://doi.org/10.1177/0013164415596420>
- Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall.
- Hamilton, E. C. (2016). *Technology and the politics of university reform: The social shaping of online education*. Palgrave MacMillan. <https://doi.org/10.1007/s40841-017-0090-3>
- Harper, S. R. (2020). COVID-19 and the racial equity implications of reopening college and university campuses. *American Journal of Education*, 127. Advance online publication. <https://doi.org/10.1086/711095>
- Harrison, R., Hutt, I., Thomas-Varcoe, C., Motteram, G., Rawlings, B., & Gemmell, I. (2017). A cross-sectional study to describe academics' confidence, attitudes, and experience of online distance learning in higher education. *Journal of Educators Online*, 14(2), 1-9. <https://doi.org/10.9743/jeo.2017.14.2.3>
- Heidenreich, S., & Talke, K. (2020). Consequences of mandated usage of innovations in organizations: Developing an innovation decision model of symbolic and forced adoption. *AMS Review*, 1- 10. <https://doi.org/10.1007/s13162-020-00164-x>

- Horvitz, B. S., Beach, A. L., Anderson, L., & Xia, J. (2015). Examination of faculty self-efficacy related to online teaching. *Innovative Higher Education*, 40(4), 305-316. <https://doi.org/10.1007/s10755-014-9316-1>
- Huang, X., & Hsiao, E. (2012). Synchronous and asynchronous communication in an online environment: Faculty experiences and perceptions. *The Quarterly Review of Distance Education*, 13(1), 15-30. <https://eric.ed.gov/?id=EJ1005835>
- Hung, M. L. (2016). Teacher readiness for online learning: Scale development and teacher perceptions. *Computers & Education*, 94, 120-133. <https://doi.org/10.1016/j.compedu.2015.11.012>
- Indiana University. (2018). Online teaching readiness survey. *Designing and Teaching for Impact in Online Courses*. <https://www.indiana.edu/~oidd/tos/online-teaching/red/index.html>
- Jaggars, S. S. (2014). Democratization of education for whom? Online learning and Educational equity. *Diversity & Democracy*, 17(1), 1-7. <https://www.aacu.org/diversitydemocracy/2014/winter/jaggars>
- Jarus, O. (2020, March 20). 20 of the worst epidemics and pandemics in history. *Live Science*. <https://www.livescience.com/worst-epidemics-and-pandemics-in-history.html>
- Johnson, N., Veletsianos, G., & Seaman, J. (2020). U.S. 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>
- Kentnor, H. (2015). Distance education and the evolution of online learning in the United

- States. University of Denver Sturm College of Law. *Curriculum and Teaching Dialogue*, 17(1), 1-34. https://digitalcommons.du.edu/law_facpub/
- Kirschner, A. (2012). Innovations in higher education? Hah! *Chronicle of Higher Education*, 58(32), 1-10. ERIC. <https://eric.ed.gov/?id=EJ996328>
- Kisner, K. (2006). What Phoenix doesn't teach us about for-profit higher education. *Change: The Magazine of Higher Learning*, 38(4), 24-29. <https://doi.org/10.3200/CHNG.38.4.24-29>
- Kolb, C. (2011). Perspectives: Reforming American higher education: Implications for a vibrant work force and a healthy democracy. *Change: The Magazine of Higher Learning*, 43(5), 14-17. <https://doi.org/10.1080/00091383.2011.606359>
- Kumar, A., Kumar, P., Palvia, S. C. J., & Verma, S. (2017). Online education worldwide: Current status and emerging trends. *Journal of Information Technology Case and Application Research*, 19(1), 3-9. <https://doi.org/10.1080/15228053.2017.1294867>
- Lee, H. (2020, March 19). Intellectual property and copyright in course materials during COVID-19 remote teaching: information and language for instructors. *UC Santa Cruz Newscenter*, <https://news.ucsc.edu/2020/03/intellectual-property-and-copyright-in-course-materials-during-covid-19-remote-teaching.html?msclkid=e3e700bbc68111eca7754c87b6cf3075>
- Lee, K., Fanguy, M., Bligh, B., & Lu, X. S. (2021). Adoption of online teaching during the COVID-19 pandemic: A systematic analysis of changes in university teaching activity. *Educational Review*, 1-24. <https://doi.org/10.1080/00131911.2021.1978401>

- Levernier, E. L. (2005). *An analysis of perceptions of online instruction by department chairs in the field of higher educational administration in the United States*. (Publication No. 1048). [Published doctoral dissertation]. Georgia Southern University. Legacy ETDs.
https://digitalcommons.georgiasouthern.edu/etd_legacy/1048
- Li, C., & Lalani, F. (2020). The COVID-19 pandemic has changed education forever. This is how. *World Economic Forum*.
<https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>
- Lockee, B. B. (2021, January). Online education in the post-COVID era. *Nature Electronics*, 4(1), 5-6. <https://doi.org/10.1038/s41928-020-00534-0>
- McCombes, S. (2019, May 8). How to do a case study. *Scribbr*.
<https://www.scribbr.com/methodology/case-study/>
- McFarlane, D. A. (2008). Effectively managing the 21st century knowledge worker. *Journal of Knowledge Management Practice*, 9(1).
<http://www.tlinc.com/articl150.htm>
- McFarlane, D. A. (2011). The leadership roles of distance learning administrators (DLAs) in increasing educational value and quality perceptions. *Online Journal of Distance Learning Administration*, 14(1).
<https://www.westga.edu/~distance/ojdla/spring141/McFarlane141.html>
- Miller, T., & Ribble, M. (2010). Moving beyond bricks and mortar: Changing the conversation on online education. *Educational Considerations*, 37(2), 3-6.
<https://newprairiepress.org/edconsiderations/vol37/iss2/>

- Moon, P. A. (2017, February 13). Essay: Faculty members are right to be dubious of online education, and that's why we need to teach online. *Inside Higher Ed*.
<https://www.insidehighered.com/digital-learning/views/2017/02/13/essay-faculty-members-are-right-be-dubious-online-education-and>
- Moore, M. H. (1995). *Creating public value: Strategic management in government*. Harvard University Press.
- National Museum of American History. (n.d.). *America on the move*. Smithsonian.
<https://americanhistory.si.edu/america-on-the-move/transportation-1876>
- Neuendorf, K. A. (2002). *The content analysis guidebook*. Sage Publications.
- Neuendorf, K. A. (2014). *Internal consistency reliability: Can Cronbach's alpha be too high?* COM 731 handout, Cleveland State University.
- Neuendorf, K. A. (2019). Content analysis and thematic analysis. In P. Brough (Ed.), *Research methods for applied psychologists: Design, analysis and reporting* (pp. 211-223). Routledge.
- Nosta, J. (2021, December 13). Innovation and the rule of punctuated equilibrium. *Psychology Today*. <https://www.psychologytoday.com/gb/blog/the-digital-self/202112/innovation-and-the-rule-punctuated-equilibrium?msclkid=591bcc59b92811ec81bb822727e39889>
- Organisation for Economic Co-operation and Development (OECD). (2018). *Education at a glance 2018: OECD indicators*. OECD Publishing.
<http://dx.doi.org/10.1787/eag-2018-en>
- Oztok, M., Zingaro, D., Brett, C., & Hewitt, J. (2012). Exploring asynchronous and

synchronous tool use in online courses. *Computers & Education*, 60(1), 87-94.
<https://doi.org/10.1016/j.compedu.2012.08.007>

Parsons, C., & Fidler, B. (2005). A new theory of educational change- Punctuated equilibrium: The case of the internalization of higher education institutions. *British Journal of Educational Studies*, 53(4), 447-465.
<https://www.jstor.org/stable/3699278>

Perry, D., & Steck, A. (2019). Changes in faculty perceptions about online instruction: Comparison of faculty groups from 2002 and 2016. *Journal of Educators Online*, 16(2), 1-15. ERIC. <https://eric.ed.gov/?id=EJ1223933>

Power Thesaurus. (2020). <https://www.powerthesaurus.org/e-learning>

Purcell, W. M., & Lumbreras, J. (2021). Higher education and the COVID-19 pandemic: Navigating disruption using the sustainable development goals. *Discover Sustainability*, 2(6), 1-15. <https://doi.org/10.1007/s43621-021-00013-2>

Ram, S., & Jung, H. (1991). Forced adoption of innovations in organizations: Consequences and implications. *The Journal of Product Innovation Management*, 8(2), 117-126. [https://doi.org/10.1016/0737-6782\(91\)90005-J](https://doi.org/10.1016/0737-6782(91)90005-J)

Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2002). Online university teaching during and after the Covid-19 crisis: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, 2, 923-945.
<https://doi.org/10.1007/s42438-020-00155-y>

Rea, L. M., & Parker, R. A. (2014). *Designing and conducting survey research: A comprehensive guide* (4th ed.). Jossey-Bass.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). The Free Press.

- Rogers, E. M., Medina, U. E., Rivera, M. A., & Wiley, C. J. (2005). Complex adaptive systems and the diffusion of innovations. *The Innovation Journal: The Public Sector Innovation Journal*, 10(3), 1-26. <https://www.innovation.cc/volumes-issues/rogers-adaptivesystem7final.pdf>
- Rogers, E. M., & Singhal, A. (1995). Diffusion of innovations. In M. B. Salwen & D. W. Stacks (Eds.), *An integrated approach to communication theory and research* (pp. 409-420). Lawrence Erlbaum Associates.
- Ruth, L. (2006). Converting my course converted me: How reinventing an on-campus course for an online environment reinvigorated my teaching. *Teaching Theology and Religion*, 9(4), 236-242. <https://doi.org/10.1111/j.1467-9647.2006.00289.x>
- Samarawickrema, G., & Stacey, E. (2007). Adopting web-based learning and teaching: A case study in higher education. *Distance Education*, 28(3), 313-333. <https://doi.org/10.1080/01587910701611344>
- Sincero, S. M. (2012, January 21). *Pilot survey*. <https://explorable.com/pilot-survey>
- Tabata, L. N., & Johnsrud, L. K. (2008). The impact of faculty attitudes toward technology, distance education, and innovation. *Research in Higher Education*, 49(7), 625-646. <https://doi.org/10.1007/s11162-008-9094-7>
- Telmesani, M. (2009). Faculty's perceptions of online education. *University of Manitoba Grad Symposium*. <https://umanitoba.ca/faculties/education/media/Telmesani-10.pdf>
- The Best Schools Staff. (2018, August 23). Professor rankings: From adjunct to emeritus. *The Best Schools*. <https://thebestschools.org/magazine/professors-ranks/>
- The Best Schools Staff. (2020, September 11). Synchronous learning vs. asynchronous

learning in online education. *The Best Schools*.

<https://thebestschools.org/magazine/synchronous-vs-asynchronous-education/>

Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *Journal of Higher Education*, 68(6), 599-623.

<https://doi.org/10.1080/00221546.1997.11779003>

Udermann, B. (2015). *Three barriers to faculty teaching online and how to overcome them*. <http://brianudermann.com/three-barriers-to-faculty-teaching-online-and-how-to-overcome-them/>

Udermann, B. (2022). An intellectual property policy for online education. *Academic Briefing*.

<https://www.academicbriefing.com/administration/intellectual-property-policy-online-education/?msclkid=e3e69dfac68111ec986d5f334b621c84>

Unruh, G. G., & Alexander, W. M. (1970). *Innovation in secondary education*. Rinehart and Winston, Inc.

U.S. Department of Education. (2013). *Guide for developing high-quality emergency operations plans for institutions of higher education*.

<https://www.ready.gov/campus>

U.S. Department of Education, National Center for Education Statistics (NCES). (2011).

Learning at a distance: Undergraduate enrollment in distance education courses and degree programs (NCES 2012-154), 1-22.

<https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012154>

U.S. Department of Education, National Center for Education Statistics. (2020). *Digest of*

Education Statistics, 2019 (Fast Facts), Table 311.15.

<https://nces.ed.gov/fastfacts/display.asp?id=80>

U.S. Department of Education, Office for Civil Rights. (2021). *Education in a pandemic: The disparate impacts of COVID-19 on America's students.*

<https://www2.ed.gov/about/offices/list/ocr/docs/20210608-impacts-of-covid19.pdf>

Wagner, N., Hassanein, K., & Head, M. (2008). Who is responsible for e-learning success in higher education? A stakeholders' analysis. *Educational Technology & Society, 11*(3), 26-36. <https://www.jstor.org/stable/jeductechsoci.11.3.26>

Wallis, L. (2020). *Growth in distance learning outpaces total enrollment growth.*

[https://www.qualityinfo.org/-/growth-in-distance-learning-outpaces-total-enrollment-growth#:~:text=The%20number%20of%20students%20taking%20at%20least%20one%20online%20course,14.2%25\)%20in%202018%2D19](https://www.qualityinfo.org/-/growth-in-distance-learning-outpaces-total-enrollment-growth#:~:text=The%20number%20of%20students%20taking%20at%20least%20one%20online%20course,14.2%25)%20in%202018%2D19)

Watts, L. (2016). Synchronous and asynchronous communication in distance learning: A review of the literature. *The Quarterly Review of Distance Education, 17*(1), 23-32. ERIC. <https://eric.ed.gov/?id=EJ1142962>

Wilkes, R. B., Simon, J. C., & Brooks, L. D. (2006). A comparison of faculty and undergraduate students' perceptions of online courses and degree programs. *Journal of Information Systems Education, 17*(2), 131-140.

Williamson, B., Eynon, R., & Potter, J. (2020). Pandemic politics, pedagogies and practices: Digital technologies and distance education during the coronavirus emergency. [Editorial]. *Learning, Media and Technology, 45*(2), 107-114.

<https://doi.org/10.1080/17439884.2020.1761641>

Wingo, N. P., Ivankova, N. V., & Moss, J. A. (2017, March). Faculty perceptions about

teaching online: Exploring the literature using the Technology Acceptance Model as an organizing framework. *Online Learning*, 21(1), 15-35.

<http://dx.doi.org/10.24059/olj.v21i1.761>

Wood, F. G. (2016). Where are the faculty? Fulfilling the traditional faculty role at a distance. *Journal of Professional Nursing*, 35(4), 256-261.

<http://dx.doi.org/10.1016/j.profnurs.2016.01.009>

Wotto, M. (2020). The future high education distance learning in Canada, the United States, and France: Insights from before COVID-19 secondary data analysis. *Journal of Educational Technology Systems*, 49(2), 262-281.

<https://doi.org/10.1177/0047239520940624>

Yin, R. K. (2009). *Case study research design and methods* (4th ed.). Sage.

Zhen, Y., Garthwait, A., & Pratt, P. (2008). Factors affecting faculty members' decisions to teach or not to teach online education in higher education. *Online Journal of Distance Learning Administration*, 11(3). <https://eric.ed.gov/?id=EJ1065652>

Zhou, Y. (2008). Voluntary adopters versus forced adopters: Integrating the diffusion of innovation theory and the technology acceptance model to study intra-organizational adoption. *New Media & Society*, 10(3), 475-496.

<https://doi.org/10.1177/1461444807085382>

Zingale, N. C. (2013). The phenomenology of sharing: Social media networking, asserting, and telling. *Journal of Public Affairs*, 13(3), 288-297.

<https://doi.org/10.1002/pa.1468>

APPENDIX A

Letter of Support

Via email from James W. Ball, PhD.

From: Ball, James <j-ball@neiu.edu>
Sent: Wednesday, April 29, 2020 4:29 PM
To: Marcelyn Saxton <m.woodard@vikes.csuohio.edu>
Cc: Marcelyn R Saxton <m.woodard@vikes.csuohio.edu>
Subject: Re: Tool to measure adoption of distance education

Marcelyn,

Ok and good luck,

Dr. Ball

On Wed, Apr 29, 2020 at 2:09 PM Marcelyn Saxton > wrote:

Dr. Ball,

Thank you so very much.

I will definitely reach out to you as I progress with a more developed research plan. I appreciate your kindness and support.

Continue to stay safe!

Marcelyn "Marcy" Saxton

On Tue, Apr 28, 2020 at 9:28 AM Ball, James <j-ball@neiu.edu> wrote:

Marcelyn,

Attached is the final version of the instrument that was published in my dissertation and for the article that was published in AJHS. You have my consent to use it and modify it for the purposes of your research. I would also be willing to answer any questions you might have or collaborate on anything.

-continued

Dr. Ball,

On Mon, Apr 27, 2020 at 6:18 PM Marcellyn R Saxton <m.woodard@vikes.csuohio.edu>
wrote:
Dr. Ball,

I hope you are doing well.

I am a doctoral student reaching out to you for help. I attend Cleveland State University (Ohio). I am in the beginning stages of drafting my prospectus which has a working title of "Faculty buy-in: Adoption, rejection and perception of online education by academics".

I have read your research with Roberta Ogletree, Kim Miller, Paul Asunda, Elaine Jurkowski and Joyce Fetro published in the American Journal of Health Studies. I believe I found the final 97-item instrument used to measure adoption of distance education in your excellent dissertation. If there is another version of the instrument would you be willing to share that with me?

I would also be honored if you gave me permission to use your instrument or modify for my work.

Thank you for your time and consideration.

Sincerely,
Marcellyn Saxton
216.245.5242

--
James Ball, PhD
Department Chair

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APPENDIX B

Record of Adaptations to Original Survey Instrument

Source	Original Question	Original Construct	Modified or Added Question (with Questionnaire Item Number)	Current Construct
Ball et al., 2013/14	In my courses, I use my university's course management system more than my colleagues (D2L, Blackboard, etc.).	Adopter Characteristics	7. In my courses, I use my university's learning management system more than my colleagues (Blackboard).	Technology Skills & Capabilities
Ball et al., 2013/14	I have difficulty helping students with technological issues.	Adopter Characteristics	10. N/A	Technology Skills & Capabilities
Ball et al., 2013/14	I can't record a lecture for students to access on the Internet.	Adopter Characteristics	14. I find it technologically difficult to record a lecture for students to access on the Internet.	Technology Skills & Capabilities
Ball et al., 2013/14	I can't create a power point presentation for students to access on the Internet.	Adopter Characteristics	22. I find it technologically difficult to create a Power Point presentation for students to access on the Internet.	Technology Skills & Capabilities
Ball et al., 2013/14	I communicate more often with my students through email than face-to-face.	Adopter Characteristics	26. Prior to the Coronavirus pandemic, I communicated with my students through digital platforms such as email more often than face-to-face.	Technology Skills & Capabilities
Ball et al., 2013/14	I can create timed exams and quizzes for distance education.	Adopter Characteristics	31. I find it easy to create timed exams and quizzes for online education.	Technology Skills & Capabilities
Ball et al., 2013/14	I don't know how to use a webcam.	Adopter Characteristics	38. N/A	Technology Skills & Capabilities
Ball et al., 2013/14	I don't know how to use a headset and microphone.	Adopter Characteristics	40. N/A	Technology Skills & Capabilities
Ball et al., 2013/14	I don't keep up with current trends in technology.	Adopter Characteristics	46. N/A	Technology Skills & Capabilities
Ball et al., 2013/14	I am open to understanding other people's perspectives on distance education (pro or con).	Adopter Characteristics	48. I am open to understanding other people's perspectives on online education (pro or con).	Technology Skills & Capabilities
Ball et al., 2013/14	I believe that my courses should all be taught face-to-face.	Adopter Characteristics	50. N/A	Technology Skills & Capabilities
Ball et al., 2013/14	I believe that I don't have control over how I teach my courses.	Adopter Characteristics	57. N/A	Technology Skills & Capabilities

Ball et al., 2013/14	I have trouble getting technology to work in my courses.	Adopter Characteristics	60. N/A	Technology Skills & Capabilities
Ball et al., 2013/14	I am more likely than my colleagues to try new technologies in my courses.	Adopter Characteristics	63. N/A	Technology Skills & Capabilities
Ball et al., 2013/14	I communicate with my colleagues through email more often than face-to-face.	Adopter Characteristics	69. N/A	Technology Skills & Capabilities
Ball et al., 2013/14	I am more likely than my colleagues to take risks.	Adopter Characteristics	Omit	Omit
Ball et al., 2013/14	I am more likely than my colleagues to implement new instructional strategies in my courses.	Adopter Characteristics	Omit	Omit
Ball et al., 2013/14	I communicate regularly with people who advocate for distance education.	Communication Channels	Omit	Omit
Ball et al., 2013/14	I don't advocate for distance education at my university.	Communication Channels	Omit	Omit
Ball et al., 2013/14	Few faculty at my university advocate for distance education.	Communication Channels	Omit	Omit
Ball et al., 2013/14	Faculty approaches me for advice on distance education.	Communication Channels	Omit	Omit
Ball et al., 2013/14	I help other faculty at my university implement distance education effectively.	Communication Channels	Omit	Omit
Ball et al., 2013/14	I have no difficulty telling other faculty how distance education improves my courses.	Communication Channels	Omit	Omit
Ball et al., 2013/14	My university doesn't offer a course management system (Blackboard, D2L, etc.) to implement distance education.	Communication Channels	Omit	Omit
Ball et al., 2013/14	Faculty at my university will help me locate valid and reliable health information on the Internet.	Communication Channels	Omit	Omit
Ball et al., 2013/14	I don't communicate with faculty at other universities to increase my knowledge of distance education.	Communication Channels	Omit	Omit

Ball et al., 2013/14	I rarely communicate with others about distance education.	Communication Channels	Omit	Omit
Ball et al., 2013/14	The strategies used in distance education are not consistent with my teaching style.	Compatibility	3. The teaching strategies used in online education are not consistent with my teaching style.	Compatibility
Ball et al., 2013/14	I search the Internet for ideas to incorporate within my courses.	Compatibility	16. N/A	Compatibility
Ball et al., 2013/14	I search the Internet for new technology to use in my courses	Compatibility	33. N/A	Compatibility
Ball et al., 2013/14	Distance education will give more students an opportunity at higher education.	Compatibility	51. Online education gives more students an opportunity for higher education.	Compatibility
Ball et al., 2013/14	Distance education is not consistent with the goals and objectives of my profession.	Compatibility	67. Online education is not consistent with the goals and objectives of my profession.	Compatibility
Ball et al., 2013/14	Distance education courses are difficult to implement into my courses.	Complexity	5. Online education techniques are difficult to implement into my courses.	Complexity
Ball et al., 2013/14	Learning to implement distance education is not difficult.	Complexity	17. Learning to implement online education is not difficult.	Complexity
Ball et al., 2013/14	I can implement distance education within my current course with my existing knowledge in technology.	Complexity	28. I can implement online education within my current course with my existing knowledge in technology.	Complexity
Ball et al., 2013/14	There is a steep learning curve when trying to implement distance education.	Complexity	37. There is a steep learning curve when trying to implement online education.	Complexity
Ball et al., 2013/14	It is difficult to find distance education instructional strategies to use in my courses.	Complexity	43. It is difficult to find online education instructional strategies to use in my courses.	Complexity
Ball et al., 2013/14	I understand how to implement distance education effectively.	Complexity	52. I understand how to implement online education effectively.	Complexity
Ball et al., 2013/14	When trying to adopt distance education I do not understand how to implement the “best practices” of distance education.	Complexity	65. I do not understand how to implement the “best practices” of online education.	Complexity
Ball et al., 2013/14	What is your age?	Demographics	76. N/A	Demographics & Background
Ball et al., 2013/14	What is your gender?	Demographics	77. What is your gender or gender identity?	Demographics & Background

Ball et al., 2013/14	What is your ethnicity?	Demographics	78. What is your racial or ethnic identity?	Demographics & Background
Ball et al., 2013/14	What is your highest degree?	Demographics	79. N/A	Demographics & Background
Ball et al., 2013/14	What is your institution considered?	Demographics	80. What do you consider the primary orientation of CSU to be?	Demographics & Background
Ball et al., 2013/14	How many years have you taught at the university level?	Demographics	81. N/A	Demographics & Background
Ball et al., 2013/14	What year did you start teaching courses that were delivered entirely online?	Demographics	86. Prior to spring 2020 semester and the start of Coronavirus pandemic, had you ever taught a fully online course? (If yes, when did you start Semester and Year)?	Demographics & Background
Ball et al., 2013/14	During the fall semester 2011, spring semester 2012, and fall semester of 2012 how many courses did you teach entirely online?	Demographics	88. During the semesters of summer 2020, fall 2020, and spring 2021, how many classes in total did you teach via online education or are teaching via online education?	Demographics & Background
Ball et al., 2013/14	What type of institution do you work for?	Demographics	Omit	Omit
Ball et al., 2013/14	Have you ever taught a hybrid course?	Demographics	Omit	Omit
Ball et al., 2013/14	Have you ever taught a class entirely online?	Demographics	Omit	Omit
Ball et al., 2013/14	What year did you start teaching hybrid courses?	Demographics	Omit	Omit
Ball et al., 2013/14	How many hybrid courses did you teach in that academic year?	Demographics	Omit	Omit
Ball et al., 2013/14	How many courses did you teach entirely online in that academic year?	Demographics	Omit	Omit
Ball et al., 2013/14	During the fall semester 2011, spring semester 2012, and fall semester of 2012 how many hybrid courses did you teach?	Demographics	Omit	Omit
Original	N/A	N/A	2. Prior to the Coronavirus pandemic in spring 2020, what did you perceive as the advantages and disadvantages of online education?	Perception and Decision (Open-ended question)
Blake et al., 2019	N/A	N/A	9. I am generally cautious about accepting online education.	Generalized Domain Innovativeness Index**
Blake et al., 2019	N/A	N/A	19. I am suspicious of online education.	Generalized Domain Innovativeness Index**
Blake et al., 2019	N/A	N/A	21. I must see other people using online education instructional strategies before I will consider them.	Generalized Domain Innovativeness Index**

Blake et al., 2019	N/A	N/A	34. I am reluctant to adopt online forms of teaching and learning until I see them working for people around me.	Generalized Domain Innovativeness Index**
Blake et al., 2019	N/A	N/A	42. I often find myself skeptical of online types of education.	Generalized Domain Innovativeness Index**
Blake et al., 2019	N/A	N/A	59. I rarely trust online teaching and learning techniques until I see whether the vast majority of people around me accept them.	Generalized Domain Innovativeness Index**
Original	N/A	N/A	71. I will continue teaching online even after the Coronavirus pandemic.	Perception and Decision (Likert)
Original	N/A	N/A	72. As a result of the Coronavirus pandemic, have your perceptions about online education changed or remained the same? Please thoroughly explain your thoughts.	Perception and Decision (Open-ended question)
Original	N/A	N/A	73. When you have the opportunity to decide, would you choose to continue or discontinue teaching courses using online delivery? Please explain fully.	Perception and Decision (Open-ended question)
Original	N/A	N/A	74. How do you feel about teaching online in a synchronous or asynchronous manner? An example of synchronous online instruction is using real-time meetings/lectures. An example of asynchronous online instruction is using PowerPoints, podcasts, and other materials that are posted online that students can access at any time. Please explain fully.	Perception and Decision (Open-ended question)
Original	N/A	N/A	75. If you had complete control, would you choose to continue using Blackboard as learning management system for online education? Please explain fully.	Perception and Decision (Open-ended question)
Original	N/A	N/A	82. What academic title best describes your professional ranking at CSU?	Demographics & Background
Original	N/A	N/A	83. What subject or discipline do you teach?	Demographics & Background
Original	N/A	N/A	84. In spring semester 2020 when the Coronavirus outbreak occurred, how many classes were you scheduled to teach at the beginning of the term... Face-to-Face? Fully Online? Other?	Demographics & Background
Original	N/A	N/A	85. When did you first begin using online delivery for at least some	Demographics & Background

			course content and communication? (Semester and Year)	
Original	N/A	N/A	87. Prior to spring 2020, how would you rate (positive or negative) your overall online teaching experience? (scale -5 to +5; 0 = not applicable).	Demographics & Background
Ball et al., 2013/14	There is ample evidence in the literature to support the effectiveness of distance education.	Observability	6. There is ample evidence in literature to support the effectiveness of online education.	Observability
Ball et al., 2013/14	It is difficult to observe distance education at the university where I am currently employed.	Observability	18. Prior to the Coronavirus pandemic, I was unaware of the degree to which online education was being used at CSU.	Observability
Ball et al., 2013/14	I have not observed instructor's satisfaction with distance education courses.	Observability	30. I am not aware of other instructors' level of satisfaction with online education courses.	Observability
Ball et al., 2013/14	My interest in distance education has encouraged other instructors to become involved in engaging in distance education delivery.	Observability	35. My interest in online education has encouraged other instructors to become involved in engaging in online education delivery.	Observability
Ball et al., 2013/14	Opportunities to observe quality distance education are available.	Observability	45. Opportunities to observe quality online education are available.	Observability
Ball et al., 2013/14	I have not observed students enjoying distance education courses.	Observability	53. I have not observed students enjoying online education courses.	Observability
Ball et al., 2013/14	To stay competitive in higher education more distance education courses should be offered in health education.	Perception of Need	Omit	Omit
Ball et al., 2013/14	Increases in distance education will not increase student enrollment at your university.	Perception of Need	Omit	Omit
Ball et al., 2013/14	To reach more nontraditional students in higher education more distance education courses should be offered.	Perception of Need	Omit	Omit
Ball et al., 2013/14	At your university, implementing distance education will incur additional monetary costs.	Relative Advantage	4. At CSU, implementing online education incurs additional monetary costs.	Relative Advantage
Ball et al., 2013/14	Distance education will become an educational norm in the future.	Relative Advantage	11. Online education will become an educational norm in the future.	Relative Advantage

Ball et al., 2013/14	Educational fads have come and gone and so will distance education.	Relative Advantage	15. Educational fads have come and gone and so will online education.	Relative Advantage
Ball et al., 2013/14	Distance education can't replace face-to-face instructional strategies.	Relative Advantage	23. Online education can't replace face-to-face instructional strategies.	Relative Advantage
Ball et al., 2013/14	Distance education instructional strategies will enhance my courses.	Relative Advantage	27. Online education instructional strategies enhance my courses.	Relative Advantage
Ball et al., 2013/14	Courses delivered through distance education can be as effective as face-to-face courses	Relative Advantage	32. Courses delivered through online education can be as effective as face-to-face courses.	Relative Advantage
Ball et al., 2013/14	Distance education will meet the educational needs of students in college courses.	Relative Advantage	39. Online education meets the educational needs of students in college courses.	Relative Advantage
Ball et al., 2013/14	There is a lack of interaction within distance education courses between the student and the instructor.	Relative Advantage	41. There is a lack of interaction within online education courses between the student and the instructor.	Relative Advantage
Ball et al., 2013/14	Instructional strategies that are recommended for distance education can make learning just as interesting as face-to-face courses.	Relative Advantage	47. Instructional strategies that are recommended for online education can make learning just as interesting as face-to-face courses.	Relative Advantage
Ball et al., 2013/14	Distance education will replace face-to-face instruction in the future	Relative Advantage	49. Online education will replace face-to-face instruction in the future.	Relative Advantage
Ball et al., 2013/14	People (colleagues, students, friends, etc.) who have taken distance education courses have told me that the course was not effective.	Relative Advantage	56. In recent years, people (colleagues, students, friends, etc.) who have taken online education courses have told me that the courses were not effective.	Relative Advantage
Ball et al., 2013/14	Teaching distance education is just as enjoyable as teaching face-to-face.	Relative Advantage	58. Teaching online is just as enjoyable as teaching face-to-face.	Relative Advantage
Ball et al., 2013/14	Students do not enjoy taking distance education courses	Relative Advantage	61. Students do not enjoy taking online courses.	Relative Advantage
Ball et al., 2013/14	The benefits of face-to-face interaction can be accomplished in distance education courses	Relative Advantage	66. The benefits of face-to-face interaction can be accomplished in online courses.	Relative Advantage
Ball et al., 2013/14	I feel I will be delivering a lower quality education if I implement distance education.	Relative Advantage	68. I feel I am delivering a lower quality education when I implement online education.	Relative Advantage

Ball et al., 2013/14	Students have told me they don't learn as much in distance education courses	Relative Advantage	70. In recent years, students have told me they don't learn as much in online education courses.	Relative Advantage
Ball et al., 2013/14	Distance education will result in a reduction of staff at my university.	Social System	8. Online education will result in a reduction of faculty and staff at CSU.	Social System Culture & Influence
Ball et al., 2013/14	My university has adequate professional development programs related to distance education.	Social System	12. CSU has adequate professional development programs related to online education.	Social System Culture & Influence
Ball et al., 2013/14	Training faculty how to implement the "best practices" in distance education will be expensive.	Social System	20. Training faculty members on how to implement the "best practices" of online education is expensive.	Social System Culture & Influence
Ball et al., 2013/14	The technical support for distance education at my university is inadequate.	Social System	24. The technical support for online education at my university is inadequate.	Social System Culture & Influence
Ball et al., 2013/14	Faculty at my university are intimidated by distance education.	Social System	29. Faculty members at my university are intimidated by online education.	Social System Culture & Influence
Ball et al., 2013/14	There are no monetary incentives to implement distance education at my university.	Social System	36. There are no monetary incentives to implement online education at CSU.	Social System Culture & Influence
Ball et al., 2013/14	My department chair supports the implementation of distance education.	Social System	44. My department chair supports the implementation of online education.	Social System Culture & Influence
Ball et al., 2013/14	My department chair advocates for the implementation of distance education.	Social System	55. My department chair advocates for the implementation of online education.	Social System Culture & Influence
Ball et al., 2013/14	Administrators at my university understand the best practices of distance education.	Social System	62. Administrators at CSU understand the "best practices" of online education.	Social System Culture & Influence
Ball et al., 2013/14	Incentives are offered at my university to implement distance education.	Social System	64. Incentives are offered at my university to implement online education.	Social System Culture & Influence
Ball et al., 2013/14	There is a higher demand for distance education than in the past at my university.	Social System	Omit	Omit
Ball et al., 2013/14	There is no technical support at my university.	Social System	Omit	Omit
Ball et al., 2013/14	Release time to develop distance education courses and programs is not provided at my university.	Social System	Omit	Omit
Ball et al., 2013/14	My university's distance education program has a	Social System	Omit	Omit

	policy they employ regarding responding to students within a timely fashion.			
Ball et al., 2013/14	Property rights in distance education are an area of concern for faculty.	Social System	Omit	Omit
Ball et al., 2013/14	Distance education instructional strategies are difficult to try in health education courses.	Trialability	13. Online education instructional strategies are difficult to try in the subject of my courses.	Trialability
Ball et al., 2013/14	Opportunities to try distance education instructional strategies before I adopt them are available.	Trialability	25. Opportunities to try online education instructional strategies before I adopt them are available.	Trialability
Ball et al., 2013/14	Professional development related to implementing effective distance education strategies is offered, so I can try them before I adopt them.	Trialability	54. Professional development related to implementing effective online education strategies is offered, so I can try them before I adopt them.	Trialability

Note: 32 items were reversed-coded for analysis based on negative wording of the statement from the original instrument and remained for the newly modified instrument used for this study (item/question numbers 3, 4, 5, 8, 10, 13, 14, 15, 18, 20, 22, 23, 24, 29, 30, 36, 37, 38, 40, 41, 43, 46, 50, 53, 56, 57, 60, 61, 65, 67, 68 and 70).

APPENDIX C

Final Electronic Survey (on Paper)

Introduction

Informed Consent Statement

Dear participant,

My name is Marcelyn Saxton and I am a doctoral student in the Maxine Goodman Levin College of Urban Affairs at Cleveland State University (CSU). For my dissertation, I am studying online education as it relates to the perceptions of postsecondary faculty members during the Coronavirus pandemic outbreak. Please help me by completing this questionnaire.

The term “online education” will be used frequently and on a macro-level to include all types of teaching and learning using the Internet versus face-to-face in a classroom. Additionally, online education includes utilizing asynchronous and/or synchronous communication. A fully online course is defined as meeting 100% online and not face-to-face and 80% or more of course content is delivered online. Keep in mind this survey is specifically asking questions about your professional experience with online education at CSU and no other institution.

Participation in this study is completely voluntary. If you agree to participate, you will be asked to complete a survey. The survey should take about 25 minutes to finish. Additionally, a phone interview option that is less than 25 minutes is available if you are willing to share your thoughts in more depth after completing the survey (you can decline this part).

There is no direct benefit for participating in this research. You may choose not to participate. You can exit at any time without penalty. You will have an opportunity to enter a prize drawing for a \$50 gift card upon completion of the survey. The odds of winning the gift card is 1:500. If you wish to participate in the drawing, please enter your email address at the end of the survey. Please note that your email address and your identity will not be connected in any way to your survey responses.

Your responses to the survey and interview will be treated in a confidential manner. Your name and other identifying information will not be linked with the data collected. Results will be reported in a summary. Your information will not be identifiable. There are minimal professional risks associated with this research due to any unforeseen data breach. In efforts to ensure confidentiality, data will be stored on a computer protected by a password and any other physical materials will be stored in a locked file cabinet in a secured office on campus.

For further information regarding this research please contact Marcelyn Saxton at (216) 245-5242, email: m.woodard@vikes.csuohio.edu or Dr. Nicholas Zingale at (216) 802.3389, email: n.zingale@csuohio.edu.

If you have any questions about your rights as a research participant, you may contact the Cleveland State University Institutional Review Board at (216) 687-3630. This study has been approved by CSU (IRB number: IRB-FY2021-197).

Thank you in advance for your cooperation and support. Your feedback is important.

* 1. Clicking on the box below confirms that you are 18 years of age or older and have read and understood this statement. This constitutes your informed consent to participate in the study as outlined above.



I agree to continue.

* 2. Prior to the Coronavirus pandemic in spring 2020, what did you perceive as the advantages and disadvantages of online education?

Advantage:

Advantage:

Advantage:

Disadvantage:

Disadvantage:

Disadvantage:

Other comment:

Other comment:

3. The teaching strategies used in online education are not consistent with my teaching style.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

4. At CSU, implementing online education incurs additional monetary costs.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

5. Online education techniques are difficult to implement into my courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

6. There is ample evidence in literature to support the effectiveness of online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

7. In my courses, I use my university's learning management system more than my colleagues (Blackboard).

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

8. Online education will result in a reduction of faculty and staff at CSU.

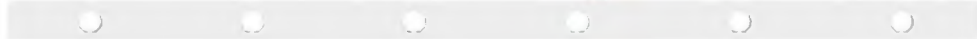
0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

9. I am generally cautious about accepting online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

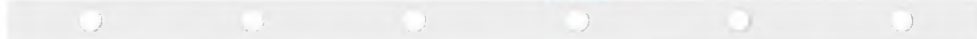
10. I have difficulty helping students with technological issues.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree




11. Online education will become an educational norm in the future.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree



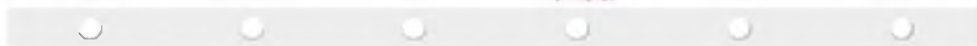
12. CSU has adequate professional development programs related to online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree



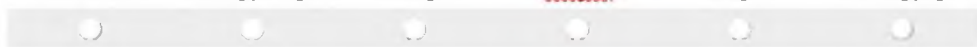
13. Online education instructional strategies are difficult to try in the subject of my courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree



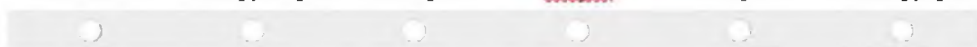
14. I find it technologically difficult to record a lecture for students to access on the Internet.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree




15. Educational fads have come and gone and so will online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree




16. I search the Internet for ideas to incorporate within my courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree



17. Learning to implement online education is not difficult.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree



18. Prior to the Coronavirus pandemic, I was unaware of the degree to which online education was being used at CSU.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

19. I am suspicious of online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

20. Training faculty members on how to implement the "best practices" of online education is expensive.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

21. I must see other people using online education educational strategies before I will consider them.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

22. I find it technologically difficult to create a Power Point presentation for students to access on the Internet.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

23. Online education can't replace face-to-face instructional strategies.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

24. The technical support for online education at my university is inadequate.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

25. Opportunities to try online education instructional strategies before I adopt them are available.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

6

26. Prior to the Coronavirus pandemic, I communicated with my students through digital platforms such as email more often than face-to-face.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

27. Online education instructional strategies enhance my courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

28. I can implement online education within my current course with my existing knowledge in technology.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

29. Faculty members at my university are intimidated by online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

30. I am not aware of other instructors' level of satisfaction with online education courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

31. I find it easy to create timed exams and quizzes for online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

32. Courses delivered through online education can be as effective as face-to-face courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

33. I search the Internet for new technology to use in my courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

34. I am reluctant to adopt online forms of teaching and learning until I see them working for people around me.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

35. My interest in online education has encouraged other instructors to become involved in engaging in online education delivery.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

36. There are no monetary incentives to implement online education at CSU.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

37. There is a steep learning curve when trying to implement online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

38. I don't know how to use a webcam.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

39. Online education meets the educational needs of students in college courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

40. I don't know how to use a headset and microphone.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

41. There is a lack of interaction within online education courses between the student and the instructor.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

42. I often find myself skeptical of online types of education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

43. It is difficult to find online education instructional strategies to use in my courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

44. My department chair supports the implementation of online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

45. Opportunities to observe quality online education are available.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

46. I don't keep up with current trends in technology.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

47. Instructional strategies that are recommended for online education can make learning just as interesting as face-to-face courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

48. I am open to understanding other people's perspectives on online education (pro or con).

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

49. Online education will replace face-to-face instruction in the future.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

50. I believe that my courses should all be taught face-to-face.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

51. Online education gives more students an opportunity for higher education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

52. I understand how to implement online education effectively.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

53. I have not observed students enjoying online education courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

54. Professional development related to implementing effective online education strategies is offered, so I can try them before I adopt them.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

55. My department chair advocates for the implementation of online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

56. In recent years, people (colleagues, students, friends, etc.) who have taken online courses have told me that the courses were not effective.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

57. I believe that I don't have control over how I teach my courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

58. Teaching online is just as enjoyable as teaching face-to-face.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

59. I rarely trust online ways of teaching and learning until I see whether the vast majority of people around me accept them.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

60. I have trouble getting technology to work in my courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

61. Students do not enjoy taking online courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

62. Administrators at CSU understand the "best practices" of online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

63. I am more likely than my colleagues to try new technologies in my courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

64. Incentives are offered at my university to implement online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

65. I do not understand how to implement the "best practices" of online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

66. The benefits of face-to-face interaction can be accomplished in online courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

67. Online education is not consistent with the goals and objectives of my profession.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

68. I feel I am delivering a lower quality education when I implement online education.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

69. I communicate with my colleagues through email more often than face-to-face.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

70. In recent years, students have told me they don't learn as much in online courses.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

71. I will continue teaching online even after the Coronavirus pandemic.

0= Don't Know 1= Strongly Disagree 2= Disagree 3= Neither Agree or Disagree 4= Agree 5= Strongly Agree

*** 72. As a result of the Coronavirus pandemic, have your perceptions about online education changed or remained the same? Please thoroughly explain your thoughts.**

*** 73. When you have the opportunity to decide, will you choose to continue or discontinue teaching courses using online delivery?**

- Continue online education
 Discontinue online education

Please explain fully.

*** 74. How do you feel about teaching online in a synchronous or asynchronous manner? An example of synchronous online instruction is using real-time meetings/lectures. An example of asynchronous online instruction is using PowerPoints, podcasts, and other materials that are posted online that students can access at any time. Please explain fully.**

* 75. If you had complete control, would you choose to continue using Blackboard as learning management system for online education?

- Continue using Blackboard
- Discontinue using Blackboard

Please explain fully.

* 76. What is your age?

77. What is your gender or gender identity?

78. What is your racial or ethnic identity?

* 79. What is your highest degree?

80. What do you consider the primary orientation of CSU to be?

- Research-oriented
- Service-oriented
- Teaching-oriented

* 81. How many years have you taught at the university level?

* 82. What academic title best describes your professional ranking at CSU?

* 83. What subject or discipline do you teach at CSU?

* 84. In spring semester 2020 when the Coronavirus outbreak occurred, how many classes were you scheduled to teach at the beginning of the term...

Face-to-Face?

Fully Online?

Other?

* 85. When did you first begin using online delivery for at least some course content and communication?

Semester and Year

* 86. Prior to spring 2020 semester and the start of Coronavirus pandemic, had you ever taught a **fully** online course?

Yes

No

If yes, when did you start (Semester and Year)?

* 87. Prior to spring 2020, how would you rate (positive or negative) your overall online teaching experience?

-5 0 = Not Applicable +5



* 88. During the semesters of summer 2020, fall 2020, and spring 2021, how many classes in total did you teach via online education or are teaching via online education?

Thank you very much for your participation in this research!!!

You have graciously reached the end of this survey.

The last two questions are voluntary options for (a) further discussion via phone interview if you want to engage even more and (b) a chance to receive an incentive for completing this survey. Then, you will be able to quickly hit the "DONE" button.

89. If you are willing to share additional thoughts about online education, I would very much like to speak with you in an in-depth phone interview to discuss further. If interested, please share your contact information or contact me directly at:

Marcelyn Saxton, Primary Researcher

m.woodard@vikes.csuohio.edu

216.245.5242 talk/text

No, thank you.

Yes, I am interested.

[REDACTED]

90. Please enter your contact information for further discussion via in-depth interview:

[REDACTED]

91. Your time is appreciated and if you would like to be included in a drawing for a single \$50 gift card, to be given for completing this online survey, please submit your email address below:

- No, thank you.
- Yes, I am interested.
- My email address (only):

APPENDIX D

Codebook with details and instructions

Saxton, M. (2022). *Forced adoption: Diffusion and perception of online education by postsecondary faculty members before and during the Coronavirus pandemic*. Unpublished doctoral dissertation, College of Urban Affairs, Cleveland State University.

CODEBOOK

Survey and Interview

Coding Instructions:

- First code survey responses for questions 2, 72, 73, and 74 with the Survey Only coding sheet.
- Second code interview responses for questions 72, 73, 74, OE1, OE2, and OE3 with the Interview Only coding sheet.
- For the 32 themes, in the space provided insert zero (0) for no presence or one (1) for presence in the text provided by respondent. There is no need to track the number of occurrences of each theme in the response text.
- Check as many themes that apply to designated response text.
- Please code from the beginning of each answer/text of the respondent.
- All coding needs to be completed with the information provided from the survey or interview data, assume no prior knowledge.

Please fill in all the information required before coding each response/message set:

1. Coder ID: Indicate the individual who coded the response, according to the coder ID list below:

Coder ID	Coder Name
1	Kimberly Neuendorf
2	Marcelyn Saxton
3	Tekla Williams

2. Respondent ID: Identify each respondent number as indicated and matched to the master data set.

3. Response Data: Make sure you are using the correct coding sheet (Interview Only or Survey Only).

4. Decision: Indicate respondent's decisions before denoting theme codes for questions #72 and #73. 0 = no indication/missing, 1 = changed or continue, and 2 = remained the same or discontinue.

DEFINITIONS AND EXAMPLES:

1. **NECESSARY** = online education is the most viable solution to continue learning and teaching in the pandemic because it is safe and healthy use of technology. (i.e., Online education allowed students to still learn in the pandemic or finish the semester.)
2. **FORCED** = online education is/was mandated by authority of institution to be used by faculty member, whether it was desired or not. (i.e., I had no choice but to use online education to keep my job.)
3. **PEDAGOGY CONCERNS** = online education is oftentimes viewed as problematic with adherence to traditional pedagogical practices and/or theories of classroom teaching and learning. (i.e., The very essential student-teacher interaction, rapport, and testing/academic fidelity is missing in online modality.)
4. **MORE COMFORTABLE** = online education is described as more comfortable and convenient for students to learn and process information in addition to being easier for faculty members to disseminate content and answer questions. (i.e., I like being able to answer questions or send out videos in bulk so students to access when they need to and process privately.)
5. **STUDENT-FOCUSED** = online education is focused on students and allows students of all kinds to get access and earn a college degree. (i.e., Students can manage their lives and still be successful with online education.)
6. **FACULTY-FOCUSED** = online education is focused on faculty members and allows faculty to thrive and expand professionally. (i.e., I like teaching online and staying safe.)
7. **UPGRADE IN HIGHER EDUCATION** = online education is an important and long overdue upgrade in higher education that existed prior to the pandemic but has gained more relevance as a result. Also provides students with a more independent and self-paced experience. (i.e., It is time for traditional institutions and old traditions to catch up to new century thinking and technology.)
8. **FINALLY TRIED** = online education and instructional strategies are consistently and intentionally used by faculty member as a direct result of the pandemic. (i.e., I never used online until the pandemic.)
9. **TIME CONSUMING** = online education is more time consuming than unmediated face-to-face in a classroom for matters such as preparations, grading, content and student interaction. (i.e., I feel that I spend so much more time with online delivery by always working and being overly accessible by students.)

10. FLEXIBILITY = online education offers flexibility and freedom in learning and teaching beyond the confines of brick and mortar. (i.e., I never knew all the responsibilities my students have had to juggle; online education helps them manage and still earn a degree.)

11. STAYING AT HOME = online education allows faculty members to stay at home and teach or be anywhere other than the college/university campus. (i.e., I am so happy to cut out expenses for transportation and parking, and time for travel, but sometimes I feel isolated and alone.)

12. FACE TO FACE NEEDED = online education is insufficient because it lacks the unmediated face-to-face classroom experience needed for engaged learning and full comprehension of subject matter. (i.e., There were too many exercises, nonverbals, and content that did not translate well in my online courses and lab work.)

13. ASYNC PREFERRED = online education instruction delivery that allows anytime access by students such as PowerPoint, podcasts and other posted materials. (i.e., Async allows me to respond in mass, upload lecture videos and other supporting materials.)

14. SYNC PREFERRED = online education instruction delivery that allows for real-time lectures and meetings. (i.e., Having set class times in Zoom was very beneficial for my students.)

15. ACADEMIC FREEDOM = online education restricts, interrupts and/or hinders faculty members from expression of ideas and running classes as desired and not using online could result in job loss. (i.e., Being forced to use online has infringed on my academic freedom.)

16. QUALITY OF EDUCATION CONCERNS = online education poses concerns about the effectiveness and quality of higher education that is received by students. (i.e., Students are receiving a less efficient educational experience from a large portion of online courses because of the lack of student engagement, interaction, equity, and impactful communication.)

17. INSTITUTION STANDARDS = online education instruction is perceived to be more efficient when there are clear guidelines and protocols of implementation set by the institution that are followed by all faculty members. Some examples are course design, delivery methods, screen presence, and testing fidelity. (i.e., I have been doing things online that many other faculty members are not, and students are complaining about it.)

18. TECHNOLOGY ISSUES = online education causes more disruptions to teaching and learning because of problems, lack of experience or confidence and/or access to quality technology and devices for both student and faculty. (i.e., When students have a technology problem, I [faculty member] do not want to be the first person they contact to problem-solve.)

19. TRAINING ISSUES = online education instructional strategies and techniques require continuous hands-on training and professional development offered by a designated department of the higher education institution to adequately support faculty members. (i.e., I was not adequately prepared and supported to teach online.)

20. BLACKBOARD = is a Learning Management System (LMS) used by many colleges/universities to help facilitate and support online education platforms. It is not the only LMS around and the

reviews about ease of use and performance are varied. (i.e., Blackboard is okay, but is a little slow and clunky.)

21. **BENEFITS OUTWEIGH RISKS** = online education is very popular but not always welcomed by faculty members for many reasons; however, there are many positive results and factors that warrant its increasing presence long-term. (i.e., Online education is here to stay, so it is time to get onboard.)

22. **USING ZOOM** = during the pandemic, the video conferencing software and app ZOOM became extremely popular for educators to communicate with students and colleagues synchronously and asynchronously. Zoom can be a positive or negative reality for faculty members. (i.e., Even if students did not show up to a scheduled class via Zoom, I was able to record the class session for them to watch video later.)

23. **NO CONCERNS** = faculty member had no concerns or comments about online education based on being an experienced user professionally or from being student-user in the past. (i.e., I earned my degree online and I am very comfortable using it as a student and faculty member.)

24. **OVERREACTING FACULTY** = the pandemic and many life changes are causing anxiety in people. Some faculty members are perceived as being overly reactionary to all things, complaining constantly, and in a state of vulnerability due to online education and everything associated with it. (i.e., I am so overwhelmed with all the changes and work.)

25. **MORE TIME FOR 3-FOLD** = online education is providing more time for faculty members to manage time better and complete three-fold responsibilities of teaching, publishing, and outreach. (i.e., I have been able to reorganize and turn my attention to other parts of my profession such as outreach and publishing.)

26. **LESS NEED FOR A PROFESSOR** = online education is perceived to change the role of the professor based on modules, preloaded information, and other set formatting and scheduled items resulting in less need of professors and more self-directed and self-paced learning for students. (i.e., There is no need for me to teach my online classes, my GA can run the whole class; I feel more like a facilitator.)

27. **COMPETITIVE** = online education helps make traditional institutions of higher learning more progressive and relevant for growth for itself and socioeconomically for people and cities. (i.e., There are so many colleges and universities to choose from so having online education degrees and scheduling options give an advantage.)

28. **BRANDING** = the efforts dedicated to shaping an image and sellable presentation of an institution that attracts attention, desired results and promotes clear expertise. (i.e., If this university is going to advance, online education is one of the things that can help increase enrollment of students from all over the globe.)

29. **EXPANSION** = companies and institutions of education actively find ways to extend their reach and scope in new and creative ways. While trying to produce quality services products and experiences, there is the threat of commodification or just putting a price tag on earning a

college degree. (i.e., Just because the university is expanding, that does not mean it is better or the alumni feel connected.)

30. DEPARTMENT SIZE = online education is in high demand which means some departments must evaluate size and responsibilities of faculty members to handle both online and face-to-face needs. (i.e., Originally my department only had one faculty member dedicated to teaching online classes since pandemic we all are, I have to wait and see if I am needed.)

31. BAD REPUTATION = online education had earned a bad reputation in the past due to many examples of unaccredited institutions, poor teaching practices, unprepared students, and low-quality technology and software. (i.e., I had heard so many terrible things about online education and was negatively influenced.)

32. TUITION COSTS = online education for many reasons is perceived at times to be incomparable to unmediated face-to-face in a classroom, but still costs the same. (i.e., Although it works, online education robs students out of a whole experience and tuition is not discounted.)

Note: Themes above were derived from previous literature on the perceptions of faculty members about online education and/or emerged from interviews.

INSERTED below are examples of the electronic Coding sheets
(Survey Only & Interview Only)

APPENDIX E

Intercoder Reliability Coefficients

* = all Zero's

Item and Theme	Number of cases	Number of agreements	Gwet coefficient		Item and Theme	Number of cases	Number of agreements	Gwet coefficient
Q2Adv1	13	11	0.821		Q2Dis1*	14	14	1.000
Q2Adv2	13	12	0.917		Q2Dis2	14	11	0.735
Q2Adv3*	13	13	1.000		Q2Dis3	14	11	0.657
Q2Adv4	13	10	0.665		Q2Dis4*	14	14	1.000
Q2Adv5	13	11	0.708		Q2Dis5	14	11	0.735
Q2Adv6	13	8	0.249		Q2Dis6	14	11	0.735
Q2Adv7	13	12	0.846		Q2Dis7	14	13	0.923
Q2Adv8*	13	13	1.000		Q2Dis8*	14	14	1.000
Q2Adv9*	13	13	1.000		Q2Dis9	14	11	0.697
Q2Adv10	13	13	1.000		Q2Dis10	14	13	0.923
Q2Adv11	13	5	-0.072		Q2Dis11	14	11	0.735
Q2Adv12*	13	13	1.000		Q2Dis12	14	4	-0.429
Q2Adv13	13	10	0.710		Q2Dis13	14	13	0.923
Q2Adv14*	13	13	1.000		Q2Dis14	14	13	0.923
Q2Adv15	13	12	0.917		Q2Dis15	14	5	-0.229
Q2Adv16*	13	13	1.000		Q2Dis16	14	14	1.000
Q2Adv17*	13	13	1.000		Q2Dis17	14	8	0.345
Q2Adv18*	13	13	1.000		Q2Dis18	14	13	0.873
Q2Adv19*	13	13	1.000		Q2Dis19	14	9	0.429
Q2Adv20*	13	13	1.000		Q2Dis20*	14	14	1.000
Q2Adv21	13	12	0.903		Q2Dis21*	14	14	1.000
Q2Adv22	13	12	0.917		Q2Dis22*	14	14	1.000
Q2Adv23	13	12	0.917		Q2Dis23*	14	14	1.000
Q2Adv24*	13	13	1.000		Q2Dis24	14	13	0.923
Q2Adv25	13	12	0.917		Q2Dis25	14	13	0.923
Q2Adv26*	13	13	1.000		Q2Dis26*	14	14	1.000
Q2Adv27	13	12	0.917		Q2Dis27*	14	14	1.000
Q2Adv28	13	12	0.917		Q2Dis28*	14	14	1.000
Q2Adv29	13	11	0.792		Q2Dis29*	14	14	1.000
Q2Adv30*	13	13	1.000		Q2Dis30*	14	14	1.000
Q2Adv31*	13	13	1.000		Q2Dis31	14	13	0.923
Q2Adv32*	13	13	1.000		Q2Dis32*	14	14	1.000

Intercoder Reliability Coefficients (continued)

* = all Zero's

Item and Theme	Number of cases	Number of agreements	Gwet coefficient		Item and Theme	Number of cases	Number of agreements	Gwet coefficient
Q72PCT1	11	8	0.643		Q73OLD1	13	11	0.821
Q72PCT2	11	8	0.518		Q73OLD2	13	10	0.665
Q72PCT3	11	9	0.699		Q73OLD3	13	10	0.620
Q72PCT4	11	7	0.323		Q73OLD4	13	7	0.124
Q72PCT5	11	6	0.120		Q73OLD5	13	6	-0.052
Q72PCT6	11	6	0.091		Q73OLD6	13	6	-0.052
Q72PCT7	11	6	0.197		Q73OLD7	13	11	0.732
Q72PCT8	11	10	0.881		Q73OLD8*	13	13	1.000
Q72PCT9	11	8	0.643		Q73OLD9	13	12	0.917
Q72PCT10	11	6	0.091		Q73OLD10	13	6	-0.052
Q72PCT11	11	4	-0.124		Q73OLD11	13	6	-0.052
Q72PCT12	11	6	0.091		Q73OLD12	13	12	0.846
Q72PCT13	11	7	0.397		Q73OLD13	13	9	0.523
Q72PCT14	11	5	0.096		Q73OLD14	13	9	0.523
Q72PCT15	11	8	0.643		Q73OLD15	13	9	0.584
Q72PCT16	11	8	0.518		Q73OLD16	13	8	0.231
Q72PCT17	11	9	0.782		Q73OLD17	13	11	0.821
Q72PCT18	11	11	1		Q73OLD18	13	12	0.917
Q72PCT19	11	9	0.782		Q73OLD19	13	11	0.821
Q72PCT20	11	11	1		Q73OLD20*	13	13	1.000
Q72PCT21	11	7	0.397		Q73OLD21	13	11	0.821
Q72PCT22	11	8	0.643		Q73OLD22	13	13	1.000
Q72PCT23*	11	11	1		Q73OLD23	13	12	0.903
Q72PCT24	11	10	0.900		Q73OLD24	13	12	0.917
Q72PCT25	11	9	0.782		Q73OLD25	13	12	0.917
Q72PCT26*	11	11	1		Q73OLD26*	13	13	1.000
Q72PCT27	11	10	0.900		Q73OLD27	13	11	0.821
Q72PCT28	11	10	0.900		Q73OLD28	13	12	0.917
Q72PCT29	11	8	0.643		Q73OLD29	13	11	0.821
Q72PCT30*	11	11	1		Q73OLD30	13	12	0.917
Q72PCT31	11	10	0.900		Q73OLD31	13	12	0.917
Q72PCT32*	11	11	1		Q73OLD32*	13	13	1.000

Intercoder Reliability Coefficients (continued)

* = all Zero's

Item and Theme	Number of cases	Number of agreements	Gwet coefficient
Q74TCH1	14	14	1.000
Q74TCH2	14	13	0.811
Q74TCH3	14	14	1.000
Q74TCH4	14	10	0.622
Q74TCH5	14	8	0.208
Q74TCH6	14	9	0.495
Q74TCH7*	14	14	1.000
Q74TCH8	14	13	0.923
Q74TCH9	14	12	0.835
Q74TCH10	14	8	-0.057
Q74TCH11	14	9	0.495
Q74TCH12	14	13	0.912
Q74TCH13	14	14	1.000
Q74TCH14	14	14	1.000
Q74TCH15	14	11	0.735
Q74TCH16	14	14	1.000
Q74TCH17	14	14	1.000
Q74TCH18	14	14	1.000
Q74TCH19	14	13	0.923
Q74TCH20*	14	14	1.000
Q74TCH21*	14	14	1.000
Q74TCH22	14	14	1.000
Q74TCH23	14	13	0.912
Q74TCH24	14	13	0.923
Q74TCH25*	14	14	1.000
Q74TCH26*	14	14	1.000
Q74TCH27*	14	14	1.000
Q74TCH28*	14	14	1.000
Q74TCH29*	14	14	1.000
Q74TCH30*	14	14	1.000
Q74TCH31*	14	14	1.000
Q74TCH32*	14	14	1.000

APPENDIX F

IRB Approval



**CLEVELAND STATE
UNIVERSITY**

March 26, 2021

Dear Nicholas Zingale,

RE: IRB-FY2021-197

Online Education and Coronavirus

The IRB has reviewed and approved your application for the above-named project under the category noted below.

Application renewal is not necessary unless indicated below.

Approval Category: Expedited Category 6, 7

Approval Date: March 26, 2021

Expiration Date: --

By accepting this decision, you agree to notify the IRB of: (1) any additions to or changes in procedures for your study that modify the subjects' risk in any way; and (2) any events that affect that safety or well-being of subjects. Notify the IRB of any revisions to the protocol, including the addition of researchers, prior to implementation.

Thank you for your efforts to maintain compliance with the federal regulations for the protection of human subjects. Please let me know if you have any questions.

DO NOT REPLY TO THIS EMAIL. IF YOU WISH TO CONTACT US, PLEASE SEND AN EMAIL MESSAGE TO cayuseirb@csuohio.edu.

Sincerely,

Mary Jane Karpinski
IRB Analyst
Cleveland State University
Sponsored Programs and Research Services
(216) 687-3624
m.karpinski2@csuohio.edu