HOW A HIGHER EDUCATION AVIATION FACULTY PERCEIVED THE CHALLENGES OF AN ONLINE EMERGENCY TRANSITION DURING THE COVID-19 PANDEMIC AND IDENTIFIES RECOMMENDATIONS FOR FUTURE EMERGENCY ONLINE TRANSITIONS

by

Victor Miguel Fraticelli Rivera

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

Liberty University

2023

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APPROVED BY:

Justin Necessary, Ph.D., Committee Chair

Floralba Arbelo Marrero, Ph.D., Committee Member

Abstract

The purpose of this case study is to discover the perceived challenges and identify future recommendations for emergency online learning transition as a result of the COVID-19 pandemic at a major aeronautical higher education institution in the southeast region of the United States. For this study, emergency online learning transition is defined as the period in which higher education faculty members were required to pivot to an online methodology in response to a global pandemic in the spring and fall academic semesters of 2020. The theories guiding this study are the theory of planned behavior (TPB) by Icek Ajzen and the theory of equivalency by Michael Simonson as it describes how individuals are influenced to modify their behavior and how to make online learning activities equivalent to traditional face-to-face. To enhance the description and understanding of the phenomena at hand, this study used three different data collection methods: individual interviews, focus groups, and document analysis. Using a maximum variation and purposeful sampling technique, the study collected data from 12 aviation higher education faculty participants from the Aviation Department of a major aeronautical university in the southeast region of the United States. Using three data analysis strategies, triangulation, coding, and thematic analysis, three themes emerged from the data. Those are faculty challenges, recommendations, and essential elements.

Keywords: higher education, emergency online learning transition, online learning, COVID-19, emergency transition, aviation higher education, pandemic higher education.

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Dedication

First, I would like to thank God for giving me the strength and guidance to complete this important journey in my life. You have been and always be the center of my life!

To my Fraticelli and Rivera family, thank you for your love and support in every phase of my life. You have been my inspiration and motivation. To my beautiful wife Andrea, my beautiful daughter Lourdes, and my beautiful son Lucas, no words can express my love for our beautiful family. We are so blessed. Lourdes and Lucas, I did this for you! Remember, NOTHING is impossible. Here is the proof.

Acknowledgments

Thank you, Dr. Justin Necessary and Dr. Floralba Arbelo Marrero for your support during this important journey in my life! Thank you, Dr. Michael Wiggins and Dr. John Robbins for your support. Lastly, I want to thank all my participants for their time.

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List of Abbreviations

Airline Transport Pilot (ATP)

Center for Disease Control and Prevention (CDC)

Certificated Flight Instructor (CFI)

Commission on Dental Accreditation (CODA)

Commission on Dental Accreditation of Canada (CDCA)

Coronavirus (COVID)

Emergency Online Learning (EOL)

Face-to-face (F2F)

Federal Aviation Administration (FAA)

Higher Education Institution (HEI)

Institutional Review Board (IRB)

Joint Commission on National Dental Examination (JCNDE)

Silver Owl University (SOU)

Southern Association of Colleges and Schools Commission on Colleges (SACSCOC)

Theory of Planned Behavior (TBP)

Theory of Reason Action (TRA)

University of British Columbia (UBC)

World Health Organization (WHO)

CHAPTER ONE: INTRODUCTION

Overview

The novel virus COVID-19 disrupted the lives of everyone in the world. Despite the little information provided by government officials regarding the origins of COVID-19, industries around the world are still dealing with the effects of creating a safe environment for their personnel. Higher education institutions (HEIs) were not the exception. In response to this imminent threat, in the spring and fall of 2020 semesters, HEIs endured a rapid online learning transition to meet the safety guidelines of national and international health organizations.

According to Gressman and Peck (2020), some recommendations in outbreak prevention included accurate testing, holding small classes, minimizing outside contact as much as possible, and preparing for extended student absences because of the recommended quarantine procedures. Perhaps, during the development of the COVID-19 pandemic, online education seemed to be the number one selection substituting traditional face-to-face instruction. This chapter introduces the impact of COVID-19 on higher education institutions by discussing background, historical context, social context, theoretical context, problem and purpose statement, research questions, definitions, and summary.

Background

On December 31, 2019, the World Health Organization (WHO) country office in the Republic of China became acquainted with the existence of a viral pneumonia infection affecting Wuhan's residents (World Health Organization, 2021). The WHO became aware of the existence of the viral infection after the Wuhan Municipal Health Commission released a media statement on their website related to cases of a viral pneumonia in Wuhan. Five days later, on January 5, 2020, WHO issued its first Outbreak News Report, providing recommendations on public health

measures and surveillance of severe respiratory infection diseases (World Health Organization, 2021). Moreover, the report informed the international community concerning the number of cases and their clinical status. Proactively, on January 12, 2020, the WHO provided a comprehensive package with guiding instructions related to the management of an outbreak of this novel respiratory virus (World Health Organization, 2021). However, because of the inaction of the international community in outbreak prevention and the alarming levels of COVID-19 infections, WHO (2021) classified the novel virus COVID-19 as a global pandemic.

According to Denton (2020), the word pandemic comes from the Greek word “pan” meaning “all” and “demos” meaning “people”. An epidemic is a rapid spread of dangerous microbes over a small geographic area (Denton, 2020). Once the spread is over a wider geographic area, it is referred to as a pandemic. The background section of this chapter will include the historical, social, and theoretical contexts. The historical context discusses the history of pandemics over the last 100 years (1918, 1957, 1968, and 2009 pandemics) and compares their respective impact to the current pandemic (COVID-19). The social context introduces the existing perspective and the effect of the pandemic in society HEIs. Lastly, the theoretical context introduces the theoretical views and the theories guiding this study. Thus, providing a profound connection between the theories and the topic at hand.

Historical Context

The COVID-19 pandemic is not the first nor only pandemic in the world's history. During the last century, four deadly pandemics have claimed the lives of millions of people around the globe, causing logistical disruptions and challenges in every aspect including all levels of the education industry (elementary, secondary, post-secondary, higher education, etc.). Leaders in different levels of the education industry were forced to develop strategies to support faculty and

staff at all levels and promote quality education to their students. Understanding and analyzing the impact of previous pandemics will provide a firm foundation to educators on the experience and effects that pandemics could cause in the education field.

The 1918 Pandemic (H1N1 virus)

In the last century, the world has subsisted through four deadly pandemics. The H1N1 virus, from avian origins, caused the 1918 global pandemic, commonly known as the "Spanish Flu" (Eghigian, 2020). Although the geographical origins of the virus have not reached a universal agreement, the pandemic claimed the lives of approximately 50 million people and a total infection of 500 million people (a third of the world's population) around the world (Center for Disease Control and Prevention, 2019). The mortality rate was high at ages below five years old, between 20-40 years old, and 65 and older. The 1918 pandemic triggered strict health measures never seen before in the United States since antiquity such as quarantines and social distancing (Stern et al., 2010). During the pandemic's zenith, essential services and cities were forced to shut down in response to containment of preventative measures. Despite the unstinting efforts of public health professionals and volunteers, the global pandemic irrevocably changed thousands of lives across the nation and the world. Children lost their parents; a disproportionate number of young adults lost their lives, and for a short period, panic and fear prevailed (Stern, et al., 2010).

The impact of the 1918 pandemic affected the education industry at all levels including HEIs. The institutional response to the 1918 outbreak was crucial because, at that time, not only did HEIs have their traditional student population, but they also hosted military personnel and services during world war I (Thomas & Foster, 2020). The government response included the modification of working hours to promote social distance. According to Thomas and Forster

(2020), during the initial stages of the 1918 outbreak, HEIs across the nation were not responding to this threat collectively. In fact, for a short period, HEIs' response in rural towns was different from those located in urban centers. Some HEIs were convinced that the outbreak never reached their institutions, and their response was not to react immediately. Other HEIs did respond promptly by closing their institutions while others were more hesitant (Thomas & Foster, 2020). In other words, there was no national or regional coordination. Ultimately, HEIs responded in a variety of different ways. Some institutions, such as the University of Illinois, managed to remain open. Other HEIs responded more aggressively to the threat by shutting down campuses for definite periods.

The 1957 Pandemic (H2N2 virus)

The second major pandemic in the last century was the H2N2 pandemic of 1957. Formerly known as Asian influenza, the H2N2 influenza virus had its origins in East Asia. Subsequently, it spread to Hong Kong, eastern Asia, and the Middle East in just three months. By month number four, the virus was already in 20 countries, including the United States (Henderson et al., 2009). In only six months, the virus was reported to be in South America, North America, and the African continent. According to Henderson et al. (2009), the total death count surpassed 830,000 people around the world, and the CDC estimates that 45 million people contracted the virus.

The pandemic of 1957 also had an effect on many HEIs across the nation. For example, Princeton University experienced an outbreak 3-6 weeks after the first day of classes during the 1957 fall academic semester, causing the highest level of absenteeism the institution has ever seen (Armstrong, 2014). According to Armstrong (2014), at one point, 71% of Philadelphia's student population was absent due to the flu. In America, it was estimated that 60% of America's

student population had been absent (Armstrong, 2014). Some institutions were forced to shut down, and others implemented contingency plans such as closing socializing activities and events and closing student centers to use them for the sick.

The 1968 Pandemic (H3N2 virus)

The third major pandemic in the last century was the H3N2 pandemic of 1968. According to Jester (2020), even though the virus mortality was only a fraction compared to the 1918 Spanish flu, the long terms effects lasted for several years, including a subtype of seasonal influenza responsible for multiple annual epidemics. During the pandemic, the United States experienced an increase in cases across the nation, particularly in October. The outbreak caused school closures, school/college/work absenteeism, and a fast spread from the west side of the United States moving east. According to the CDC (2019), the estimated mortality was one million deaths worldwide and 100,000 people in the United States.

Similar to the 1918 and 1957 pandemics, several national and international HEIs responded to the emerging threat of the 1968 pandemic by developing a series of contingency plans. The King's College, located in New York, experienced the effects of the novel virus and was forced to close the campus right before Christmas break. A letter from the acting dean of the college, Everett E. Koehler, reported to parents and students about the measures to be taken for the safety of faculty, students, and staff. The campus' response was to interrupt classes until January and encourage everyone to take precautionary measures to protect the community. According to Simons (2020), some students, in particular those in athletics, were allowed to come back during the Christmas break but were asked to remain in quarantine. Other witnesses stated they missed social activities such as the Christmas decorations and related activities.

The 2009 Pandemic (H1N1 pdm09 virus)

The fourth and most recent pandemic in the last century was the H1N1 pandemic of 2009. The virus originated in the United States, and it quickly spread around the nation and the world. According to the CDC (2019), an average of 364,000 people died worldwide, with 70% to 90% of deaths estimated to transpire in people younger than 65 years old. To this day, the H1N1 virus continues to circulate with the seasonal flu, and it is responsible for deaths, hospitalizations, and illnesses every year.

The 2009 H1N1 pdm09 pandemic response was slightly different from 1918, 1957, and 1968 pandemics. According to Cauchemez et al. (2014), the international response to school shutdowns was discussed by country and region administrators as a mitigation strategy during the pandemic. The national response to shut down the school was a process that involved national and local school administrators and policymakers (Cauchemez et al., 2014). Regardless of the national recommendations, local districts and local school administrators made most recommendations for local closures, and the closures varied substantially.

Social Context

A pandemic has a profound impact on mental health, public health, environmental, political, and economic implications in our society (Piotrowski & King, 2020; Shang et al., 2021). Undoubtedly, the novel virus COVID-19 disrupted the lives of everyone in the world. Despite the little information provided by government officials regarding the origins of COVID-19, every industry and field around the world is still dealing with the effects of creating a safe environment for their personnel. According to the World Health Organization (2021), to this day, the total death count surpasses four million people around the world, and every day it claims the lives of innocent people. Evidently, HEIs were not the exception. In response to this imminent

threat, in the spring 2020 semester, HEIs endured a rapid online learning transition to meet the safety guidelines of national and international health organizations. Social distancing, mask mandates, shutdowns, and vaccines were some of the recommended measures used to reduce outbreaks in different parts of the nation (Center for Disease Control and Prevention, 2021).

This particular single case qualitative study will focus on a major higher education institution specialized in the aviation industry located in the southeast region of the United States. In spring 2020, Silver Owl University ((SOU), pseudonym) also was impacted by the Coronavirus pandemic, requiring preventive measures to prevent major outbreaks among its faculty, students, and staff. The impact of these challenges influenced a radical change in the pedagogical approach to the courses offered, but it also impacted the community in different ways. Since there has been no academic research on this particular institution depicting the challenges and perceptions from the aviation faculty, this study focuses on perceptions of the faculty's challenges and their recommendations if a future transition to online modality is once more implemented due to a local or national emergency. Nonetheless, HEIs are expected to provide academic quality and instruction to students. However, due to the impact of the pandemic and the aggressive measures taken for outbreak prevention, institutions experienced multiple challenges impeding a smooth transition to online learning. *The University of Brasilia Reports Findings in COVID-19* (2021) reported that 45% of e-learning projects in developing countries failed, and an additional 40% partially failed. Only 15% of online programs were successful. Despite extensive investigations on the effects of online learning on faculty and staff, emergency online learning and technology have never been considered from the perspective of the effects of a global pandemic (Vargo et al., 2021).

Theoretical Context

In 1638, the general court of Massachusetts approved the budget for the development of the first HEI in North America, later named Cambridge (Lucas, 2016). This institution, along with the development of several others in the nation, served many students in what we know today as traditional face-to-face (F2F) instruction. Since then, HEIs have revolutionized and developed different ways to reach more students. For example, distance education had its foundation in the nineteenth century when mail-delivered correspondence courses were offered and later grew on into educational television programs in the twentieth century (Perry & Pilati, 2011). By the mid-1990s, the introduction and evolution of technology had supported a different alternative to the modality used for instruction. Distance education was implemented to close the distance gap between teacher and learner. In addition, distance learning has become a great alternative to non-traditional students willing to continue their academic endeavors. During the COVID-19 pandemic, distance learning was considered by many HEIs as the go-to solution to continue uninterruptedly traditional face-to-face instruction. As expected, this rapid transition generated a series of challenges and setbacks within the faculty. Human factors, such as cognitive and physical aspects of a faculty member, could have generated and influenced in adopting or denying a different modality (distance learning). The theory of planned behavior (TBP) and the theory of equivalency will provide a clear lens in understanding human behavior when implementing emergency online learning (EOL).

The TBP is an evolution of the development of Martin Fishbein and Icek Ajzen's theory of reason action (TRA) with origins in the late 1970s (Ajzen, 1991; Hagger, 2019). The principal objective of this theory is to explain the prediction and understanding of intentional behavior. Thus, Ajzen (1991) states that the stronger the intention of an individual in engaging in a

particular activity, the more the possibility of engaging in that behavior. According to Ajzen (1991), there are three main principles influencing intention. The first principle refers to the attitude of an individual toward the behavior. The second principle refers to the social influences influencing the decision to engage or not in the behavior. Lastly, the third principle refers to the perceived behavioral controls in relation to the behavior. In other words, the perception of easiness or difficulty when performing the behavior under the assumption of previous experiences and challenges.

The second theory supporting this study is the theory of equivalency. The equivalency theory, developed by Michael Simonson (1999), states that distance education must be built on the concept of equivalency of learning experiences. This theory states that the more equivalent learning experiences are, the more equivalent will be the learning outcomes. Simonson et al. (1999) suggest developing a series of learning activities and experiences tailored to the circumstances and environment of the student.

Problem Statement

The problem is that there are no strategical procedures on how SOU, an aviation higher education institution, should have responded to an imminent emergency online learning transition during a national epidemic or pandemic, such as the one experienced with COVID-19. Natural disasters, epidemics, pandemics, inclement weather, etc. are examples of phenomena that can affect any industry in today's modern world. Thankfully, technological advances have provided the ability to connect us without the need to be in close contact with each other. However, technological advances require familiarization and expertise. During the spring and fall 2020, HEIs around the world transitioned in a matter of days to an online education format in response to COVID-19 related restrictions (Gressman & Peck, 2020). Current studies are

depicting the challenges experienced by faculty members, but most of them focus on students' perceptions (Asgari et al., 2021). There are studies in different fields; however, there are none specifically related to aviation education HEIs. In addition, the Federal Aviation Administration (FAA) regulates the courses content, attendance, and learning outcomes of those offered at the department. Similar to other fields, aviation courses require a series of instructional activities that could only be accomplished in person (Ho et al., 2021). The FAA requires every student to be in class every single day without missing one class period. When a student is placed on quarantine because of COVID-19 suspicions, it was difficult for faculty members to support the student other than by providing readings or video assignments. Another popular method was to ask the student to join the class virtually by using video conferencing software platforms (Zoom, Microsoft Teams, Skype, etc.). Unquestionably, at first, faculty and academic leaders felt uncertain and confused regarding the plan of action and the future of their courses (Humphrey & Wiles, 2021). Since disruption to traditional face-to-face instruction is possible in the near future, the problem is that there are no institutional guidelines describing the response of an aviation specialized HEI to an imminent emergency online learning transition during an epidemic or a global pandemic. In other words, the transition to online learning during the COVID-19 pandemic was spontaneous and unstructured. HEIs must prepare or develop a written plan of action to ensure a well-established transition in response to a future disruption to traditional education. The study aims to enhance the understanding and consideration of higher education administrators on effective ways to implement such emergency online transition in the future. According to Ramlo (2021), higher education administrators should use the lessons learned in this transition to understand the needs of the faculty.

Purpose Statement

The purpose of this case study is to discover what emergency online transition elements are considered essential as a result of the emergency online transition during the COVID-19 pandemic at a major aeronautical higher education institution in the southeast region of the United States. For this study, emergency online learning transition is defined as the period in which college professors were required to pivot to online learning in response to a global pandemic in the spring and fall of the 2020 academic semesters. The theories guiding this study is the theory of planned behavior (TPB) by Icek Ajzen (1991) and the theory of equivalency by Michael Simonson (1999). The TPB describes how individuals are influenced to change their behavior in a given set of circumstances. On the other hand, the theory of equivalency describes the effectiveness and value of making online learning activities equivalent to traditional face-to-face.

Research Questions

The research questions guiding this qualitative case study are focused on the central idea in search of understanding the challenges experienced during this challenging period in higher education and the faculty's recommendation if an imminent emergency online transition is once more implemented. The central research question aims to provide an overall perspective of what elements are essential by a higher education aviation faculty experiencing the novel virus COVID-19 health restrictions during spring and fall 2020. Sub-questions one and two support the central research question since it provides an in-depth description of the challenges experienced during the transition and what are the faculty's recommendations to peers and administrators, in the unusual event that another online transition is implemented in the future.

Central Research Question

What emergency online transition elements are considered essential, by an aviation faculty, during an emergency transition from traditional face-to-face instruction to online learning due to the COVID-19 pandemic?

The central research question is primarily developed in response to the problem statement of this study. In particular, the question relates to the perception of those higher education aviation faculty members that experienced an unprecedented rapid online transition during the novel virus COVID-19 global pandemic. The development of institutional guidelines describing the response of an aviation specialized HEI to an imminent emergency online learning transition during an epidemic or a global pandemic are necessary. Thus, this central research question is focused on the perceived essential elements that will fundamentally be part of the institutional guidelines.

Sub-Question One

How do aviation faculty, at a major aeronautical university, perceive the challenges experienced during the transition from face-to-face to online learning due to the COVID-19 pandemic?

The principal idea behind research question one is that it contributes to the understanding of the challenges experienced during this emergency transition. Understanding the challenges experienced by the faculty is an essential element in the development of future strategies. Therefore, research question one will enrich the reader with a deep understanding of how this transition challenged faculty members and HEIs in delivering a quality education.

Sub-Question Two

What practices do aviation faculty, at a major aeronautical university, recommend to aviation higher education institutions in the implementation of a pivotal pedagogy due to the COVID-19 pandemic?

Research question two is primarily focused on providing strategies that could assist HEIs and faculty members to formulate ways to promote high-quality instruction during an emergency transition to online, such as the one experienced during the spring 2020 COVID-19 pandemic. This research question provides the audience the perception of faculty members on how essential and real-world practices could assist during a future emergency online transition.

Definitions

1. *Emergency online learning* – an alternate and unplanned method for delivering instruction from a distance because faculty and students are not able to physically be located in a classroom (Shisley, 2020).
2. *Pandemic* – refers to an epidemic that has spread over several countries or continents, usually affecting a large number of people (Principles of Epidemiology in Public Health Practice, 2012).
3. *Generation Millennials* – a person who was born between 1981 and 1996 (Dimock, 2019).
4. *Generation Z* – a person who was born between 1997 onwards (Dimock, 2019).

Summary

This chapter provides an overview and background of the elements, challenges, and recommendations of an emergency online transition during a pandemic. As can be seen in this chapter, the global pandemic disrupted industries around the world, including higher education. In the last century, four major pandemics have caused millions of lives worldwide, and their

effects are still causing an impact domestically and internationally. Consequently, higher education administrators must become familiar with the major pandemics that have previously affected the world to have a better plan of action on the current COVID-19 pandemic.

CHAPTER TWO: LITERATURE REVIEW

Overview

A comprehensive review of the literature was conducted to explore the online learning transition from traditional face-to-face (F2F), and the role of online learning in different fields and countries during a global pandemic of COVID-19. This chapter will contribute to the familiarization of how higher education institutions (HEIs) confronted the challenges associated with an online transition. In the first section, theories relevant to online learning adaptation are discussed. The theory of planned behavior and the equivalency theory will be used to frame this study. In addition, a synthesis of recent literature regarding online learning, online transition during the COVID-19 pandemic, how HEI in the international community faced the challenges associated with online learning, and recommendations for future transitions will be covered. The last section will present the need and purpose of the current study by introducing the existing gap in the literature.

Theoretical Framework

In 1638, the general court of Massachusetts approved the budget for the development of the first HEI in North America, later named Cambridge (Lucas, 2016). This institution, along with the development of several others in the nation, served numerous students in what we know today as traditional F2F instruction. In recent years, the introduction and evolution of technology have supported a different alternative to the modality used for instruction. Distance education was implemented to close the distance gap between teacher and learner. In addition, distance learning has become a great alternative to non-traditional students willing to continue their academic endeavors. During the COVID-19 pandemic, distance learning was considered by many HEIs as the go-to solution to continue uninterruptedly traditional face-to-face instruction.

As expected, this rapid transition generated a series of challenges and setbacks within the faculty. Human factors such as cognitive and physical aspects of a faculty member could have generated and influenced in adopting or denying a different modality (distance learning). Consequently, the theory of planned behavior (TBP) and the theory of equivalency will be used to provide a clear lens in understanding human behavior during the implementation of emergency online learning (EOL).

Theory of Planned Behavior (Ajzen's 1991)

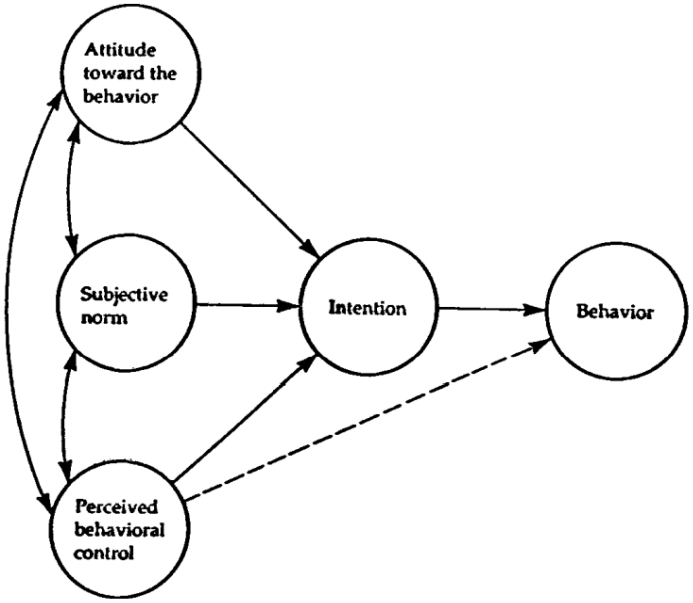
The understanding of human behavior is a complex and difficult task (Ajzen, 1991). Every decision can be influenced by a series of factors that can alter the way we think and the way we act. During the COVID-19 pandemic, aviation faculty at Silver Owl University experienced a rapid transition during the spring break of the spring 2020 semester and another transition to hybrid modality during fall 2020. Therefore, the understanding of the COVID-19 emergency transition and the effects on higher education aviation faculty could have theoretical foundations in the theory of planned behavior (TPB).

The TPB is the result of years of development of the evolution of Martin Fishbein and Icek Ajzen's theory of reason action (TRA) with origins in the late 1970s (Ajzen, 1991; Hagger, 2019). The principal objective of TRA and TPB was to explain a reasoned approach in the prediction and understanding of intentional behavior. In fact, according to Hagger (2019) and Ajzen (1991), the intention was the principal factor and determinant of behavior on the TRA theory. Since both theories have roots in attitude theories and social cognitive tradition, they were developed attempting to understand individual beliefs and the relationship of their performance of a given behavior (Hagger, 2019). Ajzen (1991) states that the stronger the intention in engaging in a behavior, the more possibilities that the individual will engage in that

behavior. The TPB consists of three main principles influencing intention. Refer to Figure 2 for a visual structure of the TPB.

Figure 1

Concept of the Theory of Planned Behavior (Ajzen, 1991)



Note. I. Ajzen, 1991, *Organizational Behavior and Human Decision Processes*, 50(2), p. 179 The theory of planned behavior. 179-211. https://doi.org/10.1016/0749-5978 (91)90020-T. Copyright 1991 by Elsevier. Reprinted with permission.

At first, there is the individual attitude toward the behavior. Attitude toward a behavior predictor refers to the degree to which an individual evaluates if the behavior is favorable or unfavorable (Ajzen, 1991; Luenendonk, 2019). The subjective norm predictor refers to the social factor influencing the decision to perform or not perform the behavior in question. In other words, according to Luenendonk (2019), if an individual perceives that society generally favors a behavior, there is a high possibility that the individual will be influenced to do the behavior. Basically, the intentions are largely influenced by the extent of approval or disapproval of the

individual's friends, co-workers, family, and people they trust (Luenendonk, 2019). Lastly, the perceived behavioral control refers to the perception of easiness or difficulty when performing the behavior, assuming past experiences and setbacks and obstacles (Ajzen, 1991). If an individual is faced with little to no control factors, the person is likely influenced not to perform the behavior. For example, let's use Luenendonk's (2019) smoking at work example and assimilate the TPB. Imagine an individual who is looking to quit smoking. The individual's intention might be influenced at first by his attitude toward the behavior as favorable or unfavorable, also known as the behavioral beliefs (Luenendonk, 2019). The smoker might feel that smoking is not favorable, but it might not be enough to quit smoking. How many times do we consider that behavior is not favorable but we continue with the behavior? The second level is the subjective norms. The subjective norms deal with the perception of how the individual's family, friends, and co-workers think about smoking habits. Maybe at home, his subjective norm is not to smoke because his family might influence his intention to not smoke. However, co-workers' perspective might have little to no influence on his decision to continue smoking plus there might not be a no-smoking policy at work. Consequently, his response is likely to become a selective process influenced by his environment. Now, let's say that there is not a smoking policy or there is one but it is not enforced. The smoker might perceive this behavioral control as a weak influence, and as a result, the individual will continue smoking. In contrast, if the smoking policy is in place and enforced, the smoker will have no choice other than to comply. The smoker will perceive a strong behavioral control powerful enough to influence the individual to stop smoking at the workplace.

Theory of Equivalency

Despite the technological revolution, the emergency online transition and the modality modification during the COVID-19 pandemic (spring 2020 and fall 2020 semesters) generated a series of challenges related to the implementation of distance learning as the solution to COVID-19 health recommendations for outbreak prevention. Multiple studies have demonstrated that distance education opportunities were the most common approach to complete the 2019-2020 academic year (Armstrong-Mensah et al., 2020). The abrupt impact of an emergency transition to distance learning surprised the traditional face-to-face higher education faculty. Faculty members were challenged to discover an approach to deliver their course material by using the distance learning approach (Hisel & Pinion, 2020). Despite the increase in faculty interaction with online learning platforms in recent years, the familiarity and abilities of the faculty to transition from a face-to-face modality to distance learning in a short period resulted in an academic challenge affecting students and faculty alike (Bolumole, 2020; Parker et al., 2021; Sanandaji & Ghanbartehrani, 2021). Faculty were faced with the challenge of providing good quality content and activities while meeting the learning objectives. Consequently, the analysis of the challenges and recommendations of aviation higher education faculty has a theoretical foundation in the equivalency theory.

The equivalency theory, developed by Michael Simonson (1999), states that distance education should be built on the concept of equivalency of learning experiences. In other words, the more equivalent are the learning experience of traditional face-to-face learners to distance learners, the more equivalent will be the learning outcomes. Consequently, Simonson et al. (1999) suggest developing a series of equivalent learning experiences tailored to the environment and situation of the students. Thus, online and traditional face-to-face students should, in theory,

meet the same learning outcomes regardless of the modality or the instruction they received (Simonson, 1999; Simonson, et. al., 1999).

Related Literature

The unforeseen transition during spring and fall 2020 resulted in HEIs being supported by the current technological advances and strategies of online learning. Despite the popularity of online programs in recent years, online learning courses are still a relatively new concept to traditional face-to-face faculty. Consequently, this rapid and unexpected transition of modalities resulted in unexpected challenges and obstacles. The significance of these challenges and setbacks resulted in the failure of 45% of e-learning projects in developing countries with an additional 40% that partially failed (University of Brasilia reports findings in COVID-19, 2021). According to University of Brasilia reports findings in COVID-19 (2021), only 15% of online programs were successful.

Effects of Emergency Online Learning (EOL)

Despite extensive investigations on the effects of online learning on faculty and staff, emergency online learning and technology have never been considered from the perspective of the effects of a global pandemic (Vargo et al., 2021). Undoubtedly, the COVID-19 pandemic generated a surge of technology use and pedagogical experimentation in traditional F2F courses (Hisel & Pinion, 2020; Sanandaji & Ghanbartehrani, 2021), creating an opportunity for educators to explore different pedagogical approaches and implementing the approach with their traditional approach (Hisel & Pinion, 2020). As a result, some HEIs implemented a flipped learning modality as a strategy to meet learning outcomes and provide quality education to their students (Sanandaji & Ghanbartehrani, 2021). According to a recent study by Sanandaji and Ghanbartehrani (2021), online flipped courses proved to be a great pedagogical approach to

technical Information Technology (IT) courses to the extent of considering it as a superior approach in online learning design even after the pandemic. This serves as an example of how HEIs were trying to be consistent in providing online pedagogy strategies that could equal results and meet the course's learning outcomes. This approach has theoretical foundations in the Equivalency Theory by Simonson (1999).

Before the 2019 global pandemic, many faculty members saw technology use unsuitable for traditional F2F courses. Nevertheless, the requirement of a modality transition to meet the learning outcomes of a F2F course generated a mandatory increase in the integration of online learning technologies. According to a recent study conducted in 2019 (Krishnamoorthy & Keating, 2021), the integration of online learning technologies, such as EdTech, in traditional face-to-face instruction has been largely opposed by higher education faculty members. Two-thirds of faculty participants opposed the integration of educational technologies back in 2019. However, in 2020, close to 80% of the faculty now supports some integration technology in their traditional F2F (Krishnamoorthy & Keating, 2021). Vargo et al. (2021) findings estimate 15 types of hardware and over 50 types of software technologies were used during the pandemic in different fields and industries. Healthcare professionals were the largest group integrating technology into their operations during the pandemic, followed by education, which became the second-largest group (Vargo et al., 2021).

The spring and fall transition and the over-reliance on technology brought efficient processes and convenience. Industries discovered that the typical in-person meetings could now be conducted over Zoom or Microsoft Teams. The post-pandemic closure altered industries' operations and revealed different strategies on how to become more effective and efficient. Despite the effectiveness and discovery of effective pedagogical strategies with a mixture of

online learning, traditional F2F courses are not going to become inexistent. There is going to be more availability of hybrid or blended courses, but the traditional F2F still seems to be the primary selection for most students (Humphrey & Wiles, 2021; Krishnamoorthy & Keating, 2021; Rizun & Strzelecki 2020). According to Krishnamoorthy and Keating (2021), even with the most sophisticated technological advances in today's modern world, humans still struggle to master non-verbal communication in an online environment compared to F2F instruction. Professor Emeritus of Psychology Albert Mehrabian stated that 93% of communication is conveyed through non-verbal communication and only seven percent with the use of words (Frank, 2020).

Effects on Students

The current generation of traditional higher education students is part of the millennial and Z generation. The millennial and Z generation is considered as a generation with a strong foundation in technological information and exposure. Consequently, according to Cuschieri and Calleja Agius (2020), these students have experienced a smoother transition during the EOL than their faculty. In part, this smooth transition is largely attributed to their exceptional technological and social media skills. However, despite their knowledge and skills in technology, students and professors alike were struggling with the challenges of the transition (Cuschieri & Calleja Agius, 2020). Some of those challenges included a higher level of anxiety and psychological effects. Evidently, the different virtual modalities that were implemented during the pandemic limited student-professor interaction. Some students reported that it was difficult to stay engaged and learn the material (Humphrey & Wiles, 2021; Parker, 2021; Tüchler, 2021). In addition, students felt disconnected and frustrated during the online modality because there was no opportunity to ask questions or interact with other students (Humphrey & Wiles, 2021; Sprague & Wilbern,

2022). For example, according to a study conducted at the University of Malta (Cuschieri & Calleja Agius, 2020), students reported that the online instructional modality implemented caused them to lose motivation, increase fear, anxiety, and they were concerned because of all the last-minute academic changes made by the faculty and the institution.

The primary objective of any HEI should be to provide the best academic experience to their students, minimize student frustration, and promote a healthy atmosphere for students and faculty members. Notwithstanding the remarkable efforts by faculty and HEIs in providing quality education, there were numerous aspects of this online transition directly affecting students' progress and learning. According to a study conducted on students in American HEIs, findings suggested that students initially sensed an optimistic perception of online learning, but this perception was rapidly suppressed weeks after the transition (Parker et al., 2021). As a result, students reported receiving quality remote instruction, technological and at-home distractions, overwhelming feelings, and lack of focus and motivation (Hadjeris, 2021; Parker et al., 2021). In addition, the study concluded that students were cheating during exams and assignments as a way to make up for their lack of focus and motivation. Thus, this transition not only negatively affected student performance in their current classes, but also negatively influenced student retention (Ramlo, 2021).

Effects on Faculty

Higher education faculty strive every day to provide the best academic experience to their students (Ramlo, 2021). Despite their efforts and challenges in providing a great pedagogical approach in traditional F2F instruction in their respective fields, COVID-19 outbreak prevention restrictions generated a series of academic challenges. According to Cuschieri and Calleja Agius (2020), one of the greatest academic challenges was focused on how to learn efficiently and

effectively the different alternatives and remote modalities during the rapid transition in a way to adequately provide the traditional F2F instruction in a remote way. During the transition, faculty could have even experienced a 300% increase in workload during the preparation compared to traditional face-to-face (Cuschieri & Calleja Agius, 2020). The combination of an increase of 300% workload and the time HEI faculty experienced this transition contributed to high levels of stress among faculty. Former studies have suggested that online teaching is more demanding than F2F teaching, and the time required in the preparation of an online pedagogy is greater than traditional F2F (Ramlo, 2021). Despite being concerned and stressed of their own health and well-being, faculty members were exposed to what is described as techno-stress (Aubry et al., 2021; Boyer-Davis, 2020). According to Boyer-Davis (2020), the techno-stress imposed on the faculty is attributable to the increase in complexity, uncertainty, insecurity, and overload produced by the pandemic. Boyer-Davis's (2020) findings concluded that higher education faculty experienced a significant increase in techno-stress during the crisis than ever before.

During the stay-at-home orders, technology became a great resource in supporting faculty to communicate with their students. However, the increase in workload imposed on the faculty also negatively affects work-life balance (Aubry et.al., 2021; Boyer-Davis, 2020; Cuschieri & Calleja Agius, 2020). In other words, the increase in workload generated a disruption in the everyday tasks at home, such as family tasks. Particularly, those females faculty members who are also caregivers of children and teenagers, and faculty who might not have a quiet personal space at home (Aubry et al., 2021).

The complexity of this spring and fall transition to online learning also impacted the quality of instruction. Empirical data suggests that students have reported receiving low-quality remote instruction (Hamad et al., 2021; Parker et al., 2021; Rizun & Strzelecki 2020; Weidlich &

Kalz, 2021). Unsurprisingly, the majority of HEI faculty members were exposed to new barriers and to a different pedagogical approach. The barriers and approaches were unknown to those faculty members who have taught for many years in the traditional F2F pedagogical approach. Thus, it stimulated a negative student perception that online learning is associated with low quality learning. To some extent, this is due to the nature of online learning in which it requires greater responsibility, time, and effort to master the course content (Marković & Vujović, 2021). In fact, low quality of learning and cheating were identified by Hamad et al. (2021) as barriers to online teaching. The low quality remote instruction and the overwhelming feeling of not learning as expected contributed to lack of motivation and engagement during the online learning courses and seemed to justify the class collaboration during assignments, quizzes, and exams. In other words, cheating was often viewed as a means to compensate for their experiences and perceptions of the circumstances (Hamad et al., 2021; Parker et al., 2021; Zilal et al., 2021). According to Zilal et al. (2021), empirical findings suggested that students approached the emergency online transition with the belief that it is easier to cheat during an online course than a traditional course. Students have reported that faculty members communicated less with students and held them less accountable for their actions. Based on the findings of Ramlo (2021), the determination of the new meaning within faculty-student relationships during online learning caused frustration among faculty members due to the distancing of the online environment. In addition, according to the data collected from questionnaires and interviews, Parker et al. (2021) concluded that even though approximately 75% of survey respondents have indicated they felt accountable to themselves and their instructors, interview data suggested they felt less accountable during this online learning period. In contrast, a study conducted by Armstrong-Mensah et al. (2020) suggested that students enrolled in synchronous classes felt more

accountable and motivated because it helped them keep up with assignments, lectures, and course work.

International Higher Education and Emergency Online Learning

The impact of COVID-19 on HEIs around the world was not limited to the one experienced at several institutions in the United States. Some institutions, such as Algerian HEIs, experienced other challenges associated with this unprecedented change of teaching modality. Algerian HEIs experienced a lack of technology access as one of the most challenging aspects of this transition. Students and faculty experienced a lack of technology access attributed to the absence of a technological culture inside Algerian HEIs. Some of those challenges included lack of access to computers, lack of access to the internet, hardware and software issues, and lack of faculty training and experience in online education (Hadjeris, 2021). As a result, faculty and students faced an unrealistic adjustment from traditional face-to-face.

The impact of the novel virus also affected other regions of the world. In South Africa, the transition to online learning and learning modalities generated several challenges caused by the socio-economic challenges faced by South Africans. Similar to the challenges experienced across the world, technology access, technological training, and the social and economic challenges of South Africa have been attributed to poor academic performance and pedagogical complexities (Armoed, 2021). In Poland, the University of Economics in Katowice also endured an emergency online transition similar to the one experienced around the world. Findings suggested that even though students felt more comfortable, effective, and productive with online learning, they stated their preference toward traditional learning (Rizun & Strzelecki 2020). Over in Asia, the pandemic emergency online transition has surprised most academic institutions as well. According to Ulla and Perales (2021), although a large number of institutions were

prepared to transition their courses to an online format, many struggled to make the transition, especially in the middle of the academic semester. This pedagogical transition created confusion for students and faculty alike. In particular to those who were not familiar with an alternate pedagogical approach to traditional F2F.

National and international higher education institutions have experienced the challenges of this emergency transition. The University of Malta also experienced challenges during the mandated online learning transition. Despite several years of institutional experience in online lecture recording platforms such as Panopto, the University of Malta also experienced multiple challenges with the online transition resulting in the implementation of virtual classes via Zoom and Google Meet for real-time video conferencing (Cuschieri & Calleja Agius, 2020). The anatomy department, specifically the Faculty of Medicine and Surgery of the University of Malta, faced several challenges during the transition to online from traditional face-to-face. Gross anatomy lectures, traditionally conducted in a face-to-face modality due to their complex curriculum, were offered virtually using pre-recorded lectures. Despite the University of Malta's efforts to smoothly transition to online, the effects of this drastic transition could have affected preclinical medical students' learning, studying habits, medical students' mental health, and learning outcomes (Cuschieri & Calleja Agius, 2020).

The negative effects of the novel virus COVID-19 and the measures taken in the prevention of more outbreaks around the world affected low-risk transmission countries (during the time of this online transition) such as Canada. According to Metcalfe (2021), the University of British Columbia (UBC) experienced a similar online emergency transition resulting in a complete lockdown. Similar to other institutions around the world, Canadian HEIs were in a

holding pattern waiting for further instructions (Metcalfe, 2021). Classes, graduations, and campus events were held virtually, and mandatory masks mandates were implemented.

Education Fields Affected by Emergency Online Learning

The majority of the current literature is focused on the impact of HEIs in many academic fields. The majority of studies have illustrated the challenges and setbacks of higher education and the effects of the pandemic. Some of those studies in dental, anatomy, veterinary, and neuroscience education are briefly introduced and described in this study to illustrate similarities with the impact of aviation higher education, thus exemplifying and establishing a context for the effects of an emergency online transition at HEIs.

Dental Education

The effects of the emergency online transition have also influenced dental academic institutions around the nation by affecting different aspects such as dental education and research (Wu et al., 2020). During spring 2020, dental students and residents were required to suspend their participation in dental clinics involving real patients in response to the COVID-19 preventive measures. Furthermore, dental students were also forbidden from attending face-to-face instruction. As a result, dental academic institutions were required to virtually deliver lectures by the use of teleconference and file-sharing platforms (Wu et al., 2020). Despite the faculty's best efforts, transitioning an entire curriculum and evaluation method to an online format generated a series of challenges. In response to the pandemic, several institutions stopped preclinical simulation activities and didactic training. Consequently, dental students and residents were unable to satisfy the clinical requirements from the Commission on Dental Accreditation (CODA) or the Commission on Dental Accreditation of Canada (CDCA). While many licensing examinations involve live patients, other licensing examinations such as the Joint Commission

on National Dental Examination (JCNDE) redesigned their examinations to reflect a reliable and accurate clinical practice without the necessity of evaluating the student with a live patient, thus creating a safer environment for students and patients.

Despite the growing evidence on the effectiveness of online learning as an alternative to traditional face-to-face instruction, the emergency transition in spring 2020 did not allow faculty members to adequately prepare their lectures and courses. As a result, students and staff might have concluded that online learning seems like a weak alternative to an emergency transition (University of Brasilia, 2021). When, in fact, students and faculty did not have the opportunity to discover the advantages of the affordances and possibilities of online education. According to the University of Brasilia (2021), several dental academic institutions have reported that most of the problems associated with this transition included faculty members' limited knowledge of technology, computer skills levels, electronic devices availability, internet connection, and the transition of some complex lectures to an online format. In dental academic institutions, only 15% of online learning transitions were successful. On the other hand, 45% were a total failure, and 40% partially failed (University of Brasilia, 2021).

Medicine Education (Anatomy, Neuroscience, Veterinary)

The effects of the emergency online transition also affected medical academic institutions. In veterinary academic institutions, according to Thieman Mankin's (2021) findings, students reported experiencing a greater satisfaction with face-to-face instruction (8.2 mean score) compared to the one experienced during the emergency online learning (6.2 mean score). Similarly, to student experiences in other academic fields such as the one described by Asgari et al. (2021), in the engineering field, students reported having felt rushed during the online lectures and lack of hands-on training. Students reported to only have 25 minutes compared to more

complete supervision and feedback from the instructor during traditional face-to-face. On the other hand, faculty members reported they experienced difficulty giving feedback on how to handle the surgical instruments and tissue handling (Thieman Mankin, 2021). Despite the successful transition to an online learning format, faculty and students concurred that technology requirements associated with remote laboratories generated the greatest dissatisfaction. As a result, Thieman Mankin's (2021) findings concluded that the overall satisfaction with remote learning was significantly lower compared to the in-person laboratories.

Similarly, anatomy and neuroscience academic institutions were also affected. Some courses required cadaver-based instruction resulting in a challenge during the COVID-19 stay-at-home orders. The institutions adopted a sudden adoption of virtual lectures and laboratories to continue their academic responsibilities (Harmon et al., 2021; Nathaniel et al., 2021). According to Nathaniel's et al. (2021) findings, neuroscience student performance was not significantly different on the summative examination.

The Reaction of Higher Education Institutions in a Time of Crisis

The pedagogic response of HEIs amid a global health crisis was achieved by transitioning from traditional F2F to online-based learning in a short period. By March 2020, this emergency transition resulted in a direct educational impact of over 1.5 billion students globally (Amponsah, 2021). According to Amponsah (2021), 1.5 billion students represent nearly 90 percent of all the students in the world. Despite the challenges faced by faculty, in a recent study conducted by Ulla and Perales (2021), all faculty members seemed to agree that online learning seems to be the best option during the global pandemic. Faculty members felt they have to continue the online learning process to provide a continuous learning experience to their students. For most faculty members, the transition to online learning was perceived positively since it provides

alternatives in the prevention of disrupting faculty academic schedules. Other factors, such as the preparation of the learning material, access to the technological infrastructure, the effective interaction between lecturer-student and student-student, and student perception of the emergency transition also impacted the effectiveness of the emergency online transition. Considering the negative factors influencing the effectiveness of EOL, the COVID-19 pandemic transmission preventive measures have resulted in inevitable changes that demonstrate that hybrid pedagogy could be integrated into traditional F2F instruction including as an alternative during the time of crisis (Karakose, 2021; Maier et al., 2020). Perhaps, the emergency online transition has also brought positive pedagogic effects on the faculty. As Looi et al. (2022) noted, hybrid pedagogy could be considered in the future as a new normal modality in HEIs after experiencing the positive effects of this approach. Other studies, such as the one conducted by Muller et al. (2021), proposed that hybrid pedagogies were more favorable among educators. The EOL experience had also exposed opportunities to experience potential opportunities to restructure and reassess the traditional F2F pedagogical approach (Karakose, 2021). During the pandemic, faculty members were forced to become creative and resourceful in the development and delivery of online learning tasks despite the limited institutional support to effectively transition during a time of crisis. Faculty members struggled to keep students engaged and motivated during the lesson and have revealed several challenges including a lack of student interaction, concentration, and lack of time to do assessments and feedback (Karakose, 2021; Maier et al., 2020). Thus, findings have suggested that HEIs worldwide should adopt technology-supported programs to support traditional F2F faculty members in implementing digital learning models alongside traditional F2F education (Aguilera-Hermida et al., 2021; Karakose, 2021; Looi et al., 2022; Muller et al., 2021). If digital learning is incorporated with

traditional F2F, faculty members will develop a strong foundation in technologically based resources that will assist them in the likelihood of a future academic disruption (Karakose, 2021).

Traditional Online Learning vs. Emergency Online Learning

The COVID-19 outbreak prevention recommendations (i.e. quarantine, social distancing, remote learning, etc.), forced HEI administrators and faculty members to consider online learning as the best alternative considering the circumstances (Maier et al., 2020; Marković & Vujović, 2021; Zilal et al., 2021). During the initial stages of the COVID-19 pandemic, colleges and HEIs were forced to transition to an EOL format to minimize disruptions in the curriculum while making an effort to keep the same quality of instruction (Karakose, 2021). However, numerous research studies have revealed that effective online learning programs result from careful instructional design, planning, and the development of a systematic approach (Asgari et al., 2021; Hodges et al., 2020). A recent study conducted by Bojovic et al. (2020) revealed that the emergency online transition process consists of five main phases (preparation, planning, implementation, operation, and evaluation). The planning phase focuses on the examination of the different platform capabilities, assessing the financial status of the institution, and the development of teaching and training of staff and students on the selected platform. As a result, the thoughtful planning of design processes and pedagogical considerations have a significant effect on the quality of instruction. Conversely, during the COVID19 pandemic, the EOL transition did not give administrators or faculty members an opportunity to evaluate the systematic approach design (Hodges et al., 2020; Looi et al., 2022; Tulaskar & Turunen, 2021). In numerous fields, this transition triggered a series of challenges to those faculty members who traditionally focused on F2F pedagogy (Asgari et al., 2021).

The online course design must incorporate a careful and meticulous approach and design. Thus, it is a complex and time-consuming task. Researchers have suggested that the planning, development time, and preparation for a fully online university course could take between six to nine months before the course is delivered (Hodges et al., 2020). The authors from *Learning Online: What Research Tells Us About Whether, When, and How* (Means et al., 2014) identified nine dimensions in which they highlight the complexity of the design and the decision-making process of online learning course development. The dimensions are pacing, modality, instructor role, student role, online communication synchrony, the role of online assessments, source of feedback, modality, and student-instructor ratio. Considering the urgency of an expedited transition during the 2020 academic semesters (COVID-19 pandemic), empirical research also suggests that institutions should support traditional academic courses transitions during the time of crisis (Hodges et al., 2020). Although there were resources and personnel dedicated to supporting faculty members in different technological questions, during the COVID-19 transition, these small groups were overwhelmed as a result of such a small preparation window and could not provide the same level of support to all faculty members (Hodges et al., 2020). Despite the challenges experienced by HEIs, Marković and Vujović's (2021) findings noted that the majority of the students believe that faculty members adjusted fairly well to the transition, understood that EOL was the most appropriate alternative to traditional F2F, and agreed that the quality of their instruction was high considering the challenges experienced by faculty and students alike.

Effective Online Learning Course Designs

A large range of difficulties emerged from the emergency transition to online learning (Abu et al., 2021). As previously stated, the development of a good quality course comes with

careful instructional design, planning, and a systematic approach model for the development and course design. Besides the suggested approaches to different online learning strategies, there is not a fit for all strategy that will solve all the remote teaching imperfections (Aguilera-Hermida et al., 2021). However, HEIs must be meticulous during the developmental phase of the online course in an attempt to meet or exceed the learning outcomes of the course. It is vital to consider that the majority of the stakeholders involved are not familiar with online learning. In a recent study performed by Maier et al. (2020), 70 percent of the student population stated that they had no previous experience with online learning. Thus, they were unfamiliar with the processes and strategies used to deliver a course remotely. The familiarization of online learning affects the overall perception of the effectiveness and quality of online learning. According to Hodges et al. (2020), online learning carries a reputation of being a low-quality alternative in comparison to F2F education despite research studies demonstrating otherwise. Research findings suggest that the unprecedented transition to online learning across several HEIs could have a negative impact on the perception that online learning is an inadequate alternative to traditional F2F (Hodges et al., 2020; University of Brasilia reports findings in COVID-19, 2021).

The impact of a high-quality online academic course is influenced by the systematic approach during the development and course design. Among other strategies used by different online programs, *Learning Online: What Research Tells Us About Whether, When, and How* (Means et al. 2014) suggests that HEIs must consider nine different aspects of course design. The first one is to evaluate the modality of the instruction. Options include but are not limited to fully online, blended (50 percent online), blended (25-50 percent online), and web-enabled F2F. The second aspect is pacing. Pacing refers to how students are engaged by selecting either a self-paced, class-paced, or class-paced with a combination of self-paced. The third aspect refers to

the student to instructor ratio. For example, less than 35 students per instructor, 36 to 99 students per instructor, or 100 to 999 per instructor, etc. The fourth aspect refers to the pedagogy used. Some recommended pedagogy approaches are expository, practice, exploratory, or collaborative. The fifth aspect is related to the role of online assessments. In this aspect, the course designer must adopt a strategy that assists the student in learning in blocks or steps. Some examples include the student being ready for new content, adaptive instruction, providing the student the information about their learning status, providing input to a specific grade, and the identification of students at risk. The sixth aspect refers to the instructor's role in online teaching. This aspect is about how active the instructor is during the course. The instructor could select being an active, partial, or inactive presence during the online academic course. The seventh aspect refers to the student's role in the course. Would the student be actively involved by reading, listening, problem-solving, answering questions, stimulated by exploration or discovering different resources, or involved in a combination of collaboration activities? The eighth aspect is concerning online communication synchrony. In other words, how online communication should take place by being asynchronous, synchronous, or a combination of both. Lastly, the ninth aspect relates to the source of feedback. This aspect is where the developer considers if the feedback is automated, provided by the professor, or provided by their peers.

The institutional benefits of supporting faculty members with the necessary tools to effectively develop and deliver an online course could be evaluated by the level of persistence among the student population (Stavredes & Herder, 2014). Persistence is measured by the learner’s ability to persist during their academic endeavors and complete their academic degree. Since the level of persistence is generally focused on the learner’s completion status course-by-course, emergency online courses must reflect the learner’s critical needs and incorporate

strategies to support the learner's continued success. To support the learner's continued success, Stavredes and Herder (2014) suggest focusing on understanding different persistence models that can assist in the identification of critical learner needs. The consideration of different persistence models could effectively identify the critical learners' need for integrating effective teaching strategies to support student success.

The three persistence models described by Stavredes and Herder (2014) are the Billings, Kember, and Rovai Persistence Models. The Billings Persistence Model, primarily focusing on correspondence courses, was developed in 1988. This persistence model indicates a high level of persistence in those learners who tend to submit assignments early compared to those who wait until the last minute. Additionally, Billings states that there is also a correlation between high examination entrance scores, higher GPA, and the number of courses completed. The higher the GPA, examination entrance scores, or GPA, the higher the likelihood for the learner to continue their momentum in the course. In other words, the more success the learner experiences, the more likely they are to continue their success. Thus, the Billings model requires institutions to develop strong motivational elements in online courses to support the learners' momentum. The Kember Persistence Model, developed in 1995, focuses on adult learners enrolled in an open learning model of distance education (Stavredes & Herder, 2014). This model describes how learners were guided to the selection of positive and negative paths as a result of their early academic experiences and interactions. A positive path leads the learner to adopt a deep approach to learning by integrating social and academic integration. A learner who was led to a positive path is more interested in learning the material rather than just getting a good grade in the course. On the other hand, a learner in a negative path focuses on excuses to justify poor performance primarily due to external factors. In this model, the learner is motivated by external

factors rather than the learning outcomes or the benefits of learning. As a result, this model highlights the importance of setting exceptional early experiences to encourage learners to connect their learning experiences with a positive path or approach to learning. Lastly, developed in 2003, the Rovai Persistence Model focuses on the variables that affect a learner's persistence in an online course. The fundamental values of this model are based on Tinto's (1975) student integration model and Bean and Metzner's (1985) learner attrition model. Tinto's and Bean and Metzner's models are based on the learners' characteristics before the student's admission such as age, intellectual development, ethnicity, gender, academic preparation, and learner's skills. Rovai's model suggests designing a course that will incorporate elements such as online interaction skills, writing skills, and computer literacy. This approach will assist learners to build their framework and learners will be able to personalize their experience regardless of their starting point (Stavredes & Herder, 2014). Additionally, the model demonstrates the online student's preference or expectation to experience the material based on their learning style. Consequently, the model suggests paying close attention to the use of different instructional strategies to meet the individual learning styles of the students.

Higher Education Resilience

The effects of the global pandemic have spurred the interest of students, faculty, and institutions in the evaluation of strategies that could influence the quality of instruction and resilience in HEIs. Undeniably, the pandemic exposed different academic, technological, and pedagogical deficiencies during the implementation of an emergency online learning transition (Weidlich & Kalz, 2021). This transition is a major stressor for higher education faculty members, but at the same time, it represented an opportunity to understand instructional resilience. Resilience is defined as the ability of an individual to cope with a crisis and is a

fundamental component of the overall mental health of the human being (Weidlich & Kalz, 2021). For Hartmann et al. (2020), resilience is one of the most important concepts of organizational behavior and is defined as a positive adaptation during a time of crisis or when facing adversity. Despite the lack of preparedness and deficiencies in the emergency online transition (Zawacki-Richter, 2020; Naidu, 2020), a major contributor to a successful online transition is attributed to the ability of the faculty to quickly adapt their pedagogy to their current challenges and limitations (Weidlich & Kalz, 2021).

According to a recent study conducted by Weidlich and Kalz (2021), related literature on educators' resilience stirs up three main resilience predictors. The researchers concluded that resilience predictors are prior experience, contextual factors, and personality attributes. Prior experience, validated by studies conducted by Sherer et al. (2021), suggested that experiences bring essential qualities and characteristics which directly impact education resilience in faculty members. Prior experience could have been brought by formal or informal professional development, former experience using technology for teaching purposes, and working in institutions that offered online learning. Contextual factors refer to the work environment of the individual. In other words, resilience is influenced by the amount of social, organizational, and technical support provided by the organization during a crisis, e.g. the emergency online learning transition. Thus, the institutional response and support provided to all shareholders is an important aspect of education resilience. Lastly, personality attributes refer to the personal and psychological influence on education resilience. This is because psychological factors or resilience do influence how an individual can deal with the stressor or a crisis. Additionally, other factors are embedded in personalities such as motivation, anxiety, and the ability to accept and adapt to challenges.

The collective efforts of individuals in the workplace could have a direct effect on the performance, resilience, and quality of the workplace. Hartmann et al. (2020) refer to this concept as team resilience in the workplace. According to Hartmann et al. (2020), resilience at the team level could be divided into the following groups: emotions, structural aspects, and interpersonal processes. The emotional aspect of team resilience is referred to as the collective emotional support shared within a team. In other words, how does the team share positive emotions such as optimism, relaxation, comfort, or even enthusiasm? Research studies have demonstrated that when a team collectively shares positive emotions and support, it enhances the overall group resilience (Hartmann et al., 2020; Ulla & Perales, 2021). Similarly, empirical findings by Ulla and Perales (2021) suggest that organizations and institutions should consider a collective approach strategy in a time of crisis such as the one described in their study. Ulla and Perales (2021) described a community of practice in which educators were able to support each other by sharing experiences, listening to each other, and providing emotional support in coping with stress and other personal issues. Additionally, educators perceived the collaboration group as a go-to when it comes to learning about different strategies to better support students. For interpersonal processes, Hartmann et al. (2020) using empirical data, reiterates the importance of team connectivity as a fundamental bond and its connection with resilience. Another important factor influencing collaborative resilience is team communication (Hartmann et al., 2020). A study conducted in 2014 by Gomes et al. (2014) suggested that by creating a shared collaboration during pre and post briefings, the teams were more situationally aware, thus making the team more resilient in response to the situation. Lastly, structural aspects refer to the roles of everyone on the team and their effects on members' perceptions. Institutional resilience is influenced by

several factors. Thus, institutions must evaluate the different aspects or factors influencing resilience to create a collaborative atmosphere among faculty members.

Development of an Institutional Crisis Pedagogical Response

The 2020 global pandemic (COVID19) appears to have stimulated ideas and strategies to confront unprecedented challenges. Considering the fact that the transition was a very challenging period, HEIs were able to develop strategies to fight this invisible enemy disrupting traditional F2F methodology. As previously stated, some institutions were successful, and others struggled during this period. As a result, recent research supports the need for more research studies that could evaluate the effectiveness of technology use during the pandemic over time rather than the immediate impact after the pandemic (Vargo et al., 2021). For Ahmed and Opoku (2021), academic institutions around the world have experienced the availability and potential mitigation opportunities with technological advances in our modern world, but, at the same time, these institutions were not prepared to deal with crises disrupting traditional F2F instruction. Therefore, higher education administrators must collaborate with the faculty in designing and developing a strategic plan to face potential disruptions to F2F (Falk & Lemanski, 2020).

The challenges or setbacks which HEIs experienced during the COVID19 pandemic, could be mostly attributed to the lack of preparation. Evidently, HEIs around the world were not prepared to support students or faculty alike (Ahmed & Opoku, 2021). The emergency online transition took by surprise faculty and students, and it can be considered a wake-up call to HEIs to evaluate their response. Thus, the development of an institutional crisis pedagogical response is key to the development of a resilient faculty and the adoption of digital strategies capable of improving learning outcomes and experiences (Looi et al., 2022). The first step in the development of an institutional crisis pedagogical response entails the incorporation of the

transition as an approachable and manageable task (Weidlich & Kalz, 2021). The development of an institutional crisis pedagogical response could represent a significant challenge, particularly to those administrators and members carrying the responsibility of making effective tools in future academic disruptions. However, to reach a good level of trust and resilience among faculty members, higher education administrators must consider the expansion of programs that support instructional design, counseling services, and professional development opportunities (Boyer-Davis, 2020; Ramlo, 2021). For Ramlo (2021), the emergency online transition served as an opportunity to evaluate and understand the faculty's needs. Ultimately, the response is devoted to assisting faculty members to focus on delivering effective instruction while minimizing disruptions and setbacks. Multiple recent research studies have suggested that one important aspect of a successful transition and essential element during the development of the institutional crisis pedagogical response is faculty support (Boyer-Davis, 2020; Svrcek et al., 2021; Ulla & Perales, 2021; Zilal et al., 2021). One of the strategies used during the COVID-19 pandemic was the creation of faculty support groups or communities (Svrcek et al., 2021; Ulla & Perales, 2021). These communities are crucial for dealing with unprecedented circumstances since they provide an opportunity for a faculty member to share experiences, receive support from coworkers, and discuss different strategies for online learning. Other research studies, such as the one conducted by Svrcek et al. (2021), noted that some institutions were able to create these support or community groups using virtual platforms such as social media. The idea of incorporating faculty groups to share tools and experiences represents an interesting approach which delivers empathy and trust among faculty members. In recent research conducted by Ulla and Perales (2021), faculty members expressed their thoughts and perceptions on a community of practice that helped them cope with this challenging transition. The primary purpose of the

development of a support group was to allow faculty members to have a safe environment where they can freely express their challenges, feelings, frustrations, and experiences. In addition, another important aspect of this group is that there is an opportunity for faculty members to evaluate their response and either collaborate with others to make it better or learn from other experiences. This approach is a win-win scenario because it can contribute to the development of healthy relationships and a strong institutional culture. As a result, it increases institutional resilience (Hartmann et al., 2020). According to Hartmann et al. (2020), interpersonal relationships play an important role in team resilience, and it has been a primary focus in recent scholarly publications. This is due to how team connectivity positively relates to team resilience. The use of social media and institutional impulse promoting faculty communities has been demonstrated to be an effective tool in improving teams' effectiveness and resilience. Faculty members have stated that the connection with other faculty members has helped them realize that they are not alone during the transition. They realize that other faculty members are also experiencing and feeling the effects of the transition, and they are more open to communicating their experiences with one another. Faculty members have articulated that being in the support groups made them feel more comfortable since they share experiences, suggestions, and assistance with one another (Ulla & Perales, 2021).

Institutional pedagogical response to an academic disruption in a time of crisis must be carefully evaluated, planned, and implemented. It must incorporate an in-depth analysis of potential setbacks and possible solutions to counteract those aspects (Hadjeris, 2021). Furthermore, empirical data suggests the incorporation of high-quality faculty training dedicated to the real needs of faculty and students during the pedagogical transition in response to a potential emergency online transition (Hadjeris, 2021; Zilal et al., 2021). Some HEIs have

already experienced a series of strategies based on previous research. In fact, multiple HEIs endure a series of experiments and tryouts to experience what strategies would work best. For example, a recent study conducted by Humphrey and Wiles (2021), revealed that a biology and ecology higher education institution implemented a series of strategies and suggestions on how to enhance and maintain student motivation and faculty engagement during the COVID-19 pandemic based on prior research and reflections. Technology did play an essential role throughout strategic planning when dealing with academic disruption and student learning experience. Consequently, Sanandaji and Ghanbartehrani (2021) recommend a high level of commitment from HEIs to invest in the latest technology to support faculty members by distributing high-quality academic instruction. An institution could support the development of pedagogical crisis response by the adoption of technology-supported digital learning alongside traditional F2F learning (Aguilera-Hermida et al., 2021; Karakose, 2021). In other words, the consideration of supporting and promoting the incorporation of hybrid and blended pedagogical approaches. Tulaskar and Turunen (2021) suggest that HEIs around the world should evaluate strategies beyond the traditional ways of teaching and must prevent becoming inflexible in the development of future emergency online transitions. HEIs must not fail to recognize the importance of being open and adaptive to future technological changes, especially during the development of an institutional crisis pedagogical response.

Summary

The novel virus COVID-19 has generated an unprecedented transformation in many aspects of our lives. The World Health Organization (WHO) along with the Center for Disease Control and Prevention (CDC) addressed national and international leaders in critical health measures in the prevention of COVID-19 outbreaks. Among these recommendations, the closure

of non-essential businesses, schools, and higher education intuitions (HEI) were affected by these measures. Particularly, HEIs around the nation and the world were required to shut down their campuses as a precautionary measure to control local outbreaks of this novel virus. Consequently, imposing these measures required HEI faculty to adapt to a rapid transition from traditional face-to-face instruction into a different pedagogy. Fortuitously, the evolution of technological advances supported the transition to online learning.

Despite the existence of online learning in HEIs around the nation, the combination of traditional face-to-face instruction and the elements of online learning was imposed on traditional face-to-face faculty. Although, the use of learning management systems (e.g. Canvas, Blackboard, etc.) in traditional face-to-face instruction has been slowly incorporated in recent years, in spring 2020, HEI faculty were required by administrators to provide an alternate means of instruction by using an online format. As discussed in this chapter, the rapid transition had dramatic effects on student and faculty perception of online learning, increased setbacks and challenges perceived by students and faculty alike, national and international effects on HEIs, and dramatic pedagogical effects on different fields (e.g. dental education, medical education, biology education, engineering education, etc.). The reaction to a pedagogical change from traditional F2F to online learning could be considered a unanimous decision made by HEI administrators in response to the COVID-19 prevention strategies. As previously discussed earlier in this chapter, empirical findings suggested the transition brought a different perspective on how to approach future disruption in traditional F2F pedagogy. For example, Karakose (2021) suggested the incorporation of more digital learning in traditional F2F intending to create a strong technological foundation in case of future disruption. Thus, HEIs must have a plan established to react appropriately to future academic disruptions in times of crisis. Hodges et al.

(2020) stated that online course designs involve a more careful and meticulous approach and design to convey effective learning. In addition, it was suggested to have at least a period of six to nine months during the developing phase before the course is delivered to ensure it complies with the characteristics of a well-designed online course. Lastly, this chapter discussed the concept of higher education resilience. Resilience was described as the ability of an individual to cope with a crisis. Weidlich and Kalz (2021) described that multiple factors could affect resilience such as attitudes, resources, contextual factors, and personality. Despite the challenges experienced by HEI faculty members, a major contribution to a successful online transition was the ability of the faculty member to adapt quickly to pedagogical change (Weidlich & Kalz, 2021). Even though each faculty member's resilience was considered an important factor during the emergency online transition, team resilience was an important characteristic and influence in institutional resilience. According to Hartmann et al. (2020), an organization or institution could create an atmosphere of collaboration in which members could reach other members for support such as the one described by Ulla and Perales (2021). Ulla and Perales (2021) suggest that institutions could collaborate with a community of practice where educators could find support by sharing experiences, listening to each other, and even providing emotional support with dealing with stress and other personal situations. As a result, institutional involvement is an essential element of a successful pedagogical transition during a time of crisis. However, it is evident that HEIs were not prepared to respond effectively to an academic disruption. Consequently, empirical data suggest higher education administrators promote an atmosphere of collaboration and resilience by incorporating new technologies, creating faculty groups providing support and guidance, and developing a plan to respond to future academic disruptions (Aguilera-Hermida et al., 2021; Boyer-Davis, 2020; Hadjeris, 2021; Karakose, 2021; Sanandaji

& Ghanbartehrani, 2021; Tulaskar & Turunen, 2021). Although a comprehensive review of the literature exposed valuable information on emergency online transition, there is no literature on the effects and challenges aviation higher education faculty experienced during the COVID-19 pandemic.

CHAPTER THREE: METHODS

Overview

The effects of the novel virus COVID-19 have affected every higher education institution (HEI) around the world. HEIs around the world were required to develop an emergency approach plan to adapt traditional face-to-face instruction with remote or distance learning. As a result, in spring 2020, higher education faculty experienced a series of unprecedented challenges, which were not typically found in traditional face-to-face instruction. This study aims to discover the challenges and the effects of this emergency transition and what faculty members recommend being implemented in the future if residential faculty members were required to pivot to distance learning because of a local or national emergency. This chapter will thoroughly describe research design, research questions, settings and participants, and researched positionality behind this study. Additionally, trustworthiness will be discussed along with ethical considerations of the proposed study at hand.

Research Design

The most important aspect of this study is to comprehensively understand the elements and effects of an emergency online transition at a major aeronautical higher education institution due to the COVID-19 pandemic. Although there are several research methods available in the exploration of a phenomenon, case study seems to possess the characteristics to support the aim of this study. For that reason, the research approach adopted for this study is a qualitative case study approach. A qualitative single case study approach is used when the researcher is trying to explore a real-life, contemporary bounded system over time with a combination of in-depth data collection involving multiple sources of information such as interviews, narratives, and focus groups (Creswell & Poth, 2018; Yin, 2018). Additionally, an instrumental case study helps researchers to understand a complex social dilemma and a particular phenomenon (Mills et al.,

2010; Yin, 2018). Accordingly, the study aims to describe these unprecedented events by providing an in-depth investigation of the affected faculty members at SOU. Following Creswell and Poth's (2018) and Yin's (2018) suggestion on conducting an in-depth examination using multiple sources, the researcher conducted interviews, focus groups, and document analysis to 12 aviation faculty members at a major aeronautical university in the southeast region of the United States.

Research Questions

The identification of research questions is an essential step in the preparation of any case study. Fundamentally, according to Yin (2018), research questions are one of the first steps before establishing a well-developed case study. An in-depth analysis of case study protocols was required to identify a specific methodology and identify practical and sustainable research questions. Thus, after considering the background, the site, potential participants, and, most importantly, the problem at hand, one central question has been identified, along with two sub-questions.

Central Research Question

What emergency online transition elements are essential, by an aviation faculty, during an emergency transition from traditional face-to-face instruction to online learning due to the COVID-19 pandemic?

Sub-Question One

How do aviation faculty, at a major aeronautical university, perceive the challenges experienced during the transition from face-to-face to online learning due to the COVID-19 pandemic?

Sub-Question Two

What practices do aviation faculty at a major aeronautical university recommend to aviation higher education institutions during an emergency online transition due to the COVID-19 pandemic?

Setting and Participants

The site and participants define the parameters of any case study. In other words, it defines the case by describing the location and those involved in the problem at hand. In this study, being a single-case study design, the site selected is defined and established in a single location with participants who were impacted by the emergency online transition. Another important aspect of a case study is the identification of participants who were affected by the problem. In this section, the participants and their respective demographics are discussed.

Site

The setting for this study took place at a private major aeronautical higher education institution in the southeast region of the United States. Silver Owl University (SOU) was founded in 1926, and it has two residential campuses in the United States and one worldwide campus accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). SOU is one of the largest and respected aviation and aerospace higher education institutions in the world. Additionally, it has been at the forefront of ground-breaking aeronautical milestones throughout history, with over 130,000 graduates around the world. Currently, the institution has 6,400 undergraduate student, with over 6,000 being full-time students. The average student's age is 20 years old. International students account for 11% of the total student population, with approximately 109 countries represented from around the world. Finally, SOU has an average student-faculty ratio of 17:1. As a passionate aviation educator at

SOU, I experienced the process of this online pedagogy during the fall 2020 semester. After experiencing this challenging transition, it inspired me to share and provide practical information on how a successful emergency online transition could be implemented. However, I noticed there is no existing literature on the perception of higher education faculty at a major aviation higher education institution nor what they considered to be essential elements after experiencing an emergency transition during the COVID19 global pandemic.

Participants

The participants of this study are current and active assistant, associate, and tenured professors of SOU's Aviation Department. Consequently, my sample size consisted of 12 faculty members as participants. The SOU Aviation Department coordinates associate, undergraduate, and graduate degrees in areas such as aeronautics, unmanned aircraft systems, air traffic management, aviation maintenance science, meteorology, and aviation safety. Some courses offered at SOU are regulated and monitored by the Federal Aviation Administration (FAA). The FAA requires that some programs such as the professional pilot, dispatch, aviation maintenance, and air traffic management meet certain hour requirements and perfect or 100% attendance. Meeting FAA requirements after transitioning to distance education during spring and fall 2020 was another concern since it was the first time the faculty have faced a drastic alteration to their pedagogy from the traditional face-to-face instruction. Considering SOU is the largest aviation and aerospace institution in the world, the field experience and expertise from faculty members makes this group an ideal group of participants regarding describing the effects of the distance learning transition at an aviation specialized HEI. Since the role of a qualitative researcher expert conducting a case study is to investigate a phenomenon within its real-world context and with no clear boundary between the context and the phenomena, a maximum variation and purposeful

sampling technique was used to recruit 12 faculty members from the Aviation Department at SOU (Yin, 2018). According to Hays and Singh (2012), a purposeful sampling technique requires establishing specific criteria for the sample of the study prior to entering the field. Additionally, it requires intentional thought to the selection of the sample to support the data analysis of the study. A maximum variation sampling is used when the researcher is searching for participants who can provide a full spectrum of positions and perspectives in relation to the phenomenon (Creswell & Poth, 2018; Given, 2008).

Researcher Positionality

The researcher serves as a human instrument, especially in a qualitative research study. The researcher collects, analyzes the data accurately, and objectively disregards any bias or impurity in the process of data analysis. Thus, it is my responsibility to provide my interpretive framework and philosophical assumptions to better understand the approach and exploration of this phenomenon.

Interpretive Framework

A high level of commitment and dedication is necessary to educate and transform the world. Professionals should focus on those values and characteristics that will contribute to the development of a better world. As a Christian, I consider my values are deeply rooted in how I can serve others and make the world a better place by working in one problem at a time. In this study, I aim to understand and describe the experiences of my coworkers and what their consideration of the essential elements to make this challenging transition manageable in the future. According to Creswell and Poth (2018), individuals who focus on the outcome of the study, such as the action, situations, and consequences, rather than the historical value, are considered as individuals with a pragmatism focus. Individuals with a pragmatism focus are

those who will explore the “what works” and the finding of a solution to a problem rather than its method (Creswell & Poth, 2018). In this study, I aim to provide empirical data on the elements associated with a smooth and comfortable transition to those faculty members in aviation settings. In other words, what are the challenges and which elements were essential in overcoming this challenging period in the history of higher education?

Philosophical Assumptions

In the philosophical assumption section, the ontological, epistemological, and axiological assumptions are identified and described. The discussion of different philosophical assumptions is essential in an ethical approach to research designs. The assumptions provide a clear perspective of the researcher’s view and assumption leading the progress and perspective of the study. Therefore, the influence of these assumptions is discussed in this section.

Ontological Assumption

A researcher conducting qualitative research will experience the variety and differences of different aspects and perceptions of the participants. Some values, perceptions, and ideas might be contradictory to the values and beliefs of the researcher. However, it is the researcher's responsibility to ensure that every aspect of the study is conducted with respect and professionalism. Christians believe that there is a purpose and a single reality that could give light to our experiences in this world. However, Christians believe that humans are a representation and instruments of peace for the Lord. Thus, it is important to respect the opinion of others and love one another as yourself. Researchers have not only the ethical responsibility of presenting the data as is, but the Christian responsibility to respect others and accept their views and beliefs.

Epistemological Assumption

The philosophical assumption leading to the selection of this research is the epistemological assumption. The epistemological philosophical assumption is selected when the researcher is trying to get as close as possible to the participants being studied and tries to minimize the distance between the researcher and the participants. In addition, the researcher is trying to search how knowledge is known across the subjective experiences of the participants (Creswell & Poth, 2018). This assumption will provide a close relationship between the researcher, participants, and the phenomenon, aiding in understanding and conveying the aspects of the phenomenon.

Axiological Assumption

It is evident that all researchers will influence the study, one way or another, based on their values and interpretations of a particular issue or topic (Creswell & Poth, 2018). However, according to Creswell and Poth (2018), qualitative researchers must include their values and motivation as part of their study. Ultimately, by providing their axiological assumption, it will proclaim the value-laden nature and actively report their values and biases of the information gathered. Subsequently, as part of my responsibility, I plan to integrate my role in this research and the positionality in relation to the context of the study.

Researcher's Role

The role of the researcher constantly represents an essential element in any research study, in particular to those engaged in qualitative research. Considering I am a human instrument in this study, I am well aware of my responsibilities and obligations as a researcher conducting a case study approach to the elements of an emergency online transition. According to Yin (2018), conducting a case study is demanding, and it challenges your intellectual, ego, and

emotional state far greater than other research methods. As a result, the researcher must understand the different responsibilities, limitations, and procedures during the development process of the study. Since the researcher plays such an important role, it is important to examine the researcher's educational and professional background and experience.

I have a Bachelor degree in Aeronautical Science with a specialization in Airline Pilot and a minor in Air Traffic Management. Additionally, I hold a Master's degree in Logistics and Supply Chain Management. My certifications include Airline Transport Pilot (ATP), Instrument rating, Certificated Flight Instructor (CFI) single engine, Certificated Flight Instructor multi engine, and Certificated Flight Instructor instrument. My experience is primarily in the aviation field, with over 15 years of experience in the industry. I have been an aviation student, an aviation tutor, a flight instructor, a check flight instructor, a flight-training manager, a corporate pilot (captain), and currently an assistant professor in the Aviation Department at SOU. After dedicating over seven years of my career involved directly and indirectly to aviation higher education, I commit to protecting and ensuring that this research study will provide a robust foundation for the understanding of future emergency transitions to distance education in aviation settings.

Researchers play an essential role in the development, interpretation, and representation of any study. According to Hays and Singh (2012), the researcher is responsible for ensuring that the voice of the participants is well represented and considered an important aspect of truthful and effective qualitative research. Since the researcher is an essential research instrument and the ultimate representation of the study, the researcher must demonstrate the study was conducted following the highest ethical standards. As part of my responsibilities for the conduction of ethical research, I will provide a clear description of personal bias, assumptions, perspectives, or

presuppositions toward this study. In other words, I will mitigate the potentially deleterious effects of unacknowledged preconceptions concerning research to improve the validity and trustworthiness of the process and conclusions (Tufford & Newman, 2010). For that reason, I will provide what is commonly known in research as bracketing.

Although there is a lack of a uniform definition of bracketing, Tufford and Newman (2010) define bracketing from the perspective of different authors. For example, Drew (2004) defines bracketing as the task of sorting out the qualities that belong to the researcher's experience of the phenomenon (Tufford & Newman, 2010). Others, such as Gearing (2004), define bracketing as a scientific process in which a researcher suspends or holds in abeyance his or her presuppositions, biases, assumptions, theories, or previous experiences to see and describe the phenomenon (Tufford & Newman, 2010). In other words, bracketing will reveal the researcher's intent to put biases, presuppositions, or assumptions aside to deliver a trustworthy research study.

First, it is my responsibility to disclose that I work at the institution and at the department in which this study is to be conducted. As a measure to increase the trustworthiness of this study, I will describe my current position, colleagues' relationships, and provide my bias, assumptions, and presuppositions. At the time of this study, I am employed as an assistant professor at SOU with no authority over any potential participant. My colleagues and I have strictly professional relationships and no personal interactions outside our workplace. As a result, my position and relation with SOU and my department support an objective, fair, and equitable study.

On the other hand, it is also important to recognize that different factors could influence a study. Undoubtedly, as a researcher and as a human being, I am susceptible to bias, assumptions, own conclusions, opinions, presuppositions, personal experiences, etc. Therefore, I will reflect

on my personal experiences, biases, assumptions, opinions, and presuppositions to safeguard the pureness and transparency of this study. First, the phenomenon at hand (transition to online training) was not experienced in its totality by the researcher. SOU offered me a position to become a faculty member in the fall 2020 academic semester. During the fall 2020 semester, the faculty at SOU was asked to provide a hybrid pedagogical modality, as recommended by health officials for COVID-19 outbreak prevention. The opportunity to experience firsthand the effects of the pandemic and its challenges intensified my interest in further investigating the transition, challenges, and future recommendations of those faculty members who taught in the spring 2020 academic semester. I recognize the efforts and support provided by SOU and, for that reason, one of my biases is on concluding that some faculty members were pleased with the transition and some were unhappy with how it was managed. For the most part, I assume that most professors were pleased with the transition. However, I am aware that data collection and analysis might prove this assumption wrong. The challenges I experienced during fall 2020 could be considered as potential bias or presuppositions during my data analysis. As a result, I am reflecting on those potential elements that could somehow influence the research process to counteract those thoughts and ideas with actual data and evidence. The challenges experienced include but are not limited to technical issues, technological proficiency, poor internet connection, time management, and a significant workload increase. As one measure to ensure participants will feel comfortable and willing to participate openly, I will provide a short briefing and description of the purpose, objectives, and my position regarding the topic at hand. This briefing demonstrates process transparency between researcher and participants.

Procedures

Since qualitative case research study is considered by Yin (2018) as one of the most challenging research methods in social science, I commit to develop a study that will collect, analyze, and present the data objectively and impartially. Institutional Review Board (IRB) approval from Liberty University and SOU was granted prior to data collection (American Psychological Association, 2020; Yin, 2018). Considering I collected data on the aviation department at the research site, I obtained written approval from the department chair prior to the data collection phase. Additionally, I contacted and received written approval from the director of the center for teaching and learning excellence on campus to obtain faculty narrative data from faculty, which had been developed after the online transition during spring 2020 semester.

Data collection was initiated after obtaining written approval from all stakeholders and following a successful proposal defense. Each participant was contacted by email and instructed to read the consent form (see Appendix F) and ask questions they might have about the study (Yin, 2018). For record-keeping purposes, participants were encouraged to keep a copy of the consent form for their records. Personal data (e.g. name, age, years of experience, etc.) and geographic data were collected, but the researcher maintained the data confidentiality by assigning pseudonyms to the participants (Hays & Singh, 2012; Yin, 2018). Participants acknowledged they read the consent form by signing the form prior to taking part in this study. The data collected in this study were strictly confidential, and they were analyzed and used to answer the research questions (Hays & Singh, 2012; Yin, 2018). The data were kept in the researcher's personal drive (OneDrive) and will be stored for three years. After three years of the study, data will be permanently deleted and any paper documentation (except data contained in

this document) will be destroyed. The results are analyzed and presented in Chapter Four and Chapter Five of this study.

Permissions

The researcher is responsible for ensuring the research study is conducted with the highest level of integrity and reliability (American Psychological Association, 2020). Thus, it is crucial that the researcher takes the necessary steps to guarantee the results are valid and reliable (American Psychological Association, 2020). For that reason, as part of my commitment to excellence, integrity, and responsibility, I sought written approval from Liberty University IRB, SOU IRB, my department chair, and the director of teaching and learning excellence center at SOU. Refer to Appendix A for IRB approval.

Recruitment Plan

The selection of the 12 aviation faculty members at SOU was based on the maximum variation and purposeful sampling method (Yin, 2018). This approach is one of the most popular qualitative sampling strategies because this way the researcher can maximize the differences early in the study, opening the possibilities of reflecting differences or perspectives during the data analysis. In other words, this strategy consists of determining different participants' characteristics or classifications and then purposely selecting participants based on their classification (Creswell & Poth, 2018). Following Creswell and Poth's (2018) recommendation, I intended to recruit five assistant professors, five associate professors, and five full/tenured professors. However, I was only able to recruit six assistant professors and six full/tenured professors. At the time of the study, I did not have a position of authority over any of the participants.

Data Collection Plan

To ensure high-quality case study research, every researcher should consider Yin's (2018) desired skills and values. According to Yin (2018), a researcher must ask good questions, be a good listener, stay adaptive to different situations, possess a good firm grasp of the issues being studied, and conduct research ethically. Therefore, following Yin's (2018) recommendations, I used three methods of data collection: interviews, focus groups, and document analysis. The collection of three different methods enhanced the description of the phenomena at hand by gathering multiple data points to evidence the different elements of the phenomena. Therefore, in an attempt to connect those elements and conclusions with the data, triangulation of data was used. According to Hays and Singh (2012), triangulation of data is commonly used as a strategy to ensure the trustworthiness of any study by gathering data collection of multiple forms of evidence at different stages of the qualitative research. In other words, triangulation of data will describe, support, and enhance the findings of the study.

Individual Interviews

The study integrated the views of the participants by conducting a one-on-one semi-structured interview with each professor. I conducted individual virtual interviews with participants to collect in-sight data to understand the world from the participant's point of view. Virtual interviews were no longer than 60 minutes. According to Creswell and Poth (2018), interviews are used, not only to understand the world from the participant's perspective, but also to unfold the meaning of their experiences and uncover the lived world. Unfortunately, there was no other available instrument during my related literature investigation. Thus, the questions used in this instrument (individual interview) were conceptualized and developed by the researcher. After receiving approval from the researcher's dissertation committee and IRB, the individual

interviews took place between July 2022 and October 2022. Individual interviews were conducted using Zoom or Microsoft Teams. Lastly, to ensure the accuracy of the interview questions, the questions were approved by two qualitative research experts. Those experts are members of my dissertation committee.

Individual Interview Questions

1. Please describe your academic and professional experience.

The question serves as an introduction to the interview process. This question is designed to make the participant feel comfortable and confident to share their opinions and ideas during the interview. This question is a more introductory question and not attached to the central or the other research questions.

2. Briefly describe your course and, if any, non-traditional aviation requirements (e.g. FAA mandated course requires 100% attendance). (SQ1)

The question should contribute to research question one. Research question one is focused on obtaining faculty's perception of what they considered as a challenge during the transition to online learning due to the COVID-19 pandemic.

3. Describe your reaction to the mandatory transition to a pivotal pedagogy. (SQ1)

Similar to question two, the question should contribute to research question one. By describing their reaction, the researcher is aiming to gather perceptions on how this mandatory transition was perceived by faculty members. There are also theoretical foundations in this question, since it relates to the theory of planned behavior.

4. Describe your experience during the 2020 emergency online transition. (SQ1)

This interview question supports the collection of faculty perceptions in relation to their experience during the transition. There is a possibility that this interview question will also contribute to the theoretical foundations based on the theory of equivalency.

5. Name and describe what you consider as the top three challenges experienced during this transition. (SQ1)

Likewise, this question supports research question one by collecting perceptions on what are the top three challenges experienced during the online transition.

6. Name and describe what you consider as the top three least challenging factors of this online transition. (SQ1)

This question will collect data on the perception of participants concerning those factors that were not identified as major challenges. This question contributes to research question one. Additionally, it might provide a theoretical foundation on the theory of planned behavior.

7. What programs or resources do you use to assist you during this transition? (CRQ)

The focus of the study is to determine what are those perceived elements considered essential by an aviation higher education faculty. Thus, this question will directly contribute to the central research question. The researcher is trying to collect information on some sort of common denominator on a specific resource or program to answer the study at hand.

8. Name a minimum of three recommendations you consider are essential if a future implementation is imminent. (SQ2)

The recommendations of this question will be based on the participant's perception on what they perceive as an essential element during their experience of this unprecedented transition. This question also has a theoretical foundation in the theory of equivalency because faculty members were asked to pivot their pedagogy to an online format following institutional recommendations.

9. What are the most important elements you consider are essential when supporting an aviation faculty facing an emergency online transition? (CRQ)

This question supports the central research question and the previous question by collecting more data on the elements that were perceived as the most pertinent or essential during the online transition.

10. How would you describe the institution's response to assist the aviation faculty during this transition? (SQ2)

The description of the institutional response will have theoretical foundations on the theory of planned behavior. The theory of planned behavior states that there are more possibilities for an individual to engage in a behavior if there are external factors influencing the decision. It is possible that the institutional response influenced the participant to engage in the behavior and execute the transition without hesitation.

11. Describe how this transition influenced your approach to your future face-to-face courses. (CRQ)

This question will contribute to the central research question because it provides more insight into the participant's perception on how it influenced a future online transition or simply the incorporation of different techniques and strategies to support traditional face-to-face learning.

12. What did you learn from this experience? (CRQ)

Lastly, this question will serve as a summary of the perceptions and experiences learned during this transition. The primary intention of this question is to provide the participant an opportunity to summarize and reinforce those elements that they considered essential. Thus, it supports the central research question of this study.

Individual Interview Data Analysis Plan

The data analysis plan for the individual interview consisted of three main phases. First, an interview was conducted and recorded with each participant using Zoom as a digital platform. Second, data was collected, transcribed, and organized in a digital file on the researcher's computer. Although Zoom software provides an option to transcribe meetings, I ensured the accuracy of the transcript by reviewing the digital interviews at least twice prior to data analysis. Additionally, following Yin's (2018) suggestion, I created a digital database to preserve and organize the data digitally. Lastly, data was analyzed using thematic and coding analysis strategies. According to Braun & Clarke (2006), thematic analysis is a data analysis method that allows the researcher to analyze, report patterns (themes), and identify patterns within the data. Coding analysis was also used to develop categories, sub-categories, and themes. To support the coding and thematic analysis, I incorporated ATLAS.TI and NVivo software as part of the analysis plan. For credibility and transparency purposes, my collection and analysis processes were reflected in a personal journal incorporating the different phases of this plan.

Focus Groups

In order to reach a group of experienced professors, I conducted one virtual focus group consisting of a total of six participants. Considering that faculty members have different levels of teaching experience, the participants were either assistant or full/tenured professors. There was a total of six participants in the virtual focus group. Two participants were assistant professors and four participants were full/tenured professors. According to Stewart et al. (2007), a focus group is ideal when the researcher attempts to include empathy, openness, active listening, and common interaction between research participants. Similar to the individual interview collection method, there was no other available instrument during my related literature investigation.

Accordingly, the researcher conceptualized and developed a series of questions that was used for these focus groups. After receiving approval from the dissertation committee and IRB, the individual interviews took place between July and September 2022. The Zoom platform was used for data analysis purposes. Correspondingly, prior to conducting the focus groups, the questions were reviewed and approved by two qualitative experts. Those experts are members of my dissertation committee.

Focus Group Questions

1. Describe your perception of the plan established during the mandatory emergency online transition. (SQ1)

The question is formulated with the principal idea of describing participants' perceptions of their initial reaction to the emergency online transition. In addition, it might provide a theoretical foundation related to the TPB theory.

2. Did you agree with the transition to online learning? Why? (SQ1)

Question number two expands on the level of acceptance or rejection of the emergency online transition by the participants in the focus group. Responses could have theoretical foundations on the TPB theory.

3. Describe the difference between F2F teaching workload versus online learning. (SQ2)

Question number three provides a particular focus on workload. This question assesses the relationship between literature review findings and participants' experiences.

4. Based on your experience, do you consider the pedagogical approach (online learning) used during the transition as effective and efficient? Why? (SQ2)

The question challenges participants to self-evaluate their performance based on their experiences during the 2020 emergency online transition. Responses could draw theoretical foundations of the theory of equivalency.

5. If you were given total pedagogical flexibility other than online, what approach would you use instead to meet the course's learning outcomes? (CRQ)

The literature review findings also revealed that education systems worldwide considered online learning as an alternative to F2F education. Thus, question five seeks to evaluate the possibility of other alternatives as viable alternatives to online. Considering that participants are the ones who know what is required to deliver an effective and efficient course, this question opens possibilities to discover new ways to substitute traditional F2F learning.

6. What learning activities did you consider essential to meet the course's learning outcomes during the emergency online transition? (SQ2)

Learning outcomes are an essential part of delivering a course. Regardless of the selected pedagogical approach, faculty members must develop learning activities that will contribute to the course’s learning outcomes. This question gathers more information concerning activities considered essential during an online transition.

7. Based on the challenges experienced during the emergency transition, what would you recommend the administration (Dean, President, etc.) consider in a future disruption of F2F pedagogy? (CRQ)

The origin of this question lies in the central research question of this study. Participants can express their opinions on how the emergency online transition could be handled differently. Additionally, participants were given the opportunity to discover thoughts and opinions from other participants.

8. Scenario: Imagine you are the Dean of this department, and the President asked you to develop a contingency plan to address a future emergency online transition. Considering your colleagues' views, perceptions, and recommendations in this focus group, take 10 minutes to think about the steps you will take as the Dean to transition the department to online learning effectively. In your contingency plan, please consider how you will handle communications, the pedagogical approach used, and how you would support the aviation faculty. Share your ideas with the group. (CRQ)

The scenario aims to recollect participants' opinions and recommendations to apply them to a real-life emergency transition. At the same time, it seeks to answer the central research question of what an aviation faculty considers essential elements during an emergency online transition.

Focus Group Data Analysis Plan

I performed simultaneous data collection and analysis in this study because qualitative research requires in-depth data collection and the collection of multiple sources of information. This way, it submerged me in the data analysis at an earlier stage of the data collection and easing the analysis after reaching saturation. Thematic and coding analysis was used in this section to connect their descriptions and create patterns. Coding is ideal when the researcher is trying to organize the data into valuable categories and subcategories. Thus, coding analysis was used in accordance with the cycles, categories, and themes provided by Saldana (2016).

Document Analysis

The document analysis source used included the analysis of reflections administered by SOU's Center for Teaching and Learning after the completion of the Pivotal Pedagogy Seminar during the spring 2020 emergency online transition. In this reflection, faculty members were asked to provide a 500-word detailed reflection on three principal areas: report/respond, relate,

and reconstruct. At first, they were asked to reflect on what stood out from the seminar: aspects that they considered as helpful and those who helped the participant frame their work moving forward. Second, the participants were asked to reflect on areas they consider relevant or similar based on their experience. Lastly, they were asked to reframe what was learned and to identify pivotal strategies that could be implemented in the future. Additionally, they were asked to describe the steps after the completion of the seminar and identify areas in which the institution could provide additional support. Thus, it will provide a perspective from faculty members about their experience right after experiencing the online transition due to the Covid 19 global pandemic.

Document Analysis Data Analysis Plan

Thematic and coding analysis was used to interpret the collected data. Coding is nothing more than assigning some sort of shorthand designation to various aspects of your data so that you can easily retrieve specific pieces of the data (Merriam & Tisdell, 2009; Saldana, 2016). The coding analysis will be divided into different cycles. The first cycle can incorporate a single word, a full paragraph, or even a full page (Saldana, 2016). According to Saldana (2016), the second cycle could include portions of the code with the same units, analytic memos, long passages, and reconfigurations of the codes developed. These steps are followed to identify a pattern. A pattern is a repetitive and consistent action that appears on the data more than twice (Saldana, 2016). From patterns and codes, a series of categories could be developed to further understand the phenomena. If necessary, the codes and patterns will be subdivided into subcategories to support the conclusion seeking the essential elements identified by the higher education faculty members. The software program ATLAS.TI was used to code and analyze the data.

Data Synthesis

The analysis of the data started from the first collection approach. After conducting the individual virtual interviews (first collection approach) and prior to moving to the second collection approach, the data was analyzed, coded, and categorized in themes. The virtual focus groups were scheduled at least three weeks after the individual virtual interviews to have time to go over the data and begin the process of coding, as explained by Saldana (2016). Once data collection for the virtual focus group was finished, the coding analysis began for the focus groups. Both collection approaches were analyzed against each other to have a better idea on how the themes and categories are related to each other. Lastly, document analysis took place. Similarly, the data collection continued uninterrupted until narrative data was collected. Once the data collection phase was completed, all three data collection analyses were integrated to finalize the themes, categories, and sub-categories. The results are discussed in more detail in Chapter Four.

Trustworthiness

A significant aspect of a qualitative single case study research study design is the ability of the researcher to demonstrate the study was carried out systematically and ethically (Merriam, 2019). As a result, in this section, trustworthiness characteristics are discussed. Additionally, three main tactics were selected and described to assess the trustworthiness of this study. Those include credibility, triangulation, member reflections, audit trail, transferability, dependability, and confirmability.

Credibility

Credibility is one of the most important elements of research. Researchers must explicitly describe their approach, motivation, methods, and analysis methods in order to provide an

impactful and trustworthy study. Therefore, in order to ensure this study's credibility is not compromised, I used three different strategies recommended by Merriam and Tisdell (2009): a) triangulation, b) member reflections, and c) an audit trail.

Triangulation

As a way to ensure that data analysis is reliable and valid, researchers can use different strategies such as triangulation of multiple data sources. This process will increase the reliability of the study because it will ensure that conclusions are drawn based on multiple sources to confirm emerging findings and not from a single source (Merriam & Tisdell, 2009). If multiple sources are describing the same information, evidently the conclusions are more reliable and accurate.

Member Reflections

This validation strategy uses the source (participants) as the center of the validation process. This process will increase the reliability of the study because it uses the same participants to reinforce and validate that effective communication, and the researcher followed the correct interpretation of the information. Thus, the member reflections tactic will be used to ensure the trustworthiness of the data collected. According to Tracy (2020), member reflections consist of collaboration and dialogue with the participants regarding the study's findings and allow the participant to ask questions, critique, provide feedback, and even contribute to the analysis. Member reflection suggests that participant's feedback is valuable as an opportunity to enhance credibility and insight, not as a validity measure (Tracy, 2020).

Audit Trail

An audit trail is a reliability strategy in qualitative research, which describes the details of how data is collected, categorized, derived, and how decisions were made throughout the inquiry

(Merriam & Tisdell, 2009). This process will increase the reliability of the study because it will allow the reader to become familiar with every important aspect of the investigation. Additionally, it adds research process transparency and allows its readers to understand how the researcher reached that conclusion.

Transferability

Researchers have the responsibility of describing their methods and conclusions as accurately as possible. Therefore, using standard methods of sampling and analysis will allow any researcher to explore further by using the same or similar approaches to determine its credibility. According to Merriam and Tisdell (2009), the investigator is responsible for providing sufficient descriptive data to make the study transferable. Evidently, the transferability of the study is low due to the nature of this study of being a qualitative single case study of the aviation department of a single university in Florida. However, the researcher will thoroughly describe the steps followed for transferability purposes.

Dependability

The processes outlined by qualitative research methods, policies, and procedures will characterize a strong research study. The researcher must be committed to ensuring the study is conducted under the qualitative methods strategies to ensure its trustworthiness. According to Shelton (2004), dependability is reached when the research process is recorded in great detail allowing future researchers to use the same study as a benchmark. Thus, dependability will be accomplished through an inquiry audit by completing a comprehensive evaluation by the dissertation committee and the Qualitative Research Director at Liberty University.

Confirmability

Although there are several trustworthiness criteria, confirmability is one of the best-known (Lincoln & Guba, 1985). In order to ensure the quality and confirmability of this study, the research will explicitly describe that there are no external or internal viewpoints from the researcher of the institution influencing the finding of the study. The entire process will be described in each section, and the findings will be provided to the dissertation committee and committee member to assess the validity and trustworthiness of the data analyzed.

Ethical Considerations

I am committed to adhering to all practices and procedures to ensure the highest ethical standards during this study. Accordingly, I applied for IRB approval in both institutions, ensured that the data are protected, and used pseudonyms and codes for both participants and the institution. In order to improve the confidentiality of the data collected, the chair, the committee members, and myself are the only ones who will have access to the raw data. The data will be kept for a period of three years after dissertation defense. On another note, I am not expecting any potential ethical risks or any issues, and I am not in any position of authority over any of the participants. Another important element is the creation of an informed consent document. An informed consent is an ethical and legal document in which the researchers describes the purpose of the research, information about the study, risks and benefits, confidentiality limits, voluntariness of participation, and participation extent (Hays & Singh, 2012). According to Hays and Singh (2012), there are two elements of an effective informed consent process. The first element refers to the acknowledgement of a participant and their cognitive ability to accept their rights and responsibilities as a participant. The second element refers to the ongoing process of informed consent and the negotiation of research relationship and process (Hays & Singh, 2012).

Summary

This chapter provides an in-depth description of the methods that will investigate the perception of faculty members and their unprecedented transition to online learning due to the COVID-19 global pandemic during spring 2020 and fall 2020 academic semesters. To understand the context of this study, a comprehensive description was presented with the primary objective of providing an interpretation of the method approach used for the study at hand. Thus, the research design for this study was introduced as a single case study. The study took place at Silver Owl University (SOU). SOU is a private major aeronautical higher education institution in the southeast region of the United States. A maximum variation sampling and purposeful sampling technique was used to recruit 12 faculty members from the Aviation Department at SOU. The researcher, acting as a human instrument, collected data by using three instruments. First, a virtual individual interview was conducted, followed by a virtual focus group. Reflections were used as the document analysis instrument. Incorporating all three instruments provided the researcher with a significant amount of information, enough to triangulate between the instruments for an accurate interpretation of the findings. For trustworthiness, the researcher complied all the ethical and systematic qualitative research protocols including by not limited to IRB review, research assessment by two qualitative experts, and by conducting strategies (triangulation, member reflections, and audit trails) to ensure the study's trustworthiness.

CHAPTER FOUR: FINDINGS

Overview

This case study aims to identify what emergency online transition elements are considered essential by an aviation higher education faculty, as a result of the emergency online transition during the COVID-19 pandemic. The emergency online transition occurred during the Spring and Fall of 2020, which forced faculty members to transition to online teaching following preventive measures such as social distancing. This chapter reveals the findings from the different data collection strategies used in this study, including participants' demographic, codes, and themes that emerged from the collected data, outlier data and findings, and research question responses.

Participants

The following section briefly describes the participants of this study, including their professional and academic backgrounds. Refer to *Table 1* for an overview of the participants.

Table 1

Faculty Participants

Faculty Participant	Years at Institution	Position	Age Range
Emily	4	Assistant Professor	30-40
Christopher	46	Tenure/Full Professor	60-70
Jacob	41	Tenure/Full Professor	60-70
Giovanni	5	Assistant Professor	50-60
Kevin	10	Assistant Professor	60-70
Amelia	2	Assistant Professor	40-50
Amanda	18	Tenure/Full Professor	50-60
Jack	5	Associate Professor	30-40

Felix	4	Assistant Professor	20-30
Luke	20	Assistant Professor	60-70
Jonathan	2	Assistant Professor	60-70
Charles	17	Tenure/Full Professor	60-70

Emily

Emily is an assistant professor with four years of experience at SOU. Her academic background is primarily in business administration. She possesses bachelor's and master's degrees in business administration. Emily's professional background includes being a flight instructor for over eight years and teaching high school-level students as part of an aerospace academy in conjunction with SOU.

Christopher

Christopher is a full professor with 46 years of experience at SOU. Professional experience includes 18 years in the flight training department and then transitioning to become a full-time professor at the academic department at SOU. During his journey at SOU, he has held multiple critical administrative roles in the department, including department chair. Christopher has taught undergraduate and graduate residential courses and several online courses.

Jacob

Jacob is a full professor with 41 years of experience at SOU. Jacob's professional experience includes being a flight instructor for over ten years. As a flight instructor, he had the opportunity to be an adjunct as well for the department at SOU, primarily teaching residential courses. After 13 years of service in the flight department, Jacob transitioned to become a full-time professor in academia. He has been teaching undergraduate and graduate studies, including

a Ph.D. course once a year. In addition, he has served as chair and committee member for numerous doctoral dissertations through the years.

Giovanni

Giovanni is an assistant professor with two years of experience at SOU. He is a retiree with 30 years of service in the armed forces. Academically, he possesses a master's degree in aviation safety and a doctoral degree. After finishing his doctoral studies, he was an assistant professor for two years at another institution before transitioning to SOU.

Kevin

Kevin is an assistant professor with 12 years of experience at SOU. He is a retired U.S. armed forces officer and pilot. After retiring, Kevin spent two years as an adjunct and ten years as a full-time faculty at SOU. Since then, he has been in multiple leadership roles within the department, including department chair.

Amelia

Amelia is an assistant professor with two years of experience at SOU. She teaches first-year student level aeronautical course and an introductory class to upcoming first-year students on how to adapt to being an aeronautical higher education student.

Amanda

Amanda is a full professor with 18 years of experience at SOU. Her educational background includes two master's degrees in business and aviation safety. From a professional standpoint, Amanda had experience in multiple aviation positions, including flight engineer, flight instructor, and corporate pilot, before joining academia. Since joining academia, she has been involved in multiple research projects with the FAA and has successfully led on-campus organizations.

Jack

Jack is a full professor with five years of experience at SOU. Before joining SOU, Jack worked in a different higher education institution. Overall, Jack has a total of nine years of higher education experience.

Felix

Felix is an assistant professor with five years' experience at SOU. He possesses a master's degree in aviation and a doctorate in education. Prior to joining SOU, Felix was an airline pilot.

Luke

Luke is a full professor with 20 years of experience at SOU. He retired from the U.S. armed forces as a senior staff officer and pilot. Luke holds a master's degree and a Ph.D. degree. After retiring from the armed forces, Luke joined SOU, and has held multiple leadership roles in the department. Additionally, he possesses a significant research portfolio and has authored several books.

Jonathan

Jonathan is an assistant professor with two years of experience at SOU. Academically, he possesses two master's degrees. Jonathan retired from the armed forces with over 20 years of experience. He has been a flight instructor and has served in several military assignments.

Charles

Charles is an assistant professor with 17 years of experience at SOU. Before joining SOU, he was an online faculty member at the SOU worldwide campus. During his experience at SOU, he has held administrative positions in the department.

Results

Table 2

Theme Development

Themes	Subthemes	Codes
Challenges	Faculty Challenges with Students	Engagement and motivation Accountability Communication Support
	Faculty Challenges Workload Rushed Transition Technology Problems Dealing with the unknown	High workload How to transition No time to prepare Difficult spot Technology challenges No having resources Lack of technology problems Unknown Institution and faculty
Recommendations	Contingency Plan-Development Be Prepared	Considerations Online alternative Ready to transition Communication No plan Crisis action team Adaptable and prepared Thinking on contingencies Material ready online
Essential Elements	Support Communication Workshops Mutual Support Flexibility	Institutional support Technology support Faculty communication Administration communication Communication recommendations Valuable workshops No values on workshops Sense of community Improving areas Academic flexibility FAA flexibility

Challenges

This study's findings revealed numerous challenges from experiencing an emergency online transition. Multiple participants' reports shared their challenges in holding students accountable for absences, course materials, academic integrity, etc. Participants also revealed an increase in the amount of workload experienced, how they felt after being told to transition in an expedited manner, the technology problems experienced, and how they were dealing with the unknown. The emergency online transition forced faculty members to modify their pedagogical approach to meet the course learning outcomes. Felix stated, "However, dealing with the student's concerns and managing… [pause] their change in the classroom dynamic, with [sic] probably the challenging aspect of things since they signed up for an in-person class."

Considering the support provided by SOU, faculty and students alike wanted to feel that steps taken to transition were the best solution at the time. There were many unknowns at the time. Thus, faculty members were navigating unknown territory for the first time in their careers. Amelia and all the participants expressed concern about how the university can better support the students. Amelia acknowledged, "…it was important that we do something to support the student." Consequently, amid possible future interruptions to F2F pedagogies, it is crucial to understand the different aspects and challenges experienced to develop a plan of action to support faculty and students at every level.

Faculty Challenges with Students

As previously discussed in the literature review, students were confronted with multiple challenges or setbacks, including access to technology, an increase in students' workload, motivation, etc. However, I emphasized data collection on faculty members and their challenges during the emergency online transition in this study. To my surprise, the most prominent theme

emerging from faculty members was their experience or challenges they faced with students. Participants revealed that they were also experiencing challenges with students, including trust issues (students taking advantage of the situation), engagement and motivation, connecting with students, creating a collaborative atmosphere among students, and lack of technology or internet connection. For example, Emily stated, "…trust issues from the students abusing, you know…[pause] what they felt was an appropriate amount of… [pause] you know leniency or online test taking skills and you know exams." Regarding how to connect with students, Christopher indicated:

> One (challenge) was trying to figure out how I was going to connect with all my students. As some of them had gone home to Korea, some of them had gone home to Europe, some of them had gone home. Sync to various states so I'm looking at multiple time zones around the world, so the idea of having something synchronous was going to be marginal at best.

On the other hand, student motivation seemed to emerge from the data.

Giovanni also suggested, "I think the most (inaudible)… [pause] the top challenge experience, I think, as I said, was to keep students engaged in an online environment…"

Faculty Challenges Workload

The second prominent sub-theme emerging from the data was the increase in the amount of workload. Faculty members were responsible for communicating with all the students, successfully transitioning to an online environment, creating online videos or tools to support student learning, holding the student accountable, etc. Almost all the participants (11 participants) agreed that the transition brought a substantial amount of added work, contributing to an increase in their daily workload. Emily stated:

> …and then trying to manage students' stress and manage to the location and manage students' ability to access Internet like I would say, the workload, especially in the spring of 2020, was astronomical [short laugh], you know, for me personally… [short pause] and that, speaking from somebody who, I felt like technology-wise. This was not a problem for me.

During the fall of 2020, SOU suggested that faculty members conduct classes using a hybrid pedagogy. According to Giovanni, hybrid pedagogy doubled his teaching compared to a regular semester under F2F pedagogy. Giovanni acknowledged, "In different [sic] was I had to teach like the same lesson six times, like every time, so it was painful for me as a faculty member, but you know things happen…"

Rushed Transition

The emergency online transition was characterized by an unexpected abrupt interruption to HEI academic programs. At SOU, participants stated that the transition happened over spring break. Communication came down from the president's office to transition in the middle of the academic break, and faculty members were forced to transition in less than five days. Some participants mentioned that they had only two days to transition. For example, Luke mentioned, "So, really the whole transition for me was less than two days."

Technology Problems

Students were not the only ones experiencing technological setbacks during the transition. Due to the circumstances of the transition, most participants were unprepared to deal with such a high demand for technological knowledge and requirements. Since faculty members were forced to leave campus and go home, they started experiencing numerous technological problems, including internet connection (bandwidth) and technology accessibility at home. For

example, Jonathan remembered, “So, the most frustrating thing for me was my computer capability at home and fixing the bandwidth issue.”

Christopher articulated:

> Well, it may have been because there's [sic] a lot of people that may have had some things they can do on our home computers, but some of the people at home may had [sic] MAC equipment and a lot of the stuff that we were doing at work was on the office Microsoft equipment or programs.

Dealing with the Unknown

The unexpected transition over spring break also generated a sense of not knowing how long the use of online learning was going to be necessary. Participants expressed their thinking process as not knowing if the transition would last a few months or years. Jonathan thought, “The reaction was [short pause] this (inaudible)was unknown for an unknown territory didn't know how long it was going to last, but, I think, like the students we just buckled down and did what we had to do.” Another concern among faculty members was the apprehension of the strategies used to minimize the impact of the F2F interruption. Jacob asserted:

> Probably the third one would just be apprehension. Apprehension about, you know, the unknown [sic]. We can deliver online I was I wasn't worried about delivering online, because I do teach the PhD class online. It was just, you know, worried about how the students would take to that delivery mode.

Recommendations

Future online transition recommendations were another considerable theme emerging from the data. The data suggested that participants were promoting two essential considerations for the future interruption of traditional F2F pedagogy. First, the participants recommended the

development of a contingency plan in place to react to the transition promptly. Second, participants suggested that other faculty members should always be prepared to transition at any time. Participants, especially during the focus group, collectively agreed that there was no plan of action in place by SOU to deal with the emergency transition. Luke was the first to state, "First of all, the university did not provide a plan. A plan gives guidance, steps, and specific resources that never happened." Christopher later agreed by stating, "Yeah, I agree. I don't think there was a plan."

Contingency Plan Development

Developing a contingency plan will prioritize implementing essential aspects and considerations during an unexpected future transition. Thus, administrators must carefully evaluate what the faculty considers essential in developing a plan of action. As Luke replied, "So just having, I guess, a contingency plan for what if, and realizing that, you know it could happen in a very short timeline." Focus group participants collectively stated that there was no plan at all to deal with necessary tasks at hand during the transition. As a result, it seems that even though the transition at SOU was perceived as successful, the development of a contingency plan plays a crucial role for the faculty. As Felix suggested:

> …what resources [the] faculty is going to have at their disposal in the near future and an internal plan of action for the Department, even if the college or the University doesn't have one, at least a short-term plan of action.

Be Prepared

Preparation was the second strongest sub-theme under the recommendation theme. Being prepared to transition was a prominent learning outcome of this transition back in 2020. Faculty were caught off guard and forced to transition with little preparation. Jack mentioned:

> It was a very hasty transition, and I would call it an ugly transition, just because I was so used to doing things in the classroom. It never occurred to me to prepare for a pandemic where we would have a mandatory swap online for such a lengthy period of time.

Jacob also stated:

> That my eagle scout motto, be prepared, and I'm I didn't make it up, but you know that's probably expect the unexpected as well was my biggest takeaway from how we can prepare for what might happen in the future, and that is expected anything could you know if murphy's law did the power of 10.

Essential Elements

Essential elements were another major theme identified during data analysis. This theme identifies what is considered the most critical element while implementing an imminent and emergency online transition. Mid-level and high-level administration must pay close attention to the elements identified because it can make future implementation a pleasurable experience. Christopher, who at the time was holding an essential administrative role during the transition, declared, "One of the basic management principles that I learned early on, is those closest to the problem generally have the best solutions to fix it." The statement emerged during Christopher's virtual individual interview after being asked about essential considerations for future disruptions. Christopher was referring to the lack of understanding by high administration on the department's need to satisfy FAA requirements. Christopher was committed to supporting the faculty by providing the resources needed at the time. Christopher mentioned, "Make sure they have the resources that they need to do the job."

Support

Participants were very pleased with the amount of support received by the institution. Participants praised the efforts made by the department chair at the time due to the crucial decisions that were made to support the faculty. One of those decisions was to instruct faculty members to take the necessary technical equipment they had at the office and take it home. At that time, Christopher recalls that the information technology department was not fully decided on the decision, but Christopher emphasized that it was necessary to make that decision to support the faculty. Emily recalls:

> …whatever piece of technology, you need from your office take it just let the admin know what you're taking. It's yours. Just make sure it comes back so, [short pause] um that was phenomenal I mean that was absolutely phenomenal. So, I would say technology in that regard.

Emily also added:

> Make sure that your faculty at least are equipped with the tools that they need. That was a phenomenal thing that they did for everybody, I think there was a lot of faculty (members) that probably wouldn't have been able to do that [online transition] if they wouldn't have allowed us to take our technology home.

Communication

Another essential element emerging from the data was the importance of communication. Participants felt disconnected when it came to high-level administration communicating their plans with the rest of the institution. Emily shared her experience:

> Absolutely number one is communication, even if you don't want 100% know [short pause] like… We are planning for this, we are planning for this, we have like tell us…tell

> the faculty where you stand right, I know that our senior leadership team met every single day, seven days a week for months on end. Right, nobody on campus had any idea what was going on [short pause] right where their thought process was until like [short pause] boom decision made.

On a departmental level, communications were conveyed among faculty members to the best of their abilities. Christopher stated that departmental communication with high-level administration was, on occasion, very challenging. Christopher said:

> As long as people understand it communication is a two-way street and it's not just all downhill… but if they're not included in the discussion a lot of their concerns are going to be ignored. Maybe because out of just you know pure innocent ignorance, they don't know that they're there or for some other reason. And when the obvious solutions are ignored, then that can set a disconnect up the people trying to execute it. May say hey I'm not getting the support I need so I'm just going to do what I have to get done and be done with it.

Workshops

Another essential element identified by the faculty was the development of a workshop called *Pivotal Pedagogy*. The course was delivered at the beginning of the summer of 2020 and was offered to every faculty member at SOU. All participants who attended the course, except for two, were appreciative and pleased with the information received. Felix asserted:

> The institution did put together a pivotal pedagogy training which I attended. They provide us with multiple resources as to how engaged students and self-directed learning so those resources for self-direct learning, were probably the most useful for the virtual environment that we were facing.

Mutual Support

In the aviation industry, pilots are trained to manage all available resources. Those resources include the person they are sharing the cockpit with. Pilots can collaborate in routine operations regardless of their position as captains or first officers, but they can also work together in an in-flight emergency. Luke proved this when he stated, “There’s this automatic response in an aviation community to mutual assistance and teamwork.”

Other faculty members, for example Christopher, admitted:

> I had to rely on some of the younger faculty to give me some clues as to how to better utilize technology so. I knew several other faculty Member in the department that were very good with various parts of the technology, so I went to them [to] suck [up] their advice.

Luke mentioned that:

> So, I did spend a fair amount of time talking to colleagues, particularly those, I believe, were more IT and online literate than I was. I also talked to a worldwide instructor to see if they were doing anything unique.

Flexibility

When participants were asked about what they considered essential elements during the transition, flexibility emerged from their recommendations. Faculty members were pleased with the flexibility or academic freedom when discovering a way to deliver their courses online. Emily pointed out:

> …and in general, I’ll be honest, our leadership gave us a lot of freedom and I think there were a lot of faculty that struggled with that but, for me, I love that freedom, I really appreciated in value that because… It meant that I could present the material using the

> skill set and the knowledge that I had in a way that I felt would meet the needs of my students.

Jonathan added, “That was maybe the ingenuity part. We could kind of operate with some freedom or autonomy.”

Outlier Data and Findings

Some participants expressed different perspectives and perceptions of different elements and themes discussed in our previous section. Consequently, this section provides a brief description of the individual experiences of those participants.

Outliers #1: Faculty Challenges with Students

One participant did state that her experience with students was phenomenal. Participants articulated their frustration and challenges with student motivation and engagement over online learning. However, Emily said her experience with students was the opposite. Emily clarified, “I felt that students did very good in engagement and motivation” and “my experience with my students was phenomenal.”

Outliers #2: Faculty Workload

While most participants were expressing their increase in day-to-day workload, for Luke and Jack, the transition was not as significant as the rest of the participants. For the most part, participants were describing the day-to-day workload as insane, ugly, astronomical, etc. However, Jake and Luke declared to have experienced a contradictory view on their day-to-day workloads. Jake declared:

> The least challenging factors, I would say the day-to-day workload. I mean it was very different, you know, instead of being at the office, you know you have a task come up. I

> mean those kinds of administrative tasks very rarely happened. So, you're able to be more efficient with your time.

On the other hand, Luke stated, “I think it was easier for me. I think the workload was about the same, and partly because, as I said, um, all of my course materials were already online and organized on Canvas.”

Outliers #3: Workshops

Participants who were part of the *Pivotal Pedagogy* workshop concluded that the workshop was valuable and informative. Two participants, however, stated there was no value in the seminar because it was tailored to professors with little to no experience incorporating technology into their pedagogy. Emily said:

> No value on CTLE workshops I'll be honest with you, I started that class, and I did not get a lot of value out of it, because they felt like it was very… It was very strict, it was very narrow, and it really was intended for somebody who was a traditional in the classroom type of teacher who didn't use a lot of online learning tools, who wasn't very flexible in their teaching strategies, at least from my perspective.

Research Questions Responses

Central Research Question

What emergency online transition elements are considered essential, by an aviation faculty, during an emergency transition from traditional face-to-face instruction to online learning due to the COVID-19 pandemic? After evaluating the data from all three instruments used in this study, the findings suggest that faculty members consider that the essential elements were identified as departmental and institutional support, communication, mutual support, and flexibility. Among all the recommendations the participants provided, a common factor that

emerged from the responses was that department leaders and faculty members want to contribute to such a transition's decision-making collectively. In other words, request high-level administration the opportunity to include all stakeholders and their challenges and suggestions before making a final decision. Former department administrator Christopher articulated:

> I mean there was no collaboration with any of the mainstream faculty that had to do this. Everything was eddicted [sic] from the top down, and that's I guess, when we got a phrase that was calling called Core Leadership Team. And basically, it was um, you know, wisdom coming down from on high as to how we're all going to be successful at this uh, and nobody bothered to ask the frontline people, what are your challenges and what do you need? And that that was not done, and the people that needed to be visible among the people trying to make this happen were invisible.

Sub-Question One

How do aviation faculty, at a major aeronautical university, perceive the challenges experienced during the transition from face-to-face to online learning due to the COVID-19 pandemic? The challenges experienced during the emergency online transition were significant. Most participants collectively recognized that one challenging aspect of the emergency online transition was the challenges faculty experienced with students. For example, holding students accountable for different aspects of the transition was challenging. Another challenging factor was the circumstances under which the transition took place. It was an expedited transition which created a sense of dealing with an unknown phenomenon since there was no clear direction for achieving a smooth transition. Amelia articulated:

> It was stressful, it was long hours, because I would leave class and [then] go online to support the students via Zoom, and then also sit in my office to create videos to help the students in separate groups. So, it was quite a stressful and challenging time.

Sub-Question Two

What practices do aviation faculty, at a major aeronautical university, recommend to aviation higher education institutions in implementing a pivotal pedagogy due to the COVID-19 pandemic? Participants collectively agreed on two main recommendations. First, a contingency plan must be in place to deal with a future disruption of traditional F2F pedagogy. Second, be prepared for the unknown. There were some participants that mentioned that they are always considering the possibility of another unexpected transition. Thus, they have contingencies in their academic syllabus with a detailed plan of action in case the transition is forthcoming. Giovanni expressed:

> This is something that I've been doing [plan for contingencies], you know the last couple of semesters… is when you're preparing to deliver a course, you have to consider… when you're preparing your syllabus your, you know, class schedule and things like that, [you have to consider the] what if.

Summary

The emergency online transition was a challenging period. Many industries worldwide suffered interruptions to their operations, forcing frontline workers and leaders to develop strategies to minimize the impact of the transition. The higher education sector was no exception. This study focuses on the experience of an aviation faculty at a higher education institution located in the southeast region of the United States. A total of 12 participants took part in this study. Six were full/tenured professors, and the other six were assistant professors. The study

used three instruments to collect data. Data analysis was accomplished by developing codes categorized into themes and sub-themes. Findings suggest that three main themes emerged from the analysis. Those are challenges, recommendations, and essential elements. Each was discussed in this chapter, along with an in vivo quotation from the participant. A brief discussion on some outliers was also depicted after the discussion of the findings. Lastly, research questions were answered in preparation for their analysis in chapter five. Chapter Five contains a detailed description of the findings and their respective interpretations.

CHAPTER FIVE: CONCLUSION

Overview

This case study aimed to identify what emergency online transition elements are considered essential by an aviation higher education faculty, as a result of the emergency online transition during the COVID-19 pandemic. Higher education institutions, including students and faculty members, experienced various unforeseen challenges during this transition. These challenges spurred interest in the effectiveness of the transition and what elements are considered essential in a future interruption to traditional F2F pedagogy. Chapter Five incorporates the interpretation of the findings based on the data collected, implications for practice, theoretical and methodological foundations, limitations and delimitations, and recommendations for future research.

Discussion

In this case research study, I had the opportunity to conduct one-on-one virtual interviews with 12 participants. After the virtual interviews, I met with six of those participants in a virtual focus group. Lastly, reflections were collected from the pivotal pedagogy course developed by SOU in response to the emergency online transition during spring 2020. The course was offered to every faculty member at the institution during the summer of 2020. Reflections used in this study are only for those faculty members from the department where the case study was taking place.

Interpretation of the Findings

The following discussion of the findings of this case study emerged from data collected during the individual virtual interviews, the virtual group, and the reflections. After a meticulous

data analysis process, the following themes emerged from the data: (a) challenges, (b) recommendations, and (c) essential elements.

Summary of the Thematic Findings

In this section, I discuss the relationship between the emerging themes from the data collected in this study and the literature review, the theories, the phenomena, the setting, and the participants. The thematical findings and relationships are presented in the following subsections.

Challenges. Undoubtedly, the COVID-19 global pandemic represented a challenging period in human history. In particular, higher education institutions were confronted with a series of unique and unprecedented challenges requiring stakeholders to develop strategies to minimize the impact on their institutions. Silver Owl University was no exception. Among extensive data collected at the aviation department at SOU, the theme of challenges was the strongest theme emerging from the data. Faculty members were open to expressing their perceptions on what they considered the most prominent and challenging factors of this emergency online transition. Faculty members expressed significant challenges concerning teaching students during the sudden transition, the increase in workload, and the timeframe of the emergency online transition.

The unexpected transition from traditional F2F to online pedagogy generated a series of challenges in teaching students. Keeping students engaged and motivated through the online sessions represented a challenge to faculty members. For example, Jacob mentioned in our virtual focus group:

> …no, I don't think, student motivation was really there in that format as well. It was kind of like a patch [online learning], you know, for a bad situation that nobody wanted, so I don't think the motivation was nearly as high as it usually is in participation.

The engagement and motivation concerns shared during data collection were consistent with the literature on the experiences related to student engagement and motivation at other HEIs. Studies have suggested that some students reported that staying engaged and learning the material was challenging (Humphrey & Wiles, 2021; Parker, 2021; Tüchler, 2021). Other empirical findings have indicated that students reported overwhelming feelings and a lack of focus and motivation (Hadjeris, 2021; Parker et al., 2021). During the pivotal pedagogy course offered at SOU, one participant stated that the course assisted in the awareness and the need to develop strategies to keep students engaged. The anonymous participant reflected, "Still another item in this course was the emphasis on 'engagement.' I have sought to be engaging with my lectures, assignments, and material (as well as exams), but this course has renewed my quest for more effective engagement." Holding students accountable seems to be another challenge that faculty members experience. Studies conducted by Parker et al. (2021) and Hadjeris (2021) concluded that students were cheating during exams and assignments to make up for their lack of focus and motivation. Thus, the combination of overwhelming feelings, technology challenges, and a complete change in their course delivery generated a lack of student motivation and engagement during online pedagogy.

In addition to student engagement and motivation challenges, participants also reported an increase in their workload. All participants, except for one, reported having felt that their workload increased significantly. Emily, for example, defined the workload as "astronomical" in reference to the amount of workload required to keep up with the transition. The findings of this

study also relate to the empirical findings discussed in Chapter Two. Empirical findings suggested that faculty members could have even experienced a 300% increase in workload when preparing for the transition (Cuschieri & Calleja Agius, 2020). Jacob remembered:

> The main thing really was that of workload, because we were… you know, basically given I think it's [sic] right about at the start of spring break was when we were told the students were told to take your belongings. So that was when it was kind of a mad rush to get course content to record the videos to have them to stay ahead of the classes, because I, of course, did not want to just be doing that a day or two before delivery.

The increase in workload also has empirical findings based on a study by Ramlo (2021). According to Ramlo (2021), online teaching is more demanding than teaching in a F2F environment. Thus, the preparation of an online pedagogy is more significant than traditional F2F. One participant, Emily, shared her experience of how the increase in workload also negatively affected her life-work balance. She stated that many people were at home, including children, which made it challenging to balance work and household responsibilities. These findings are in accordance with the empirical findings of numerous studies conducted by Cuschieri and Calleja Agius (2020), Boyer-Davis (2020), and Aubry et al. (2021). The studies referred to the negative impact on the faculty member's work-life balance, particularly female faculty members who are the caregiver of children.

Lastly, the timeframe granted to faculty members during the online transition was sudden and unexpected. During the interviews, focus groups, and reflections from the pivotal course, most participants indicated that the SOU administration instructed them to transition two to three days after the spring academic break. Christopher’s statement during our focus group replicated the instructions received by high-level administration as “Everybody's gonna go to online when

they come back, they'll take Monday and Tuesday off, and we'll be online by Wednesday. Have fun!”

Recommendations. Based on the participants’ responses and recommendations at SOU, the impression was that the emergency transition to online learning was successful. However, every participant agreed to provide recommendations to improve the effectiveness and efficiency of future transitions. Christopher, who was serving in a leadership position at the time, stated that the aviation department required different approaches to ensure that learning outcomes and Federal Aviation Regulations were adequately met. For example. Christopher mentioned that since orders came from high-level administrators in the office of registrar and registration, several requests and actions compromised the policies in place to comply with the FAA regulations. One issue the department experienced was that classes were scheduled in a classroom without the appropriate technological resources approved by the FAA. Thus, such action violates the policies in place with the FAA. For that reason, Christopher stated, “…those closest to the problem generally have the best solutions to fix it.” Christopher's suggestion seems to be following empirical findings by Aguilera-Hermida et al. (2021), which stated that regardless of the suggested approaches to different online learning strategies, there is no fit for all strategies that will solve all online transition problems. The experience of this and other setbacks provides an opportunity to effectively evaluate practices to transition in a future emergency transition. The analysis and development of such a transition must be meticulously and thoroughly evaluated. The findings suggest that participants recommend administrators develop a contingency plan, and faculty members are prepared.

The development of a contingency plan at SOU emerged from active faculty members (participants) who directly experienced the challenges of an emergency transition. Similar to a

study by Ulla and Perales (2021), the overall participants' reaction to the transition at SOU was positive and welcoming. However, all the participants felt that the transition was rushed, and that there was no plan to act on the circumstances effectively. Indeed, the findings of this study have similar empirical findings to recent research studies. According to Falk & Lemanski (2020), administrators must collaborate with faculty to develop a strategic plan to effectively respond to a disruption to traditional F2F pedagogy. Most of the participants recommended the creation of a strategic plan that includes strategies such as checklists, suggesting more technology integration in the traditional F2F courses (Aguilera-Hermida et al., 2021; Karakose, 2021; Looi et al., 2022; Muller et al., 2021), having the exams and quizzes available online, automate the course as much as possible, developing ways to enhance student engagement, creating a flowchart describing the different outcomes, pre-record lessons, having a communication page in CANVAS with contingencies in place, complete the pivotal pedagogy training every three years, and create a small crisis team consisting of different resources in the department who can divide the workload and contribute to the success of the transition. The adoption of these different strategies seems to be consistent with research findings suggesting that developing an institutional crisis pedagogical response is key to developing resilient faculty and digital strategies capable of enhancing learning outcomes and experiences (Looi et al., 2022). Moreover, the findings of Hartmann et al. (2020) stipulated that the collective efforts of individuals in the workplace could have a direct effect on performance, resilience, and quality. In addition, integrating technology used in traditional F2F courses can positively affect the development of a strong foundation in technologically based resources that will assist faculty members in the likelihood of a future academic disruption (Karakose, 2021).

The 2020 emergency transition encouraged faculty members and leaders to reconsider the possibilities of a future interruption and implement strategies to minimize the adverse effects of such a transition. The findings of this study suggest that faculty members must be prepared to react, adapt, and execute the developed strategies within a reasonable period. According to recent studies, findings propose that even with the absence of a plan of action and the setbacks experienced by faculty members, a significant contribution to a successful online transition was attributed to the ability of the faculty to adapt their pedagogical approach in accordance with the challenges and limitations (Naidu, 2020; Weidlich & Kalz, 2021; Zawacki-Richter, 2020). In this study, findings suggest that every participant demonstrated the ability to adapt to the transition and to react under the circumstances. Participants, on many occasions, have stated that one of the things they learned during the transition was to be adaptable and prepared for any possible interruption to traditional F2F courses. Most participants, 11 faculty members, stated that they are constantly thinking about the possibility of a possible interruption. Consequently, they are constantly modifying their courses and syllabus to make them more adaptable when pivoting online.

Essential Elements. The main objective of this case study was the pursuit and understanding of what is considered essential by an aviation faculty during an emergency online transition. According to the findings of this study, those essential elements include support, communications, and the development of workshops.

Multiple research studies have concluded that faculty support is an essential aspect of a successful transition and an essential element of the development of institutional crisis response (Boyer-Davis, 2020; Svrcek et al., 2021; Ulla & Perales, 2021; Zilal et al., 2021). Consequently, faculty members need to be supported in many ways, including access to technological

resources, institutional support, and mutual support from fellow faculty members. Participants described that one factor that influenced them the most in confronting this transition was to have access to technological resources. The aviation department administrators supported faculty members by allowing them to take home their work computers, monitors, and any technological resource they needed at the time. Participants said they felt supported by department leaders since it would facilitate their online transition. Faculty members might have two monitors at work and just one at home. So, taking their computer allowed them to work with more than one screen and operate on the same operating system since some professors have an IOS operating system at home. Another essential element identified in this study was the mutual support emerging within the department. Participants described that other faculty members volunteered their time and expertise to assist other faculty members in creating a stronger relationship with one another. There was constant communication on strategies and techniques to transition effectively. At least two participants recalled that Emily developed a series of short informational videos on using specific resources such as Zoom. Luke and Christopher remembered that it helped them significantly during the transition. Other participants mentioned a few other faculty members who assisted them, and others said they were regularly assisting. The findings also have foundations in the literature since recent studies conducted by Ulla & Perales (2021) and Svrcek et al. (2021) concluded that the creation of faculty support groups was a common strategy in different organizations in dealing with unexpected circumstances. A supportive department allows faculty members to share experiences, receive support from colleagues, and collaborate on strategies to teach efficiently in an online environment.

Communication was another essential element emerging from the data. Even though findings suggest that participants were divided on how effectively the institution and high-level

administration communicated their strategies, they all agreed on the importance of communicating with faculty members and departmental leaders as soon as practicable. At one point during the individual interview, Jack suggested, "… it is perhaps more important to over-communicate rather than under-communicate…" During the focus group, the communication aspect of the transition was discussed, and most participants agreed that the communicative institution orders felt that they were ordered by high-level administration without any consideration from department leaders. Christopher, who was in a leadership position at the time, mentioned, "When this happens, really needs to include the unit leader such as department chairs and things like this end of the process, about how to make things work rather than… edicting [sic] from the top." Also, Christopher stated, "But there needs to be better coordination between the senior leadership and that [sic]and those that are in charge of delivering the classes, to make sure that all points are considered are not just looking at certain ones." During Emily's interview, she stated:

> Absolutely number one is communication, even if you don't want 100% know [short pause] like… We are planning for this, we are planning for this, we have like tell us…tell the faculty where you stand right, I know that our senior leadership team met every single day, seven days a week for months on end. Right, nobody on campus had any idea what was going on [short pause] right where their thought process was until like [short pause] boom decision made.

Lastly, the development of workshops was another essential element that assisted most participants during the online transition. More than half of the participants agreed on receiving valuable information and strategies from the pivotal pedagogy workshop provided to all faculty members. The course offered is mainly aimed at developing strategies for traditional lecture-type

courses. According to the deidentified reflections, participants reported having learned helpful information on how to redesign a course to organize content better, make the content available to students, engage students with the course content, maximize the effectiveness of in-person class meetings, and provide examples and recommendations on how faculty could modify their courses to meet these best practices. These findings also have foundations in recent empirical studies such as the ones conducted by Boyer-Davis (2020) and Ramlo (2021). Studies suggested that for an institution to reach a good level of trust and resilience among faculty members, higher education administrators must consider expanding programs that support instructional design, counseling services, and professional development opportunities. According to Ramlo (2021), this transition served as an opportunity for HEI administrators to evaluate the level of support provided and the understanding of the needs of the faculty.

Implications for Policy or Practice

The opportunity of developing strategies to minimize the impact of the global pandemic exposed the need for the development of contingencies in response to a future pedagogical transition. Therefore, in this section, the implications for practice are discussed.

Implications for Practice

Higher education institutions must carefully analyze their response to the 2020 pedagogical transition to online learning. The analysis must include all levels of leadership, faculty members of every department, and students' experiences. Among the findings discussed in this study, an essential consideration for a future disruption is developing a plan to address or respond to a sudden pedagogical transition. Based on the findings of this study, the emergency online transition led to numerous challenges. However, participants identified multiple essential elements necessary to develop a suitable response. One theme emerging from the data, which can

address the other challenges and recommendations, was developing a contingency plan. There was no contingency plan for responding to an interruption to F2F pedagogy. Therefore, the institution must prepare a contingency plan to ensure the faculty has the necessary resources to develop and deliver an online course effectively. According to a recent study by Bojovic et al. (2020), it is recommended that an emergency online transition process should consist of five main phases. Those phases include preparation, planning, implementation, operation, and evaluation.

Alternatively, *Learning Online: What Research Tells Us About Whether, When, and How* (Means et al. 2014) recommends considering nine different aspects in developing a course design. Means et al. (2014) suggest evaluating the instruction modality (entirely online, hybrid, blended, web-enable F2F, etc.). The second suggestion is the course pace (self-paced, class-paced, or a combination of both). The third aspect refers to the student-to-instructor ratio. The fourth aspect is the selection of the pedagogy that will be used. Those include but are not limited to expository, practice, exploratory, or collaborative. The fifth aspect relates to the role of online assessments. The use of learning blocks should be used to guide the student along the course. The role of the instructor in online teaching is considered the sixth aspect. The course designer must evaluate the amount of interaction the instructor will have in the course. The instructor could be active, partially active, or inactive during the course delivery. Then the seventh aspect refers to the student's role in the course. In other words, how active would the student be by reading, collaborating in activities, exploring resources, listening, reading, problem-solving, or even asking questions. The eighth aspect refers to how online communication should occur by being asynchronous, synchronous, or a combination of both. Lastly, the ninth aspect relates to the source of feedback. This refers to the considerations of the automated feedback provided by

the professor or their peer. Institutions considering implementing a plan of action to respond to a sudden pedagogical transition could evaluate the strategies discussed in this section to support faculty members and minimize the challenges experienced during the 2020 global pandemic.

Theoretical and Empirical Implications

The 2020 emergency online transition helped institutions to understand the importance of what essential elements are considered essential during a pedagogical transition. This section identifies and discusses the theoretical and empirical implications of the data.

Theoretical

The theoretical framework used in this study was based on two theories. The first theory was the theory of planned behavior by Icek Ajzen (Ajzen, 1991). The second theory used was the theory of equivalency (Simonson, 1999). The theoretical findings of this study are discussed in the following section.

The theory of planned behavior's principal objective was to explain a reasoned approach to predicting and understanding intentional behavior. There were three main principles influencing intention. Those principles are attitude toward the behavior, subjective norms, and perceived behavioral control. For a detailed explanation of these principles, refer to Chapter Two. All faculty members complied with the requirement of conducting an emergency online transition during the 2020 transition. The intention of proceeding with the emergency online transition has theoretical foundations in the theory of planned behavior. At first, most participants' attitudes toward the behavior was reported as being positive. Two participants reported not wanting or not looking forward to the transition. However, for the most part, participants were somewhat motivated to proceed with the necessary steps to continue the spring and fall semester. The second principle, called subjective norms, refers to the level of influence

from co-workers to impact the decision to continue with the behavior or to disregard it. Based on the findings of this study, there was little information concerning the impact of the participants' influence on their decision. However, the intention to follow the plan could have been influenced by the mutual support and the sense of community experienced by their colleagues. Lastly, the perceived behavioral control in this scenario refers to the policies or mandates from low-level and high-level administration to respond to the interruption by using the emergency online transition. There was no alternative other than complying with the guidelines at the time. Thus, the transition rules could have impacted the participant's intention to continue with their responsibilities. Most participants agreed that they could not think of a pedagogical alternative other than online learning.

Empirical. The findings of this study provide multiple empirical contributions to existing literature. In Chapter Two, an exhaustive review of the literature was completed. Following multiple attempts and searches from different sources, I found no existing literature on the effects of an aviation higher education institution nor the impact on an aviation faculty. Furthermore, there were no strategic recommendations nor empirical findings on how to conduct a sudden transition from traditional F2F to online learning. As a result, this study provides empirical findings on the effects and the impact of the COVID-19 global pandemic emergency response. Remarkably, the findings of those elements are associated with an emergency online transition in higher education institutions.

Among the empirical findings listed in this study, some significant contributions to the existing literature include the validation of existing literature concerning the challenges experienced by aviation faculty members, the increase in day-to-day workload, the similarities with other HEIs around the world, and the importance of supporting the faculty in different

aspects (technology, institutional, and mutual support). However, a significant empirical contribution to the existing literature is the discovery of what elements are considered essential by an aviation higher education faculty, during an emergency online transition. At first, significant faculty challenges emerged from the data identifying those vulnerable aspects of the transition followed by faculty recommendations of creating a contingency plan and advising the faculty to be prepared for a future emergency online transition. Lastly, essential elements were identified as institutional support, communication, and the development of valuable resources to facilitate the transition. Overall, the essential elements were identified to incorporate the improvement of vulnerable aspects, such as the challenges, and consider the different recommendations reported by the participants.

Limitations and Delimitations

In this section, I will be disclosing factors outside of my control that generated limitations in this study. First, my initial objective was to recruit a minimum of 15 participants. However, after more than 11 weeks of data collection, I could only recruit 12 participants. Those 12 participants represent about a third of the faculty at the aviation department at SOU. Considering I was using a maximum variation sampling technique, I aimed to collect data from participants at all positions (assistant, associate, and full/tenured professors). Nevertheless, I could only compile data on six assistant professors and six full/tenured professors.

Considering the study was trying to assess the impact of the pandemic on aviation faculty during the spring and fall of 2020, the focus on a single department at a single location represents a delimitation. Since the phenomena is a complex subject, understanding and executing a plan of action could be considered an individual response instead of a general one-size-fits-all approach. Therefore, the study focused on a single HEI at a single location and in a single department.

Additionally, my main goal was to understand what elements are considered essential by an aviation faculty during an emergency online transition. Consequently, a delimitation to this study was not including or considering all stakeholders, such as students, mid-level administrators, high-level administrators, and the president of the institution.

Recommendations for Future Research

The findings of this case study represent the considerations of faculty members from the aviation department at SOU. Therefore, it represents the findings of this phenomenon at one single location and in a single department. Thus, more research is needed to assess the effects of the emergency online transition at different departments at this aviation-specialized higher education institution. In addition, more research is needed to consider what essential elements are considered essential by an aviation student at the time of the emergency online transition. In this study, only faculty members were considered to make the study feasible and profound. However, students were also a significant element in this transition. Lastly, I recommend researching how an emergency online transition impacted new faculty members joining the institution for the first time. Senior faculty members might know how to respond to such a transition due to their experiences. However, junior faculty members might need more assistance, or their needs might differ during a future emergency transition.

Conclusion

This case study aimed to identify what emergency online transition elements are considered essential elements as a result of an emergency online transition during the COVID-19 pandemic. The study, conducted at a major aeronautical higher education institution in the southeast region of the United States, focused on the transition in response to a global pandemic during the spring and fall 2020 academic semesters in which institutions were forced to pivot to

online learning. The problem statement guiding this study was that there are no strategical procedures on how SOU, an aviation higher education institution, should have responded to the imminent interruptions of traditional F2F. After the data analysis, major findings of this study were identified and discussed in this chapter exposing three main themes that emerged from the data collection. The three main themes identify the challenges experienced by an aviation higher education faculty, the recommendations of the participants, and the incorporation of all the aspects of the findings into essential elements. The most critical elements emerging from the data included support, communication, and the development of resources such as workshops and contingency plans. As a result, the chapter analyzes the participants' contributions and presents the implication of practice and the theoretical and empirical findings. A significant empirical finding of this study was the description of the different elements associated with an emergency transition at an aviation higher education institution. It serves as a reference for administrators to reference the study findings to benefit if a future emergency online transition arises in the near future.

References

Abu Talib, Bettayeb, A. M., & Omer, R. I. (2021). Analytical study on the impact of technology in higher education during the age of COVID-19: Systematic literature review. *Education and Information Technologies. 26*(6), 6719–6746. https://doi.org/10.1007/s10639-021-10507-1

Aguilera-Hermida, A. P., Quiroga-Garza, A., Gómez-Mendoza, S., Del Río Villanueva, C. A., Avolio Alecchi, B., & Avci, D. (2021). Comparison of students' use and acceptance of emergency online learning due to COVID-19 in the USA, Mexico, Peru, and Turkey. *Education and Information Technologies, 26*(6), 6823-6845. https://doi.org/10.1007/s10639-021-10473-8

Ahmed, V. & Opoku, A. (2021). Technology supported learning and pedagogy in times of crisis: The case of COVID-19 pandemic. *Education and Information Technologies, 27*(1), 365–405. https://doi.org/10.1007/s10639-021-10706-w

Amponsah, S. (2021). Echoing the voices of SWVIs under Covid-19 inspired online learning. *Education and Information Technologies, 26*(6), 6607-6627. https://doi.org/10.1007/s10639-021-10479-2

Asma Ali Mosa Al-araibi, Mohd Naz'ri, b. M., & Rasimah Che, M. Y. (2019). Technological aspect factors of E-learning readiness in higher education institutions: Delphi technique. *Education and Information Technologies, 24*(1), 567. http://dx.doi.org/10.1007/s10639-018-9780-9

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179. http://www.journals.elsevier.com/organizational-behavior-and-human-decision-processes/

American Psychological Association. (2020). *Publication manual of the American Psychological Association: The official guide to APA style* (Seventh edition.). American Psychological Association.

Armoed, Z. (2021). The covid-19 pandemic: Online teaching and learning at higher education institutes. IOP Conference Series. *Earth and Environmental Science, 654*(1), 12026. https://doi.org/10.1088/1755-1315/654/1/012026

Armstrong, A., (2014, October 7). *1957 Epidemics at Princeton*. Mudd Manuscript Library Blog. https://blogs.princeton.edu/mudd/2014/10/1957-epidemics-at-princeton/

Armstrong-Mensah E, Ramsey-White K, Yankey B and Self-Brown S (2020) COVID-19 and distance learning: Effects on Georgia State University School of Public Health students. *Frontiers in Public Health, 8,* 576227. Doi: 10.3389/fpubh.2020.576227

Asgari, S., Trajkovic, J., Rahmani, M., Zhang, W., Lo, R. C., & Sciortino, A. (2021). An observational study of engineering online education during the COVID-19 pandemic. *PloS One, 16*(4), e0250041-e0250041. https://doi.org/10.1371/journal.pone.02500410

Aubry, L. M., Laverty, T. M., & Ma, Z. (2021). Impacts of COVID-19 on ecology and evolutionary biology faculty in the United States. *Ecological Applications, 31*(2), e2265-n/a. https://doi.org/10.1002/eap.2265

Barton, D. C. (2020). Impacts of the COVID-19 pandemic on field instruction and remote teaching alternatives: Results from a survey of instructors. *Ecology and Evolution, 10*(22), 12499-12507. https://doi.org/10.1002/ece3.6628

Bojovic, Z., Bojovic, P. D., Vujoevic, D., & uh, J. (2020). Education in times of crisis: Rapid transition to distance learning. *Computer Applications in Engineering Education, 28*(6), 1467-1489. https://doi.org/10.1002/cae.22318

Bolumole, M. (2020). Student life in the age of COVID-19. *Higher Education Research and Development, 39*(7), 1357-1361. https://doi.org/10.1080/07294360.2020.1825345

Bonk, C. J. (2020). Pandemic ponderings, 30 years to today: Synchronous signals, saviors, or survivors? *Distance Education, 41*(4), 589-599. https://doi.org/10.1080/01587919.2020.1821610

Boyer-Davis, S. (2020). Technostress in higher education: An examination of faculty perceptions before and during the Covid-19 pandemic. *Journal of Business and Accounting, 13*(1), 42-58.

Carter, C. S., Solberg, L. B., & Solberg, L. M. (2017). Applying theories of adult learning in developing online programs in gerontology. *Journal of Adult and Continuing Education, 23*(2), 197-205. https://doi.org/10.1177/1477971417721718

Cauchemez, S., Van Kerkhove, M. D., Archer, B. N. et al. School closures during the 2009 influenza pandemic: National and local experiences. *BMC Infect Dis 14*, 207 (2014). https://doi.org/10.1186/1471-2334-14-207

Center for Disease Control and Prevention. (2021). *Guidance for institutions of higher education (IHEs).* Retrieved from https://www.cdc.gov/coronavirus/2019-ncov/community/colleges-universities/considerations.html

Center for Disease Control and Prevention. (2012). *Principles of epidemiology in public health practice.* Retrieved from https://www.cdc.gov/csels/dsepd/ss1978/lesson1/section11.html

Center for Disease Control and Prevention. (2019). *1918 pandemic (H1N1 virus)*. Retrieved from https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html

Creswell, J. & Poth, C. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). Sage Publications.

Cuschieri, S., & Calleja Agius, J. (2020). Spotlight on the shift to remote anatomical teaching during Covid-19 pandemic: Perspectives and experiences from the University of Malta. *Anatomical Sciences Education, 13*(6), 671-679. https://doi.org/10.1002/ase.2020

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

Dintoe, S. S. (2018). Information and communication technology use in higher education: Perspectives from faculty. *International Journal of Education and Development using Information and Communication Technology, 14*(2), 121-166.

Denton, M. (2019). *Pandemics: Deadly disease outbreaks*. ProQuest Ebook Central https://ebookcentral-proquest-com.ezproxy.liberty.edu

Dimock, M., (2019). Defining generations: Where millennials end and generation z begins. *States News Service*. https://link.gale.com/apps/doc/A570323505/BIC?u=vic_liberty&sid=summon&xid=02a029bc

Eghigian, G. (2020). *The Spanish flu pandemic and mental health: A historical perspective.* Retrieved from https://www.psychiatrictimes.com/view/spanish-flu-pandemic-and-mental-health-historical-perspective

Falk, L. K., & Lemanski, J. (2020). Covid-19 pandemic - catalyst for a new class of faculty. *Competition Forum, 18*(1/2), 192-197.

Given, L. M. (2008). *The SAGE encyclopedia of qualitative research methods* (Vols. 1-0). SAGE Publications.

Gomes, J. O., Borges, M. R., Huber, G. J., & Carvalho, P. V. R. (2014). Analysis of the resilience of team performance during a nuclear emergency response exercise. *Applied Ergonomics, 45*(3), 780–788.

Gressman, P. T., & Peck, J. R. (2020). Simulating COVID-19 in a university environment. *Mathematical Biosciences,* 328, 108436-108436. https://doi.org/10.1016/j.mbs.2020.108436

Hadjeris, F. (2021). Revisiting sustainable development goal 4 in the context of COVID-19 pandemic: A case study of online teaching in Algerian higher education institutions. *Human Behavior and Emerging Technologies, 3*(1), 160-168. https://doi.org/10.1002/hbe2.245

Hamad, M. M., Dafaallah, A. S., & Alhaj, A. A. (2021). The challenges of online English language teaching from EFL instructors' point of view in KKU Tehama campus during COVID 19 period. *Journal of Language Teaching and Research, 12*(4), 543-556. https://doi.org/10.17507/jltr.1204.04

Harmon, D. J., Attardi, S. M., Barremkala, M., Bentley, D. C., Brown, K. M., Dennis, J. F., Goldman, H. M., Harrell, K. M., Klein, B. A., Ramnanan, C. J., Richtsmeier, J. T., & Farkas, G. J. (2021). An analysis of anatomy education before and during Covid-19: May–August 2020. *Anatomical Sciences Education, 14*(2), 132-147. https://doi.org/10.1002/ase.2051

Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the workplace: A multilevel review and synthesis. *Applied Psychology, 69*(3), 913-959. https://doi.org/10.1111/apps.12191

Hays, D. G., & Singh, A. A. (2011). *Qualitative inquiry in clinical and educational settings.* Guilford Publications.

Hines, S. L., Vedral, A. J., Jefferson, A. E., Drymon, J. M., Woodrey, M. S., Mabey, S. E., & Sparks, E. L. (2020). Engaging online students by activating ecological knowledge. *Ecology and Evolution, 10*(22), 12472-12481. https://doi.org/10.1002/ece3.6739

Hagger, M. S. (2019). The reasoned action approach and the theories of reasoned action and planned behavior. In D. S. Dunn (Ed.), *Oxford Bibliographies in Psychology*. Oxford University Press. doi: 10.1093/OBO/9780199828340-0240

Henderson, D. A., Courtney, B., Inglesby, T. V., Toner, E., & Nuzzo, J. B. (2009). Public health and medical responses to the 1957-58 influenza pandemic. Biosecurity and Bioterrorism: *Biodefense Strategy, Practice, and Science, 7*(3), 265+. https://link.gale.com/apps/doc/A211431417/AONE?u=embry&sid=bookmark-AONE&xid=fe1419f4

Ho, I. M. K., Cheong, K. Y., & Weldon, A. (2021). Predicting student satisfaction of emergency remote learning in higher education during COVID-19 using machine learning techniques. *PloS One, 16*(4), e0249423-e0249423. https://doi.org/10.1371/journal.pone.0249423

Hodges, C., Moore, S., Lockee, B., Trust, T., Bond, A., (2020). The difference between emergency remote teaching and online learning. *Educase Review.* https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

Humphrey, E. A., & Wiles, J. R. (2021). Lessons learned through listening to biology students during a transition to online learning in the wake of the COVID-19 pandemic. *Ecology and Evolution, 11*(8), 3450-3458. https://doi.org/10.1002/ece3.7303

Hisel, J. D., & Pinion, C., Jr. (2020). Student recruitment and engagement in the COVID-19 era. *Journal of Environmental Health, 83*(2), 36-37.

Intharaksa, U. (2009). *Using diffusion of innovation theory to explain the degree of faculty adoption of web-based instruction in a Thai university.* (Publication No. 754060207) [Doctoral dissertation, Oklahoma State University]. ProQuest Dissertations and Theses Global.

Jester, B. J., Uyeki, T. M., & Jernigan, D. (2020). Fifty years of Influenza A(H3N2) following the pandemic of 1968. *American Journal of Public Health, 110*(5), 669-676. http://dx.doi.org.ezproxy .libproxy.db.erau.edu/10.2105/AJPH.2019.305557

Karakose, T. (2021). Emergency remote teaching due to COVID-19 pandemic and potential risks for socioeconomically disadvantaged students in higher education. *Education Process: International Journal, 10*(3), 53. https://doi.org/10.22521/edupij.2021.103.4

Krishnamoorthy, R., & Keating, K. (2021). Education crisis, workforce preparedness, and COVID-19: Reflections and recommendations. *The American Journal of Economics and Sociology, 80*(1), 253-274. https://doi.org/10.1111/ajes.12376

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry.* Sage Publications.

Looi, K. H., Chung-Khain Wye, & Elya Nabila, A. B. (2022). Achieving learning outcomes of emergency remote learning to sustain higher education during crises: An empirical study of Malaysian undergraduates. *Sustainability*, *14*(3), 1598. https://doi-org.ezproxy .liberty.edu/10.3390/su14031598

Lucas, C. J. (2016). *American higher education: A history*. https://doi.org/10.1007/978-1-137-10841-8

Luenendonk, M. (2019). *Theory of Planned Behavior: Definition, explained, examples.* Retrieved from https://www.cleverism.com/theory-of-planned-behavior/

Maier, V., Alexa, L., & Craciunescu, R. (2020). *Online education during the COVID19 pandemic: Perceptions and expectations of Romanian students.* Academic Conferences International Limited. https://doi.org/10.34190/EEL.20.147

Marković, M., & Vujović, M. (2021, April 22-23). *Online teaching as a response of a higher education institution to the crisis caused by Covid19* [Paper presentation]. The 17th International Scientific Conference eLearning and Software for Education, Bucharest. https://doi.org/10.12753/2066-026X-21-029

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

Metcalfe, A. S. (2021). Visualizing the COVID-19 pandemic response in Canadian higher education: An extended photo essay. *Studies in Higher Education (Dorchester-on-Thames), 46*(1), 5-18. https://doi.org/10.1080/03075079.2020.1843151

Merriam, S. & Tisdell, E.(2009). *Qualitative Research: A guide to design and implementation* (4th ed.). Jossey-Bass.

Merriam, S. & Grenier, R. (2019). *Qualitative research in practice: Examples for discussion and analysis* (Second ed.). Jossey-Bass.

Mills, A. J., Durepos, G., & Wiebe, E. (2010). *Encyclopedia of case study research*. SAGE.

Muller, A. M., Goh, C., Lim, L. Z., Gao, X., (2021). COVID-19 Emergency eLearning and beyond: Experiences and perspectives of university educators. *Education Sciences, 11*(1), 19. https://doi-org.ezproxy.liberty.edu/10.3390/educsci11010019

Nathaniel, T., Goodwin, R. L., Fowler, L., Mcphail, B., & Black, J., Asa C. (2021). An adaptive blended learning model for the implementation of an integrated medical neuroscience course during the covid-19 pandemic. *Anatomical Sciences Education, 14*(6):699-710. https://doi.org/10.1002/ase.2097

Parker, S. W., Hansen, M. A., & Bernadowski, C. (2021). COVID-19 campus closures in the United States: American student perceptions of forced transition to remote learning. *Social Sciences (Basel), 10*(2), 62. https://doi.org/10.3390/socsci10020062

Piotrowski, C., & King, C. (2020). Covid-19 pandemic: Challenges and implications for higher education. *Education, 141*(2), 61+. https://link.gale.com/apps/doc/a664798147 /bic?u=vic_liberty&sid=summon&xid=1c6c0bc5

Perry, E. H., & Pilati, M. L. (2011). Online learning. *New Directions for Teaching and Learning, 2011*(128), 95-104. https://doi.org/10.1002/tl.472

Rush, S. C., Wheeler, J., & Partridge, A. (2014). A proposed template for an emergency online school professional training curriculum. *Contemporary School Psychology, 18*(2), 143-156. https://doi.org/10.1007/s40688-014-0015-9

Ramlo, S. (2021). The Coronavirus and higher education: Faculty viewpoints about universities moving online during a worldwide pandemic. *Innovative Higher Education., 46*(3), 241–259. https://doi.org/10.1007/s10755-020-09532-8

Rizun, M., & Strzelecki, A. (2020). Students' acceptance of the COVID-19 impact on shifting higher education to distance learning in Poland. *International Journal of Environmental Research and Public Health, 17*(18), 6468. https://doi.org/10.3390/ijerph17186468

Sanandaji, A., & Ghanbartehrani, S. (2021). An evaluation of online flipped instruction methods during the COVID-19 pandemic. *Journal of Information Technology Cases and Applications, 23*(1), 46–67. https://doi.org/10.1080/15228053.2021.1901360

Scherer, R., Howard, S. K., Tondeur, J., & Siddiq, F. (2021). Profiling teachers' readiness for online teaching and learning in higher education: Who's ready? *Computers in Human Behavior, 118,* 106675.

Schwartzman, R. (2020). Performing pandemic pedagogy. *Communication Education, 69*(4), 502-517. https://doi.org/10.1080/03634523.2020.1804602

Shang, Y., Li, H., & Zhang, R. (2021). Effects of pandemic outbreak on economies: Evidence from business history context. *Frontiers in Public Health, 9,* 632043-632043. https://doi.org/10.3389/fpubh.2021.632043

Shelton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22,* 63-75.

Shisley, S. (2020). *Emergency remote learning compared to online learning*. Retrieved from https://learningsolutionsmag.com/articles/emergency-remote-learning-compared-to-online-learning

Simons, J., (2020, April 14). History Spotlight: The 1968 Flu Pandemic. *The King's College.* https://www.tkc.edu/stories/history-spotlight-1968-flu-pandemic/

Simonson, M. (1999). Equivalency theory and distance education. *Techtrends, 43*(5), 5-8. https://doi.org/10.1007/BF02818157

Simonson, M., Schlosser, C., & Hanson D., (1999). Theory and distance education: A new discussion. *American Journal of Distance Education, 13*(1), 60-75, DOI: 10.1080/08923649909527014

Smawfield, D. (Ed.). (2013). *Education and natural disasters: Education as a humanitarian response.* Bloomsbury Academic. Retrieved from http://dx.doi.org.ezproxy.liberty.edu/10.5040/9781472552921

Sprague, D. R., & Wilbern, M. K. (2022). Going online during a national emergency: What college students have to say. *Computers in the Schools, 38*(4), 256-280. https://doi.org/10.1080/07380569.2021.1988316

Stavredes, T., & Herder, T. (2014, 2013). *A guide to online course design: Strategies for student success* (1st ed.). Jossey-Bass.

Stern, A. M., Cetron, M. S., & Markel, H. (2010). *The 1918-1919 influenza pandemic in the United States: Lessons learned and challenges exposed. (The 1918-1919 influenza pandemic in the United States).* Public Health Reports (1974), 125(2), S6.

Stewart, B. L., Miertschin, S., & Goodson, C. (2020). COVID-19 transitions to online formats and pre-pandemic foundations for student success: Time management and lifestyle variables. *Journal of Higher Education Theory and Practice, 20*(10), 173-189.

Stewart, D. W., Shamdasani, P. N. & Rook, D. W. (2007). Introduction: Focus group history, theory, and practice. In *Focus groups* (pp. 1-17). SAGE Publications, Ltd., https://www-doi-org.ezproxy.libproxy.db.erau.edu/10.4135/9781412991841

Svrcek, Rath, L., Olmstead, K., & Colantonio-Yurko, K. (2021). “We are still putting out fires”: Considering educator intentionality in remote instruction during the COVID-19 pandemic. *Education and Information Technologies, 27*(1), 407–428. https://doi.org/10.1007/s10639-021-10679-w

Thieman Mankin, K. M., Cornell, K., Peycke, L., Dickerson, V., & Scallan, E. (2021). Adaptation of a hands-on veterinary surgical training course from a traditionally taught

laboratory to a remotely taught laboratory during a global pandemic. *Veterinary Surgery, 50*(3), 494-506. https://doi.org/10.1111/vsu.13584

Thomas, J. W., & Foster, H. A. (2020). Higher Education Institutions Respond to Epidemics. *History of Education Quarterly, 60*(2), 185–201. http://doi.org/10.1017/heq.2020.11 1957

Tracy, S. J. (2020). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact* (Second ed.). Wiley-Blackwell.

Tüchler, A. F. (2021). Learning during the COVID-19 pandemic: The use, features and acceptance of digital learning tools. *Baltic Journal of Modern Computing, 9*(3), 303-332. https://doi.org/10.22364/bjmc.2021.9.3.06

Tufford, L., & Newman, P. (2012). Bracketing in qualitative research. *Qualitative Social Work, 11*(1), 80–96. https://doi.org/10.1177/1473325010368316

Tulaskar, & Turunen, M. (2021). What students want? Experiences, challenges, and engagement during Emergency Remote Learning amidst COVID-19 crisis. *Education and Information Technologies, 27*(1), 551–587. https://doi.org/10.1007/s10639-021-10747-1

Tysinger, J., Tysinger, P. D., McBrayer, J. S., & Diamanduros, T. (2020). Perspectives, training, and preparedness of frequently and infrequently addressed crisis events in online learning environments. *Journal of Higher Education Theory and Practice, 20*(5), 61-69.

Ulla, M. B., & Perales, W. F. (2021). Emergency remote teaching during COVID19: The role of teachers' online community of practice (CoP) in times of crisis. *Journal of Interactive Media in Education: JiME, 2021(1*). https://doi.org/10.5334/jime.617

University of Brasilia reports findings in COVID-19 (the scope of dental education during COVID-19 pandemic: A systematic review). (2021). NewsRX LLC.

U.S. Department of Transportation, (2018). *Federal Aviation Administrator.* Retrieved from https://www.transportation.gov/briefing-room/safetyfirst/federal-aviation-administration

Vargo, D., Zhu, L., Benwell, B., & Yan, Z. (2021). Digital technology use during COVID-19 pandemic: A rapid review. *Human Behavior and Emerging Technologies, 3*(1), 13-24. https://doi.org/10.1002/hbe2.242

Weidlich, J., & Kalz, M. (2021). Exploring predictors of instructional resilience during emergency remote teaching in higher education. *International Journal of Educational Technology in Higher Education, 18*(1), 43-43. https://doi.org/10.1186/s41239-021-00278-7

World Health Organization. (2021). *Coronavirus disease (COVID-19) pandemic*. Retrieved from https://www.who.int/emergencies/diseases/novel-coronavirus-2019

World Health Organization. (2021). *Timeline: WHO's COVID-19 response.* Retrieved from https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline#event-0

Wu, D. T., Wu, K. Y., Nguyen, T. T., & Tran, S. D. (2020). The impact of COVID-19 on dental education in North America—Where do we go next? *European Journal of Dental Education, 24*(4), 825-827. https://doi.org/10.1111/eje.12561

Yin, R. (2018). *Case study research and applications: Design and methods*. Sage publications.

Zawacki-Richter, O. (2020). The current state and impact of Covid-19 on digital higher education in Germany. *Human Behavior and Emerging Technologies, 3*(1), 218–26.

Zilal, M., Maram, M., & Aisha, A. (2021). Assessment in 'survival mode': student and faculty perceptions of online assessment practices in HE during Covid-19 pandemic.

International Journal for Educational Integrity, *17*(1). https://doi-org.ezproxy.liberty.edu/10.1007/s40979-021-00083-9

Appendix A
Appendix A: IRB Approval

July 21, 2022

Victor Fraticelli Rivera
Justin Necessary

Re: IRB Exemption - IRB-FY21-22-1192 HOW A HIGHER EDUCATION AVIATION FACULTY PERCEIVED THE CHALLENGES OF AN ONLINE EMERGENCY TRANSITION DURING THE COVID-19 PANDEMIC AND IDENTIFIES RECOMMENDATIONS FOR FUTURE EMERGENCY ONLINE TRANSITIONS

Dear Victor Fraticelli Rivera, Justin Necessary,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:104(d):

Category 2.(iii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §46.111(a)(7).

Your stamped consent form(s) and final versions of your study documents can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office

Appendix B

Interview Questions (Data Collection #1)

1. Please describe your academic and professional experience.
2. Briefly describe your course and, if any, non-traditional aviation requirements (e.g. FAA mandated course requires 100% attendance). (SQ1)
3. Describe your reaction to the mandatory transition to a pivotal pedagogy. (SQ1)
4. Describe your experience during the 2020 emergency online transition. (SQ1)
5. Name and describe what you consider as the top three challenges experienced during this transition. (SQ1)
6. Name and describe what you consider as the top three least challenging factors of this online transition. (SQ1)
7. What programs or resources do you use to assist you during this transition? (CRQ)
8. Name a minimum of three recommendations you consider are essential if a future implementation is imminent. (SQ2)
9. What are the most important elements you consider are essential when supporting an aviation faculty facing an emergency online transition? (CRQ)
10. How would you describe the institution's response to assist the aviation faculty during this transition? (SQ2)
11. Describe how this transition influenced your approach to your future face-to-face courses. (CRQ)
12. What did you learn from this experience? (CRQ)

Appendix C

Focus Group Questions (Data Collection #2)

1. Describe your perception of the plan established during the mandatory emergency online transition. (SQ1)
2. Did you agree with the transition to online learning? Why? (SQ1)
3. Describe the difference between F2F teaching workload versus online learning. (SQ2)
4. Based on your experience, do you consider the pedagogical approach (online learning) used during the transition as effective and efficient? Why? (SQ2)
5. If you were given total pedagogical flexibility other than online, what approach would you use instead to meet the course's learning outcomes? (CRQ)
6. What learning activities did you consider essential to meet the course's learning outcomes during the emergency online transition? (SQ2)
7. Based on the challenges experienced during the emergency transition, what would you recommend the administration (Dean, president, etc.) consider in a future disruption of F2F pedagogy? (CRQ)
8. Scenario: Imagine you are the Dean of this department, and the president asked you to develop a contingency plan to address a future emergency online transition. Considering your colleagues' views, perceptions, and recommendations in this focus group, take 10 minutes to think about the steps you will take as the Dean to transition the department to online learning effectively. In your contingency plan, please consider how you will handle communications, the pedagogical approach used, and how you would support the aviation faculty. Share your ideas with the group. (CRQ)

Appendix D
Narratives (Data Collection #3)

Reflection is an important aspect of being a "critical practitioner" and can be a powerful tool to facilitate meaningful change in a teacher's practice. To facilitate this meaningful change, address each of the following prompts in a critical reflection response:

1. Report/respond - Report what stood out to you from the Pivotal Pedagogy Seminar. What aspects of the course had meaning for you? Which aspects will help you frame your work moving forward?

2. Relate - Make some connections between the content and strategies outlined in the Seminar and your own experiences as a remote teacher in Spring semester.

3. Reconstruct - Reframe what you have learned and apply it to future context. What Pivotal strategies can work and why? What are your next steps moving on after the Seminar? What new aspects do you have to consider when moving forward? What additional support do you need?

Task

1. Please post your approximately 500-word, detailed reflection as a .pdf, .doc, or .docx.

Appendix E
Recruitment Flyer

Research Participants Needed

HOW A HIGHER EDUCATION AVIATION FACULTYPERCEIVED THE CHALLENGES OF AN ONLINE EMERGENCY TRANSITION DURING THE COVID-19 PANDEMIC AND IDENTIFIES RECOMMENDATIONS FOR FUTURE EMERGENCY ONLINE TRANSITIONS

- **Are you an assistant, associate, full, or tenured professor?**
- **Did you experience the Spring and/or Fall 2020 Emergency Online Transition due to COVID19?**

If you answered **YES** to the questions listed above, you may be eligible to participate in a research study.

The purpose of this research study is to discover what emergency online transition elements are considered essential by an aviation faculty, what challenges you experienced during this transition, and what practices and recommendations are essential in an imminent interruption of traditional face-to-face pedagogy.

Participants will be asked to participate in a one-on-one virtual interview, one virtual focus group, write a 500-800 word personal narrative, and possibly asked to contribute through member checking analysis (not all participants will be required to take part in member checking analysis). Member checking analysis is a meeting with the researcher discussing the preliminary results and interpretation of the data. You might be asked to contribute on data analysis by providing your analysis on the information that will be given to you. Be advised, virtual interview and focus group will be video and audio recorded for data analysis purposes. It should take approximately 3 hours to complete the procedures listed.

If you would like to participate, please scan the QR code below and complete the demographic form. You can also contact the researcher directly at [redacted]

If you are eligible, the researcher will contact you. A consent document will be emailed to you at least 48 hours before the interview.

Victor Fraticelli Rivera, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Please contact Victor Fraticelli Rivera at [redacted] *for more information.*

Liberty University IRB – 1971 University Blvd., Green Hall 2845, Lynchburg, VA 24515

Appendix F
INFORMED CONSENT FORM

How a Higher Education Aviation Faculty Perceived the Challenges of an Online Emergency Transition During the Covid-19 Pandemic and Identifies Recommendations for Future Emergency Online Transitions.

Victor Fraticelli Rivera, Doctoral Candidate, Liberty University

Purpose of this Research: The purpose of this qualitative single-case study is to discover what emergency online transition elements are considered essential as a result of the emergency online transition during the COVID-19 pandemic at a major aeronautical higher education institution in the southeast region of the United States.

Procedures: You are being asked to partake in a semi-structured virtual interview (60 minutes), a virtual focus group (45 minutes), and complete a 500-800 word personal narrative discussing important elements of the emergency online transition during the Spring and Fall 2020 academic semesters (45 minutes). You might be also asked to participate in a member checking validation strategy (30 minutes). Member checking analysis is a meeting with the researcher discussing the preliminary results and interpretation of the data. You might be asked to contribute on data analysis by providing your analysis on the information that will be given to you. Be advised, virtual interview and focus group will be video and audio recorded for data analysis purposes. Eligibility: You must be either an assistant, associate, tenured or full professor at [redacted] You must also have experienced the Spring and/or Fall 2020 transition caused by the global COVID-19 pandemic

Risks or discomforts: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

Benefits: Participants should not expect to receive a direct benefit from taking part in this study. However, the findings will contribute to expanding the current literature on the challenges and recommendations of an emergency online transition during a global pandemic.

Confidentiality of records: Your individual information will be protected in all data resulting from this study. Only the researcher and faculty committee will have access to the data. Publication of the data will not include any identifying information. Participant responses will be kept confidential through the use of pseudonyms; the linking list will be stored separately from the data. The data collected from you may be used for future research studies. Data will be stored on a password-locked computer. After three years, all electronic records will be deleted. Interviews and focus groups will be recorded and transcribed. Recordings will be stored on a password locked computer for three years and then erased. Only the researcher will have access to these recordings. If data collected from you is shared, any information that could identify you, if applicable, will be removed before the data is shared. NOTE: We will ask everyone in the focus group not to talk about the discussions outside of the group. However, we cannot promise that everyone will keep what you say confidential.

Compensation: Participants will not be compensated for participating in this study.

Contact: If you have any questions or would like additional information about this study, you are encouraged to contact the principal investigator, Victor Fraticelli Rivera, [redacted]. You can also contact the researcher's faculty sponsor, Dr. Justin Necessary, at jnecessary3@liberty.edu.

Participant Rights: For any concerns or questions as a participant in this research, contact [redacted] Institutional Review Board (IRB) at [redacted] or via email [redacted] You are also encouraged to contact Liberty University's Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Voluntary Participation: Your participation in this study is completely voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University or [redacted]. You may discontinue your participation at any time without penalty or loss of benefits to which you are otherwise entitled. Should you wish to discontinue the research at any time, no information collected will be used.

CONSENT: By signing below, I certify that I understand the information on this form, that the researcher has answered any and all questions I have about this study, and I voluntarily agree to participate in the study. I also certify that I am an assistant, associate, tenured or full professor at the Aeronautical Science Department at [redacted], and experienced the emergency transition during the spring and/or fall 2020 academic semesters.

AUDIO/VIDEO:
☐ The researcher has my permission to audio-record and video-record me as part of my participation in this study for data analysis purposes only.

Signature of Participant: _____ Date:_____
Printed Name of Participant:_____

Appendix G
Copyright Figure 1

Thank you for your order!

Dear Victor Fraticelli,

Thank you for placing your order through Copyright Clearance Center's RightsLink® service.

Order Summary

Licensee:	Victor Fraticelli
Order Date:	Feb 7, 2023
Order Number:	5483981130951
Publication:	Organizational Behavior and Human Decision Processes
Title:	The theory of planned behavior
Type of Use:	reuse in a thesis/dissertation
Order Total:	0.00 USD

View or print complete details of your order and the publisher's terms and conditions.

Sincerely,

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https://myaccount.copyright.com

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