Faculty Attitudes, Preparedness, and Response to Adopting Technology-Enhanced Learning in Troubled Times:

A Case Study of Education City's Higher Education Institutions in Qatar

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Abstract

This study investigates faculty members' attitudes towards adopting technology-enhanced learning tools in their teaching practice as an emergency response to the latest pandemic. It concerns faculty preparedness and response to the imposed suspension of face-to-face classes and the integration of the emergency remote teaching that took place in early March 2020. Underpinned by transformative learning theory, the study collected data from a questionnaire and one-to-one interviews with 13 faculty members teaching at Qatar's Education City. The study provides insight into faculty's abilities to adapt their teaching approaches to ensure curriculum continuity in emergency situations. Faculty members were also able to revamp their curricula to provide a variety of learning materials that engage their students, rethink their assessment techniques and tools, and find time to connect with the students, check on their progress as well as their wellbeing. This study contributes to the transformative learning theory by proposing a reversed model that was experienced during the pandemic. Furthermore, although the study is situated in Qatar, it has resonances beyond the Qatari context as it emphasises the need for continuous professional development opportunities for faculty members to acquire, maintain, and improve their online teaching skills for a national online learning strategy. Finally, this study contributes to the field of technology-enhanced learning by rethinking its applicability in light of and beyond the pandemic.

Keywords: Technology-enhanced learning, transnational higher education, emergency remote teaching, online learning, Qatar

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Author's Declaration

This thesis results entirely from my own work and has not been submitted previously for any other degree or diploma.

I confirm that the word length of this thesis does not exceed the permitted maximum.

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Chapter 1: Introduction

Before the Covid-19 pandemic, the concept of online learning was still largely entertained by faculty members on an individual level (Graham et al., 2013; Wieland & Kollias, 2020). While some faculty perceived online learning to threaten their "autonomy and control of the curriculum" (Keengwe & Kidd, 2010; Esani, 2010), other faculty members' resistance to adopting online learning lied in the lack of time, labour, and training (Thormann & Zimmerman, 2012; Hüttel & Gnaur, 2020). In higher education (HE), online learning includes different approaches and involves many domains. For instance, online learning approaches can vary between the use of the flipped classroom, the adoption of a blended, hybrid, or hyflex course model, and the preference of synchronous or asynchronous delivery methods. Similarly, the use of social media, the integration of gaming, the proliferation of artificial intelligence, the use of learning analytics for assessment, and the development of open educational resources reflect the different possibilities that can facilitate online learning (Ajjan & Hartshorne, 2008; Bolliger & Wasilik, 2009; Ulrich & Karvonen, 2011; Baltaci Goktalay, 2013; Lewis et al., 2013; Gallagher & Palmer, 2020; Pelletier et al., 2021).

On December 21st, 2019, a new strain of Coronavirus, later named by the World Health Organisation, Covid-19, spread globally and within three months, on March 20th, 2020, reached 275,000 positive cases worldwide (European Centre for Disease Prevention and Control, 2020). This emergency alerted governments and authorities around the world to stop the spread of the virus among their population by closing down their borders, suspending flights, public transportation, social and religious events, as well as face-to-face teaching. Qatar experienced the same challenges. At the onset of the pandemic, approximately 400 cases were identified by mid-March 2020 (Ministry of Public Health,

n.d.), and with the ongoing spread of the virus, face-to-face classes were suspended. Following the directions of Qatar's Ministry of Interior, all institutions were required to implement online learning starting March 16th, 2020 (Qatar Foundation, 2020).

The debate around the different terminologies used to describe online learning started long before the pandemic. Distance learning, distributed learning, distance education, blended learning, mobile learning, computer-based learning, web-based learning, and e-learning, to name a few, are all terminologies that can be linked to the online learning movement (Singh & Thurman, 2019). In fact, Singh and Thurman (2019) traced down 46 definitions of online learning and found that "technology is the most abundant and clearly defined element of online learning" (p. 295). These terminologies evolved alongside the development in the online learning technology reaching the introduction of a new term – *the flipped classroom* - in 2015 (Singh & Thurman, 2019). This debate in terminology arose again with the advent of Covid-19 between what was referred to as *online learning* and what was identified and labelled under the pandemic as *emergency remote teaching* (ERT) (Hodges et al., 2020). While online learning requires time and careful planning - it usually takes between six to nine months to create an online course, - Hodges et al. (2020) defined ERT as a temporary shift from face-to-face to remote teaching as a result of the pandemic. It lacks planning, preparation, and support as it comes in times of uncertainties (Hodges et al., 2020). This study uses the terminology proposed by Hodges et al. (2020) in which they describe the sudden shift to online learning during the first phase of the pandemic as *emergency remote teaching* (ERT).

This shift left faculty members with a restricted margin of time and freedom to choose between synchronous and asynchronous delivery, communication methods, and assessment techniques (Iglesias-Pradas et al., 2021). Furthermore, this situation created a

myriad of feelings among faculty members and students who, although using technology to some different extent, were overwhelmed, unprepared, and undecided on how to move forward. In academe, business continuity plans are common in institutional contingency planning. In these plans, numerous processes are established to ensure business continues as usual, including facilities, technology, instruction, employee and student services, and other vital components. For instruction to continue with minimal impediments, several factors must be in place to support faculty preparedness in emergency situations, such as the deployment of instructional designers and technologists and the promotion of communities of practice.

1.1 Research Background

While most educational institutions still use traditional face-to-face teaching and learning approaches, some universities were established for distance education, such as the Open University in UK in 1969 (The Open University, n.d.), and consequently led the way in online learning (Lee, 2017). Other universities designed online degrees targeting specific populations, such as the working class. For example, Athabasca University, which launched the first online MBA programme in 1994, aimed to provide a service to adult learners who do not have to leave their jobs to pursue a degree, while generating revenue for the institution by targeting adult learners who can pay for their education (Athabasca University, n.d.). When reflecting on the services and the targeted population, and while the original purpose of distance education was to make education accessible to non-traditional learners, one cannot dismiss either the fact that online learning became influenced by economic driving forces and, in some instances, can be seen as a commodity designed to keep HE institutions' business model running.

For instance, Lee (2020) questioned the ‘openness’ and ‘innovation’ of online

learning as “two dominant discourses of online HE” (p. 113). When talking about ‘openness’ one should consider the nature of this openness: is it equal access to all students coming from different geographical areas and from diverse social classes? Does it refer to the fact that students can belong to different generations and possess a variety of experiences? Or does it include students with varying access to technology? Additionally, does the term ‘openness’ refer to free access to learning resources? The same issue arises with the term ‘innovation,’ which brings up some questions such as: is it innovation as in a student-oriented teaching approach? Is it about using state-of-the-art technology in teaching? Or is it about research-oriented innovation to increase research output and become more competitive? These notions of ‘openness’ and ‘innovation’ that some open universities have adopted and promoted as part of their online learning strategies can be contradictory (Lee, 2021). Furthermore, they may suggest that online learning is being utilised as an economical model “associated with an ever increasingly knowledge-based economy” (Chau, 2010, p. 177) and even as a tool that might discourage inclusion, equity, and ultimately social justice (Öztok, 2019).

Nevertheless, the availability of technology makes online learning more accessible and adaptable to the needs of learners of any age and any background as long as the technology infrastructure is available. Previous literature on pre-pandemic online learning has mainly considered the deployment of technology in the classroom (Sánchez-Elvira Paniagua & Simpson, 2017; Ajjan & Hartshorne, 2008); Baltaci Goktalay, 2013), the level of students’ engagement (Marr, 2018; Marr et al., 2013; Czerkawski & Lyman, 2016), institutional support (Orlikowski, 1996; Markus, 2004; Nadkarni & Prügl, 2020; Reid, 2014), and faculty acceptance and role in facilitating learning through technology (Ajjan & Hartshorne, 2008; Newland & Byles, 2013; Senik & Broad, 2011; Zarei et al., 2014;

Horvitz et al., 2015). Research found that for online learning to be successful, faculty need to be taught its principles, be prepared, and encouraged to use it through professional development activities (Ulrich & Karvonen, 2011). Moreover, faculty satisfaction with online learning is the main condition for its success.

The shift to online teaching following the pandemic put an unprecedented pressure on faculty members and increased their workload. Egan and Crotty (2020) described ERT as "an assessment of [faculty] adaptability, a reflection of their resilience" (p. 7). In the pre-Covid-19 era, face-to-face was the normal delivery method in HE although a few institutions had already established their online and distance learning courses. The generational divide between the teachers and the students also contributed to the teachers feeling a lack of support when it comes to using technology to deliver their classes. Doube (2000) found that when teaching off-campus, and in order to support student-centred learning, teachers spend more time on putting together lectures than they would usually do for a face-to-face class, besides building their confidence in using technology (Kilgour et al., 2019).

Crawford et al. (2020) explored how universities in 20 countries responded to Covid-19 emergency. The study identified 172 sources ranging between news articles, universities websites, government news, HE news, reports and papers, and university communication. The study highlighted the lack of consistency in adopting online learning during this time due largely to the availability of resources and the types of students, especially in developing countries with limited technology infrastructure to support online instruction. Also, even in developed countries, migrating to online learning raises many challenges, such as internet access at home, online teaching pedagogy for instructors, and online learning skills for students. What can be concluded from such studies is the lack of

online pedagogy training across countries. While some countries were partially prepared for ERT based on their geographical, political, economic, or technological factors (such as tsunami, war, higher income, strong telecommunication infrastructure), other countries and institutions had much ground to cover. However, in this globalised world, the global emergency situation opened up the opportunity for countries to collaborate, share resources, expertise, and best practices to ensure education is the least disrupted during such uncertain times.

The "forced shift to remote learning" as Lederman puts it (2020a) came with other considerations, such as setting up lower expectations for course work as well as lower quality of work. In a survey of American HE undertaken in April 2020 in more than 600 institutions to understand faculty and institutions' concerns while moving to ERT during the pandemic crisis, faculty revealed that they had to make last minute changes to their course learning outcomes. Such modifications included redesigning exams and assignments, using a pass/fail grading system, dropping assignments and exams, and cancelling some reading requirements (Lederman, 2020a; Ralph, 2020).

The Arab world has seen a rise in blended and online learning facilitated by technology. In 2002, the Syrian Virtual University, supported by the Syrian Ministry of Higher Education, was the first online accredited public university to be established in the Arab region (Dalbani, 2009). In the same year, the Arab Open University (AOU) was established in a partnership with the UK Open University and had branches in Kuwait, Lebanon, Jordan and later on in Bahrain, Egypt, Saudi Arabia, Oman, Sudan, and Palestine (Arab Open University, n.d.). However, the Qatari context remained in favour of face-to-face learning even though some initiatives have recently been implemented, such as the distance learning certification programmes offered by Qatar University - the only public

university in Qatar - as part of its community service and covers different disciplines, such as languages, business and management, human resources, finance and accounting (Qatar University, n.d.).

1.2 Research Context

Almost 20 years ago, Qatar decided to embark on a transformational journey to achieve a knowledge-based economy as a necessary step in creating a diverse economy (Lightfoot, 2011; Nour, 2014; Weber, 2014; Ben Hassen, 2020). To that end, Qatar established Qatar Foundation (QF) for Education, Science, and Community Development, a semi-government, non-profit organisation operating to fulfil Qatar's National Vision 2030 (QNV 2030) of a "world-class educational system." QF manages Education City, "a campus that spans more than 12 square kilometres and hosts branch campuses of some of the world's leading educational institutes, a homegrown university, and other research, scholastic, and community centers" (Qatar Foundation, 2020). Among the educational institutions are branch campuses of six American universities: Virginia Commonwealth University, Weill Cornell Medicine, Texas A&M University, Carnegie Mellon University, Georgetown University, and Northwestern University. These institutions are mandated to provide the best educational opportunities to Qatar's population, increase scientific research, and foster innovation (General Secretariat for Development Planning, 2008; Khodr, 2011). They also offer foreign degrees with admission and graduation standards similar to their home campuses (Miller-Idriss & Hanauer, 2011; Badry & Willoughby, 2016).

Although international branch campuses have been in vogue for the last few decades, Education City is considered innovative for several reasons (Hajjar & Gotto, 2013):

- each institution is independent and specialised in one academic area while also connected to other institutions through programmes and research projects, faculty collaboration, and student cross-registration;
- each institution has autonomy in its admission, hiring process and curriculum design;
- each institution delivers the same curriculum of its home campus;
- QF, the host and funding entity behind Education City, mobilises these institutions to establish "joint educational [programmes], collective research initiatives, and other campus-by-campus collaborations, as well as manage[s] some common administrative functions like financial aid and capital development" while also funding "all personnel, building and operating expenses" (Hajjar & Gotto, 2013, p. 94).

For the last decade, Qatar's information and communication technology infrastructure has been improved, and as of 2019, internet access was granted across the country with a 100% penetration rate (Statista, 2021). Furthermore, access to the latest technologies was provided through a generous budget, enabling these HE institutions to implement the latest technologies to help faculty utilise both traditional and online teaching methods (Meekings, 2018). While some of these campuses invested in instructional designers and teaching and learning centres to support the implementation and use of these technologies by faculty members, other campuses relied on their home campuses which provided teaching materials.

Faculty designing and delivering their curricula in Qatar operate in a unique cultural environment. They not only come from different countries and speak different languages,

but they also bring with them their own value systems influenced by their upbringing, educational backgrounds, and philosophies of teaching (Leask & Carroll, 2013). These complexities undoubtedly affect their perceptions of the approaches and techniques required for effective teaching to meet the learning needs of a technologically savvy generation. Although online learning had been a reality prior to the ERT, it had only been integrated on an individual level, and by the time of the onset of the pandemic, the majority of faculty were still relying on face-to-face teaching as the basic learning approach.

This paradox between HE reality and the Qatari government expectations became even more visible during the pandemic. For the last decade, technology has been at the heart of every institution with an IT department responsible for implementing and maintaining hardware and software, yet very few invested in their IT infrastructure to support instructional design, facilitate online learning, and develop faculty online teaching skills. Despite the ubiquity of online learning in some rich countries, such as Qatar where technology and IT infrastructure are advanced, online degrees are rarely recognized by the government (Karkouti, 2016; Ziguras & McBurnie, 2011; Albader & Al-Raqom, 2020; Sadik, 2013). Therefore, the lack of IT support might be due to the lack of encouragement and endorsement of online degrees by the Qatari government. This is also true for neighbouring countries, such as UAE, where online degrees are not recognised "except for rare or pre-approved cases" (Al-Ali, 2021). With the advent of the pandemic, the mindset is changing towards accepting the importance of online learning to maintain teaching continuity during disruptive times (Hancock, 2022).

The literature published on online learning following the pandemic has focused on faculty training and skills development (Marinoni et al., 2020; de Boer, 2021; Ferri et al., 2020; Govindarajan & Srivastava, 2020), faculty acceptance of online learning (Hicks,

2020; Watermeyer et al., 2020; Lederman, 2020b), and institutional support (Bao, 2020). Other new emerging themes that were heavily researched following ERT were student assessment (Gonzalez et al., 2020; Al-Freih, 2021; Sims & Baker, 2021; Aguilera-Hermida, 2020; Alshamsi et al., 2021; Petronzi, 2020; Knight & Drysdale, 2020; Iglesias-Pradas et al., 2021; Sahu, 2020) as well as students' attitudes, engagement, and satisfaction with online learning (Fazza, 2021; Haris & Al-Maadeed, 2021). However, the changes in faculty perceptions of online teaching and the factors that contributed to this change following the pandemic have not been widely investigated in the current literature, especially in the Arab world and more specifically in the Qatari context.

1.3 Research Problem

The previous literature tends to focus on specific moments of the shift to ERT rather than the changes generated by this shift and their long-term effects on the future of teaching and learning. Reflecting on the ERT situation, my personal experience designing and delivering blended learning, my interactions with faculty members helping them move to online teaching during the pandemic, and the challenges we all faced while doing so, highlighted many issues in the traditional HE system and the adoption of online teaching and learning. Despite the omnipresence of the latest technological tools and the experience all faculty members had to go through, online teaching as an approach as well as a medium remains problematic, ambiguous, and regarded as a temporary fix rather than an opportunity for reimagining the future of HE.

There is a need to understand the HE landscape in Qatar and its transformation in light of the pandemic, especially from the perspective of faculty members who have experienced a considerable shift in their practice, beliefs, and outlook on the future of HE and their role in it. Taking into consideration faculty's different educational and training

backgrounds, their value systems, and the institutional culture in which they operate, this research aims to contribute to understanding faculty challenges and opportunities in adopting online teaching during the pandemic as well as the change that affected their perspectives regarding online teaching following the pandemic.

1.4 Research Questions

This study comes in a troubled time when online learning is being repurposed as an emergency response to a worldwide crisis and is therefore significant in several aspects in relation to its contribution to knowledge. Its originality manifests itself in the uniqueness of this global pandemic situation and response in HE, especially in an educational environment that relies heavily on a diverse body of faculty members that teaches a diverse population of students in Qatar. Therefore, to contribute insights into knowledge, policy, and practice, this study will investigate the following research questions:

RQ1: What were the online teaching experiences of faculty at the American universities in Qatar's Education City during the emergency remote teaching situation?

RQ2: How have faculty perceptions of online teaching changed after the emergency remote teaching situation?

RQ3: What factors contributed to faculty online teaching experience and perception change?

1.5 Researcher Positionality

In his book *Technopoly: The Surrender of Culture to Technology*, Neil Postman (1992) starts the first chapter with a tale from Plato's Phaedrus about how Thamus, "the king of a great city of Upper Egypt" (p. 3), opposed god Theuth's idea of teaching the Egyptian people how to write as they will "become forgetful" (p. 4), relying on external resources rather than their internal memory. This fear of technology was carried out

through history and strongly prevails in the way we understand and interpret the idea of online learning. To use Thierer's (2010) words, there are the "Theuthian Technophiles" or whom we can refer to as e-learning optimists and the "Thamusian Technophobes" or the e-learning pessimists. Optimists and pessimists found themselves in March 2020 in the middle of an emergency teaching situation that required nothing less than embracing whatever teaching technology available and making the best out of it. This historical time is transforming education and impacting educational policies around the world.

I consider myself familiar with distance and online learning, especially that I was an early adopter of online learning when I completed my master's degree in 2010 through a distance education programme. Back then, online education was in its infancy and consisted more of a distance education approach where students visited the university campus to meet their professors and fellow students, picked up their textbooks and CD-ROMs, and received the necessary training on the learning management system to allow some level of asynchronous engagement with their professors and cohort.

Since then, online learning has gained more attention. In my professional practice, I have been using some elements of the online learning approach for the last ten years to overcome the limited face-to-face time I have with premedical and medical students. Being a librarian at a branch campus of an American medical college in Qatar, I always struggled with accessing students in the classroom because the medical curriculum has always been restrictive to any training that is unrelated to medicine or sciences. To overcome these challenges, I decided in 2017 to adopt the flipped classroom modality and make use of our learning management system Canvas to develop online learning modules that would cover basic, intermediate, and advanced research skills indispensable for future clinicians. This initiative has helped me become visible on campus and gain access to students where I was

given the opportunity to integrate my curriculum within the premedical curriculum and deliver bi-weekly (once every two weeks) face-to-face sessions to students.

1.5.1 Personal Motivation

During the emergency, I was also trapped in this urgency trying to prioritise my teaching tasks. As the Librarian for Education and Research, I had a class scheduled the next day and decided, since students were off campus, to adopt an asynchronous teaching approach. I reorganised my online modules by a) reducing the session's learning outcomes from three to two; b) recording a brief video lecture for each, and posting them in the college learning management system Canvas; c) revising and reorganising my online module to provide more context and flow; and d) sending the students an email providing a step-by-step guide on what they needed to do to complete the module and submit the quiz. In order to compensate for the face-to-face contact, a) I set up recurring live sessions using the video conferencing application Zoom as a substitute for face-to-face class time, and b) I reorganised my office hours by adopting a more fluid schedule.

In addition to my teaching load, building my expertise in pre-pandemic online learning helped me play a proactive role during the emergency period. In the absence of instructional designers at my institution, and based on my previous outreach efforts in promoting the use of online modules and the flipped classroom modality on campus, faculty members reached out to me right at the beginning of the pandemic. I started helping them move their courses online, designing their online modules, compiling online resources to supplement their teaching, and creating new assignments to measure students' comprehension and information acquisition. The sense of fulfilment and pride that I felt at the beginning of the pandemic was soon replaced by a feeling of exhaustion. As much as I enjoyed helping faculty move to online learning, by the end of the spring semester, I

realised I was also struggling in keeping up with the requirements of online teaching. For instance, I rushed through creating my content and struggled to keep my students engaged and motivated. I also faced challenges developing fair assessment tools and setting up one-on-one meetings with students to check on their progress and morale. Online teaching required an intense amount of preparation and assessment time.

Reflecting on this ongoing situation made me realise that what we experienced during the emergency time would have a long-lasting impact on HE. Therefore, I am keen to understand faculty members' previous experience with online teaching and how it might play a role in their acceptance of and adaptability to ERT situation. Furthermore, I am eager to investigate how faculty members react to such emergencies, what kind of support they rely on, how they keep up with their students' needs, and how they cope with technology and curriculum demands. Finally, I am interested in identifying the factors that play a role in faculty adoption of online learning in the future.

1.6 Theoretical and Methodological Considerations

Using Mezirow's (1978) Transformative Learning (TL) theory as a theoretical lens, this study investigates faculty adoption of online learning during the pandemic to understand their feelings and attitudes towards that experience and explore the changes in their attitudes and perceptions following this experience. The targeted population for this study is faculty members employed at the American branch campuses of Education City in Qatar. Utilising a mixed-method case study approach to explore the factors that shaped faculty imposed online learning adoption, this study collected data through a questionnaire and one-on-one interviews with faculty members. Although the limited number of questionnaire respondents (N=29) may not allow generalisation of the results, especially in a case study approach, the one-on-one interviews (n=13) generated a rich set of data that

was used to draw a narrative of the evolving experience of online teaching during the first part of the pandemic in spring 2020 and into the following academic year of 2021.

The use of TL for this study provides a framework to analyse the data, make the necessary connection with the available literature, and contribute to the ongoing discussion on adult learning. TL describes adult education as creating a disorienting dilemma that consequently results in adopting a new perspective, learning new frames of reference, and adopting a new role. In other words, TL considers that when adult learners are receiving new information, they experience a self-examination of their previous beliefs and critical reflection of their assumptions, which leads to a shift in their worldview. These steps or phases were observed by Mezirow and continuously revised, making TL one of the most used theories for adult education.

The TL phases were discovered, developed, and described in 'normal times' when learning is happening in a regular setting. However, with the advent of the pandemic and the sudden move to online learning, faculty members being adult learners, needed to shift their practice and adopt a new role overnight, leaving no time or space to explore a dilemma, engage in self-examination, or critical reflection, and prepare for the change in their frames of reference. Therefore, this study uses a reversed approach to TL where faculty members adopted the new role and tried to make the best out of it before moving backwards through the different phases of TL. These revised phases include learning new skills, exploring alternatives, examining feelings of guilt, fear, and shame, which ultimately create a disorienting dilemma with which some may or may not grapple.

1.7 Significance of the Study

Online learning can be a positive experience when planned ahead of time provided faculty have previous training on using technologies, a pre-set schedule, an organised

content with clear deadlines, defined learning outcomes and assessments tools, and set communication channels. However, when online learning is imposed within a short notice of time as it was the case during the Covid-19 emergency, faculty felt overwhelmed, isolated, and frustrated. They lacked training on using the available technological tools and had to deal with the failure of some technology due to limited bandwidth or compatibility issues. Furthermore, faculty experienced an increased workload as they rushed into making last minute changes to their assessment activities and felt overwhelmed with the different communication channels they had to use.

Therefore, this research aims to identify faculty members' attitudes, preparedness, and response to imposed online teaching, investigate their perceptions and experiences before, during, and after the pandemic, and understand the factors that might have contributed to the change in their perceptions.

1.7.1 Contribution to Scholarship and Theory

First, this study contributes to knowledge and the ongoing academic debate in the field of technology-enhanced teaching and learning by problematizing it within the context of urgency and inevitable academic continuity in times of crisis. Additionally, this thesis employs and further expands on the theory of TL as it draws on faculty members' experiences during the pandemic and describes the direction in which their perception of online learning has headed since the pandemic. Therefore, the significance of this study lies in its conceptual and applied contributions to the TL theory.

1.7.2 Contribution to Policy

Second, this study contributes to policy as it takes place in a relatively new HE environment in a young, yet technologically advanced country like Qatar. For instance, issues such as the use of cameras in video conferencing can pose serious problems in the

delivery of curriculum. Therefore, the significance of this study lies in the Qatari contextual factors and social complexities of deploying online tools in HE necessitating a re-envisioning of online teaching and learning in Qatar.

1.7.3 Contribution to Practice

Lastly, since this thesis investigated the emergency situation that obliged faculty to use online teaching, rethink its applicability to their previously traditional teaching methods, and plan beyond the crisis, it contributes to practise in TEL and provides practical recommendations on how to integrate, deliver, and assess online teaching and learning in the Qatari context. Its practical implications could benefit faculty teaching at HE institutions in Qatar in their curricular and pedagogical preparedness for online teaching.

1.8 Thesis Structure

This chapter, *Introduction*, provided an overview of the context where this study took place, its aims, and its significance. The next chapter, *Literature Review*, will engage with the most relevant scholarship around online learning and its development, faculty role as users of technology and facilitators of online learning, their professional development needs, and the current online teaching practice following Covid-19 emergency. Chapter three, *Methods and Methodology,* will describe the case study methodology and the theoretical approach that this study adopted and the data collection methods used to collect and analyse the data. In chapter four, *Results*, data from the questionnaire and interviews will be presented and analysed to guide the discussion. Chapter five, *Discussion*, presents and discusses the findings in light of the available literature and theoretical framework. Finally, chapter six, *Conclusion*, summarises the contributions this research makes to knowledge, policy, and practice, and provides recommendations as to the future of online learning in transnational HE institutions.

Chapter 2: Literature Review

In April 2020, higher education (HE) institutions in 185 countries were closed following the spread of the Covid-19 pandemic, affecting more than 1.5 billion learners (Marinoni et al., 2020). According to the World Economic Forum, even though educational technology was growing worldwide before the pandemic, reaching an investment of US$18.66 billion in 2019 (Li & Lalani, 2020), up until the Covid-19 pandemic, the idea of online learning was still being entertained and integrated on an individual level, and the majority of faculty in the traditional HE setting were still relying on face-to-face teaching as the basic learning approach (Graham et al., 2013; Wieland & Kollias, 2020). Qatar was no exception. By mid-March 2020, all face-to-face teaching in private and public institutions were suspended and faculty were given a week to prepare for their courses for online teaching. Therefore, this study investigates the emergency remote teaching (ERT) situation that was adopted by international branch campuses of American universities in Qatar and explores faculty attitudes, preparedness, and response to ERT.

2.1 Introduction

2.1.1 Chapter Structure

After one year into the imposed lockdown and the move to ERT, an enormous amount of research investigated this shift from the different perspectives and attitudes of faculty, students, information technologists, parents, and HE leaders. This chapter reviews the most relevant literature on faculty readiness to teach online as an emergency response to the latest pandemic. First, this chapter provides an operational definition of the main concepts around which this study takes place. Then, it reviews the literature on online learning in HE before the pandemic, the factors that contributed to the successful adoption and implementation of online learning, as well as the challenges faced before the advent of

the pandemic. Next, the chapter explores the literature on the imposed ERT following the pandemic, the efforts deployed to maintain academic continuity, and the impact of this experience on the future of online learning. The chapter then engages with the literature on faculty experience and readiness to teach online before and during the pandemic and the potential transformative opportunities before exploring the theoretical framework that this study has chosen. Finally, the chapter situates the study in the cultural context, through a review of online learning experience in the HE sector in some Arab countries before the pandemic and the efforts deployed during the pandemic to ensure curriculum continuity, specifically in the Arab Gulf region.

2.1.2 Learning Away from the Physical Classroom

Online learning, sometimes referred to as online education, "lies in the junction of distance education, human-computer interaction, instructional technology, and cognitive science" (Larreamendy-Joerns & Leinhardt, 2006, p. 568). If online learning is to replace face-to-face learning, it needs much more than educational technology tools. Successful online learning requires collaboration, support, and problem-solving (Oncu & Cakir, 2012; Hämäläinen & Vähäsantanen, 2011; Moore & Kearslwy, 2012). Adopting this approach necessitates redesigning the role of the instructor that needs to shift from a knowledge container and diffuser to a facilitator who co-constructs knowledge along with students, encourages collaboration, and fosters engagement (Keengwe & Georgina, 2012; Johnson, 2013). Before we define online learning, it is important to understand the current debate pertaining to the different terms used to describe distance learning, e-learning, digitalisation, blended learning, and more recently what was baptised under the pandemic as emergency remote teaching (ERT) (Hodges et al., 2020).

Distance learning, digitalisation, and blended learning. Moore et al. (2011) summarised the debate around the different terminologies by using a mixed-methods approach in which they analysed research articles and surveyed 43 conference participants who attended an educational technology conference. The authors used these data to understand how these three terms are defined. They found that the term distance learning started in the 1980s (Moore et al., 2011) as computers became used in education. *Distance learning,* also referred to as the first generation of e-learning (Lloyd et al., 2019), was used as a means to enable the distribution of information to remote students (Moore, 1990; Guilar & Loring, 2008; Newby et al., 2000). However, Evans (2008) considered distance learning not only a communication and distribution tool but also an educational approach in which "educators, designers, support staff and students are engaged differently and often for purposes that have particular social and policy imperatives" (p. 215), while *digitalisation* is defined by Ugur (2020) as the use of digital technology to replace face-to-face teaching. *Blended learning* is considered as a student-centred teaching approach, which allows increased student-instructor, student-student, and student-content interactions (Dziuban et al., 2011). Besides creating a strong sense of community (Babb et al., 2010), blended learning courses should also integrate two fundamental elements: pedagogy and technology (Bosch, 2016).

e-Learning, online learning, and ERT. *e-Learning* and *online learning* as terms emerged around the same time (Moore et al., 2011). While *e-learning* encompasses instructional methods delivered via CD-ROM, the internet, audiovisual materials, and interactive online tools (Benson et al., 2002; Clark, 2002; Ellis, 2007), *online learning* is defined as a "more recent version of distance learning which improves access to educational opportunities" (Benson, 2002; Conrad, 2002). Online learning not only

facilitates access to learning experiences via the use of some technology (Benson, 2002; Carliner, 2004; Conrad, 2002), but also enhances "connectivity, flexibility and ability to promote varied interactions" (Ally, 2004; Hiltz & Turoff, 2005; Oblinger & Oblinger, 2005). In summary, Moore et al.'s (2011) study found inconsistency in the use of terminology and "reveal[ed] that there are different expectations and perceptions" of distance learning, e-learning, and online learning.

2.1.3 Towards a Unified Definition of Online Learning and ERT

Before engaging with the literature, and to avoid any ambiguity when using the different terms pertaining to online learning, this study adopts the phrases *online learning* to refer to all online educational approaches used before the pandemic and *emergency remote teaching* (ERT) to refer to the imposed online teaching that took place with the surge of the pandemic. This study suggests the following operational definitions to make the distinction between the two terms that also delineate the online educational practice of two eras - the pre- and the post-pandemic.

Online learning. A pedagogical approach that uses a set of technological tools to enable teaching, learning, and assessment in an academic environment, be it partially (blended) or completely (distant) online, time sensitive (synchronous) or self-paced (asynchronous). Online learning is rooted in different theories such as the Community of Inquiry by Garrison et al. (2000), Connectivism by Siemens (2004), and Online Collaborative Learning by Harasim (2012). Online learning encompasses the subject knowledge, pedagogical approaches, and technological tools to create a learning experience similar to and even more comprehensive than the one that students encounter in a face-to-face environment.

Emergency Remote Teaching (ERT). A term coined by Hodges et al. (2020) to refer to the imposed online teaching that took place following the shutdown of educational institutions due to the spread of Covid-19. ERT took place in extraordinary circumstances and lacked proper planning, training, and support for faculty members. While online learning pertains to both the faculty and the students, ERT is concerned with faculty members' ability to pivot to online teaching mode overnight, the increased workload that they had to manage, the technology that they had to manoeuvre to ensure continuity of the curriculum, and the uncertainty of the situation in which they found themselves teaching.

Therefore, the term *online learning* is used in this study to refer to online learning experiences and approaches adopted prior to the pandemic including all modalities, approaches, and tools used for any kind of distance, blended, or online learning. However, the term *emergency remote teaching* (ERT) is used to refer to the approach that was adopted during the pandemic, which will be explored later in this chapter.

2.2 Online Learning in Higher Education Prior to the Pandemic

Research on online learning in HE before the pandemic abounds in domains related to flipped classroom, social media, self-directed learning, gaming, artificial intelligence, learning analytics, open educational resources, digital credentialing, and blended and hybrid course models (Ajjan & Hartshorne, 2008; Bolliger & Wasilik, 2009; Ulrich & Karvonen, 2011; Baltaci Goktalay, 2013; Lewis et al., 2013; Gallagher & Palmer, 2020; Pelletier et al., 2021). Likewise, a significant body of knowledge exists on adoption barriers and integration opportunities of technology in instructional practice, such as lack of preparation to teach online, inadequate access to digital devices, insufficient internet bandwidth, and lack of faculty and student support (Newland & Byles, 2013; Reid, 2014; Wright, 2014; Horvitz et al., 2015; Wichadee, 2015; Nworie, 2021).

Tracing the historical evolution of distance learning, Kentnor (2015) described the first instance of distance education in the 18th century with the advent of correspondence education through the Postal Service in the U.S. Later on, in the 1960s, the University of Wisconsin created a distance education unit by setting up a radio station to deliver educational broadcasting (Dumbauld, 2014), which eventually led to the establishment of the National Committee on Education by Radio to coordinate educational efforts by various institutions. After radio, educational broadcasting using television was implemented by Stanford University in 1968. With the rise of the Internet, the University of Phoenix adopted online learning in 1976 "to give working adults flexible higher education options" (Dumbauld, 2014). In 1998, New York University (NYU) created the NYU Online, an education subsidiary which also prompted other universities to follow this model; however, only the University of Phoenix was able to survive (Kentnor, 2015). One important reason behind the failure of most of these online education efforts is the absence of online pedagogy among faculty members and therefore lack of buy-ins from faculty members (Marcus, 2004; Bernard et al., 2004). Many factors need to be taken into consideration when designing and offering online learning programmes or activities. The following section looks into these critical factors prior to the pandemic.

2.2.1 Critical Factors in Adopting Online Learning Pre-Pandemic

In 2002, Govindasamy proposed a set of seven critical factors for virtual instruction. These factors are institutional support, student support, faculty support, teaching and learning, course development, course structure, and finally, evaluation and assessment. Later, Selim (2007) presented a more student-centred approach by considering eight factors that assist HE institutions in adopting online learning. While some of these factors are a more elaborate version of Govindasamy's (2022) factors, Salim (2007) focused on ease of

access to and technology competency by faculty and students and student interactive collaboration. However, this model did not take into consideration the assessment element that is crucial for a successful online learning experience. Similarly, Bhuasiri et al. (2012) conducted a literature review to capture the success factors for integrating e-learning in developing countries; however, assessment, again, was not included. The authors tried to identify and rank critical success factors that were revised and reduced later to the seven factors that include institution and service quality, infrastructure and system quality, e-learning environment, course and information quality, instructors' characteristics, learners' characteristics, and motivation (Bhuasiri et al., 2012). Another study by Galvis (2018) investigated the development of strategic thinking and decision-making when implementing blended learning in an educational institution. The author found that the most important success factors were institutional commitment, pedagogical, technological and financial support and organisational and technological structure. These findings were also echoed by a study by Porter and Graham (2016) who confirmed that the institution's infrastructure and technological and pedagogical support play an important role in supporting faculty adoption of blended learning.

When discussing factors that play a role in the successful adoption of online learning, it is also important to highlight the challenges faced during the implementation of online learning prior to the pandemic. A study by Graham et al. (2013) investigated the issues faced when implementing blended learning and identified a framework that consisted of three main categories to help institutions achieve this implementation successfully: strategy (purpose of blended learning and policies), structure (technological, pedagogical, and administrative issues), and support (technical and pedagogical support). In an earlier study by Reid (2014), the author conducted a literature review on the barriers to adopt

technology in HE and identified five categories. The first category is concerned with access, reliability, and complexity of technology. The second category is related to processes involving project management, support, and professional development. Administration is considered the third category and can also be a barrier when it comes to access and use of technology for teaching through the lack of institutional support, misunderstanding of faculty required time to develop and deliver an online course, and faculty reward system. Category four is concerned with technology effectiveness, legal issues, tensions between administration and academia, and organisational change, and finally, the last category is related to faculty's participation in professional development, perception of quality and effectiveness, self-efficacy and background, resistance to change, and effective use of technology. Reid (2014) argues that recognising these barriers according to the context of each institution can alleviate their impact and support faculty use of online learning.

Baltaci Goktalay (2013) found that "lack of faculty development, support activities, and students' attitudes towards online technology are the main barriers of using online technology in the classroom" (p. 86). This is also reflected in Wright's (2014) study which concludes that the time and effort faculty invest while creating online learning has a negative impact on faculty attitudes towards technology. Faculty considered online teaching to threaten their "autonomy and control of the curriculum," requiring more labour and time and additional training (Keengwe & Kidd, 2010; Esani, 2010). Keengwe and Kidd (2010) considered the role of online teaching faculty to consist of four categories: pedagogical (educational facilitation), social (friendly environment), managerial (setting agenda, objectives, rules, and decision making), and technical (use technology easily and facilitate its use by their students). Thormann and Zimmerman (2012) found that faculty

resistance to using technology can be linked to a lack of time for training on technology rather than lack of technological proficiency.

However, the most comprehensive study was undertaken by Basak et al. (2016) who used a systematic review of the literature on e-learning and HE to develop a comprehensive conceptual framework that consists of eight factors critical to the successful implementation of online learning. These factors are institutional (e.g., budget, infrastructure, leadership), management related (e.g., implementation, team, problem-solving), technological (e.g., hardware, software, support, structure), pedagogical (e.g., content, design, audience, feedback), social interaction related, evaluation related (e.g., course evaluation), ethical (e.g., social and political influence, cultural diversity, etiquette) and resource related (e.g., internet access, technological tools). Even though this framework included the evaluation element, this element was limited to course evaluation rather than students' skills assessment and evaluation.

Furthermore, Bolliger and Wasilik (2009) found that faculty satisfaction remains the ultimate condition for the success of online learning. In this study, the authors conducted an online survey to measure faculty satisfaction in teaching online and found that there are three factors that define faculty satisfaction in the online environment: student related factors, instructor related factors, and institution related factors.

These previous studies provided approaches to online learning from different angles based on faculty varied experiences, institution types, and time span. While some factors overlapped, other factors diverged. Therefore, a practical set of factors needs to be conceived to facilitate the process of developing and implementing online learning. For instance, *institutional, financial,* and *management factors* can be grouped together as their subfactors are interwoven and complement each other. Similarly, *resource factors* could be

grouped with *technological factors* because resources in online learning are typically technological tools. Also, the *ethical* and *social interaction factors* could be placed together as they both consider interactions among different parties involved in online learning. Therefore, and since none of these studies ticked all the boxes, a compilation of all findings can be grouped into four clusters - *Institution Level, Technology Level, Instructor Level,* and *Student Level* - to provide a comprehensive outlook on online learning prior to the pandemic. Here are the four clusters along with a definition of each cluster:

- Institution level: Includes leadership, administration, management, finance, strategies, and policies.
- Technology level: Includes ease of access, infrastructure, system quality, support, and e-learning resources.
- Instructor level: Includes characteristics, pedagogy, course design, structure and development, content development, needs support, level of technology competence, assessment, and teaching style.
- Student level: Includes characteristics, level of technology competence, needs support, motivation, social interactions, assessment and evaluation, academic integrity, fairness, and plagiarism.

The following section dives into the first three levels or clusters - *institutional level, technology level,* and *instructor level* - as these are directly related to the topic under investigation: faculty attitudes, preparedness, and response to adopting technology-enhanced learning in troubled times.

2.2.2 Institutional Readiness to Implement, Sustain, and Improve Online Learning

Web 3.0 brings along an important factor in the success of online learning: institutional readiness. Educational institutions play a fundamental role through the availability of their technological infrastructures and support (Wagner et al., 2008; Miranda et al., 2016). Before the pandemic, many American HE institutions were already offering some level of support for fully or blended online courses albeit at differing levels (Brooks et al., 2020). In a survey published in 2010 by Lion and Stark investigating how HE institutions in the U.S. supported their faculty to teach online, the authors found that most institutions were offering technical support, while others were offering technical and pedagogical support. However, institutional guidance was lacking.

The pre-pandemic HE scene in Europe set a goal to increase students' enrolment and "improve completion rates" (European Commission, 2011) through the establishment of the EMPOWER project in 2015. This project was established to share the expertise of different European universities in establishing distance education programmes and to develop an understanding among HE institutions about student engagement and the role of technology to support students (Sánchez-Elvira Paniagua & Simpson, 2017). The project aimed specifically at:

- encouraging universities to innovate their education;
- inspiring universities to adopt new modes of teaching;
- delivering training for staff and publishing supporting materials;
- encouraging a multidisciplinary approach.

Six years after the launch of the EMPOWER project, a report published in mid 2021 gathering case reports from different European HE institutions acknowledged the crucial role institutional strategies play in fostering innovation within their campuses and the need

for “continuous commitment from the top management” (European Association of Distance Teaching Universities, 2021, n. p.).

In Australia, Stone (2019) found that HE students and staff valued a “proactive institutional support” approach to online learning. A key finding of a report published in 2017 on the opportunities to improve students’ engagement and success in online learning in HE in Australia is the need for a strategic institution-wide approach to online learning that facilitates the development, implementation, and continuous quality improvement of online programmes (Stone, 2017). The report describes *10 National Guidelines for Improving Student Outcomes in Online Learning* and calls to “[d]evelop, implement and regularly review institution-wide quality standards for delivery of online education” by engaging experts, appointing strategy leaders at executive levels of the institution, and using evidence from research (Stone, 2017). Similarly in the Asia-Pacific HE context, Gibson et al. (2017) recognized the need for institution-wide blended learning policies to ensure not only student success but also provide professional development opportunities to support faculty. The authors described a five-step professional development plan that included strategies to assist faculty in enhancing student engagement, encourage learning interactions, revamp assessment, request student support, and provide training in technology (Gibson et al., 2017).

Similarly, Makhaya and Ogange (2019) investigated the role of institutional support in faculty adoption of online learning at a university in Africa. The study found that even though faculty members had a positive perception towards online learning, they also perceived the lack of institutional support as the main reason for the lack of online learning adoption. In a study by Mbodila et al. (2019), the authors considered three barriers for e-learning. The first barrier is lecturers’ perception of e-learning that is impacted by their

experience, age, and background. The second barrier is students' perception that they predominantly lack exposure to basic computer literacy skills. The third barrier is the poor infrastructure and lack of technical support.

In summary, one of the biggest challenges to online learning prior to the pandemic remains teacher readiness to adopt innovative pedagogical practices that require institutional support. Therefore, there is a need for implementing policies to build and support faculty in their adoption of online learning and facilitate technical support through institutional policies.

2.2.3 The Role of Technology in Online Learning

Technology adoption has always proliferated in organisations before being transferred to educational institutions. While exploring distance education and the evolution of online learning in the U.S., Kentnor (2015) stresses the importance of understanding the growth of educational technology and the online instructional methods necessary for the 21st century. Kentnor (2015) ascertained that in 2013 chief academic officers emphasised the vital role of online education in HE institutions' long-term goals. Some studies investigated the reasons why teachers use technology. For example, Ottenbreit-Leftwich et al. (2010) undertook a hermeneutical phenomenology study using interviews, observations, and e-portfolio to understand the value, beliefs, and reasons for eight award-winning teachers to use technology in their teaching. The authors found that teachers use technology for two main reasons: first, to improve their own professional needs, such as managing their classroom, creating customised teaching materials, and engaging in their continuous professional development, and second, to address their students' needs and engage them by encouraging higher order thinking, enhancing their comprehension skills, and helping them develop lifelong learning transferable skills. Learners' level of critical thinking and the

quality of their engagement improves when they participate in a "structured and coherent" online course (Rovai, 2002; Garrison & Cleveland-Innes, 2005; Shea, 2006; Bogle et al., 2009; Akyol & Garrison, 2011), and technology can facilitate students' participation and therefore promote a higher level of engagement.

The UK Open University is an encouraging example of a positive institutional implementation of well established, inexpensive distance education programmes "to older, part-time students who could matriculate without conventional qualifications" (Wildavsky, 2016). In 2019, the Open University celebrated its fiftieth anniversary (BBC, 2019) and its avant-garde successful example of a no-wall HE institution that "combine[s] scale with personalization" using technology at a reduced cost "while maintaining academic quality" (Wildavsky, 2016). Based on the post-war political context in the UK, the Open University was designed to provide opportunities "to those people disenfranchised by an education system which, particularly within the post-compulsory sector, excluded those without the social, cultural and educational capital deemed essential for success" (Marr, 2018). Even though the 'open-ness' of Open University, as Marr (2018) puts it, can lead learners to experience isolation where learners lose motivation and engagement (Marr, 2018; Marr et al., 2013), the concept itself paved the way to the establishments of Open Universities around the world and the proliferation of distance education along with the development in the internet infrastructures and applications.

While Web 1.0 offered a simplistic interface with limited content that was passively consumed by users (Atabekova et al., 2015; Cormode & Krishnamurthy, 2008), Web 2.0 revamped online teaching by moving information sharing from a "static" to a "dynamic" process (Soomro et al., 2015), a variety of Web 2.0 tools became available, and the most widely used ones that encouraged interactivity in education were Facebook, Instagram,

YouTube, Flickr, Wordpress, and CiteULike, among others (Soomro et al., 2015). The impact of these tools increased over time as some researchers considered them to replace traditional teaching channels. One example is the social networking platform Facebook that can be used as an alternative to an LMS (Willems & Bateman, 2011), or the use of blogs for teaching (Churchill, 2011). Ajjan and Hartshorne (2008) investigated faculty awareness of and decision to adopt Web 2.0, especially blogs, wikis, social networking, and social bookmarking. Using the theory of planned behaviour, the authors found that despite faculty's positive attitude towards technology as a tool that can improve students' learning, writing skills, and interaction, few faculty adopted technology in the classroom. The study concluded that the availability of technology and resources does not have a considerable impact on faculty willingness to adopt technology.

With the advent of Web 3.0, a change in the role of the instructor was inevitable. The instructor role was transformed from knowledge provider to facilitator who organises knowledge to suit the individual and allow collaboration and creativity (Keats & Schmidt, 2007). Additionally, the content format changed from freely available open resources to freely created, shared, and modified educational resources by students. Furthermore, there was a shift from traditional assignments that use technologies to customise and flexible assignments that match the needs of students in terms of social networking and creativity. Finally, students were empowered to actively seek and take ownership of their education (Keats & Schmidt, 2007). In a study that investigated the perceptions of university students of non-formal learning in a Web 3.0-based environment, Atabekova et al. (2015) found that when Web 3.0 is integrated in the curriculum as a non-formal learning approach, it contributes to develop "cross-curriculum generic competences", enhance "students' social

development," and foster "self-confidence regarding [students'] future performance on the labor market" (p. 518).

In summary, and despite the availability of technological tools for faculty members, training seems to play an important role in encouraging faculty to adopt technology in their daily practice.

2.3 Emergency Remote Teaching During the Pandemic

Hodges et al. (2020) considered that while online learning requires time and careful planning, ERT, on the other hand, emerged as a temporary shift from face-to-face or blended teaching to remote teaching following the pandemic. Therefore, ERT is not grounded in online learning theories although it uses online learning as the tool to ensure continuity of the curriculum delivery. It usually takes between six and nine months to create an online course (Hodges et al., 2020); however, ERT comes in times of uncertainties and lacks planning, preparation, and support. Treve (2021) considered ERT to highlight the challenges of online learning rather than its benefits as the pandemic left faculty members with no choice but to adopt the online modality leaving them with a restricted margin of freedom to choose between synchronous and asynchronous delivery, communication methods, and assessment techniques (Iglesias-Pradas et al., 2021). However, with the use of adequate technological tools, faculty started collaborating, and institutions from different countries shared their infrastructure and technical savoir-faire, which contributed to the positive change HE institutions needed to adopt to change the way education is delivered (Treve, 2021).

Online learning is not a replication of the traditional face-to-face teaching method, but a chance to create new learning opportunities that would not exist in a face-to-face environment (Cheema, 2020) and adopt technology to leverage the learning experience. Yet

during the pandemic, one of the immediate responses to ERT was to 'put lectures online' and then consider what to do about assessment" (Whalley et al., 2021, p. 91). Class size also plays an important role in ensuring a two-way communication between students and faculty, and the ideal number lies between 12 and 35 students depending on the educational framework adapted by the instructors (Iglesias-Pradas et al., 2021; Taft et al., 2011). However, in a recent study analysing the move to ERT during the pandemic in an undergraduate school of engineering in Madrid, Iglesias-Pradas et al. (2021) concluded that class size, synchronous or asynchronous delivery methods, and communication tools do not impact students' academic performance. In fact, "students achieved better results under emergency remote teaching" (p. 14). What Iglesias-Pradas et al. (2021) find of importance is the role of learning management systems infrastructure and IT support, flexible decision-making by administration, the establishment of informal communication channels, and the development of faculty members' digital skills to allow a successful transition to ERT.

2.3.1 Critical Factors in Adopting Online Learning Post-Pandemic

When reflecting on the critical factors that played an essential role in adopting and implementing online learning pre-pandemic, new factors have emerged, expanding on the previous ones or even presenting new challenges that need to be addressed. Such factors are communication channels between institutions, faculty, and learners, the creation of a community of learning, student engagement, fairness in assessment, academic integrity, and plagiarism. This section presents these factors while engaging in the ongoing discussions around the latest challenges and opportunities surrounding ERT in HE.

The International Association of Universities (IAU) undertook a global survey in March and April 2020, "to capture a description of the impact of Covid-19 at global level and on higher education in the broader sense" (Marinoni et al., 2020, p. 9). Respondents

were from 109 countries from Africa, the Americas, Asia and Pacific (including the Middle East), and Europe, and included administrative staff, faculty, and students. The survey yielded the highest number of replies from Europe (46%) and investigated the impact on three main areas: teaching and learning, research activities, and community engagement. First, although 91% of HE institutions had the required infrastructure to communicate with their students and staff, the shift from face-to-face to distance learning posed many challenges, such as the presence of technical infrastructure for online teaching and students' unequal access to the internet or to the needed technology. Another challenge was the lack of faculty skills and pedagogies for distance learning. The third challenge observed in teaching and learning was the reliance on equipment and laboratories for medicine and engineering, and equipment for design, music and arts, which obliged faculty to focus on the "theoretical dimension of the curriculum" (Marinoni et al., 2020, p. 25).

The latest pandemic had a serious impact on practical laboratory courses, and faculty were urged to find alternatives to ensure practical training was not completely lost. Svatos et al. (2022) described their attempt to replace their lab training with pre-recorded sessions and the deployment of Home Lab, a tool that was developed internally at the Faculty of Engineering at the Czech Technical University in Prague. Using their Home Lab, students were able to communicate and share their experiments with instructors and classmates by connecting their cameras during live sessions. The authors found that the use of such tools increased students' communication among each other and helped in motivating "not-so-talented students" (p. 7) to a degree where the exchange of information was better than previous face-to-face lab sessions. The use of such tools post-pandemic will also create more space and time for students to complete their lab assignments remotely without the need to be present on campus. These findings support the findings by DeVaney

et al. (2020) who consider that ERT should not be adopted as a short-term response to the pandemic but should "become an enduring digital transformation of higher education" (n. p.).

In fact, a recent study by Hicks (2020) argues that liberal arts faculty seem to be "the most [sceptical] of online learning". This is also due to the mentoring relationship that faculty build with their students, and the fact that they value "face-to-face interactions inside and beyond the classroom" (Hicks, 2020). Second, faculty professional development and research collaborations have suffered the most during this time as 81% of the conferences were cancelled and 52% of projects were pending (Marinoni et al., 2020). In fact, the European University Association (EUA) considered that the closing of laboratories, the limited researcher mobility, and consequently the cessation of collaboration put international doctoral candidates at risk, as they lacked local support in their home country (EUA, 2020). Finally, results pertaining to community engagement varied: 48% of HE institutions confirmed an increase in their community engagement activities, while 31% saw a decrease, and 6% were not affected (Marinoni et al., 2020). It is worth noting that DeVaney et al. (2020) believe that in order to strengthen community engagement outside online classrooms, HE institutions should encourage "crowd-sources notes, study groups, virtual coffee/happy hours, and live-streamed events (n.p.). Other key challenges that were mentioned by the IAU respondents but were not addressed by the survey questions were concerns over financial implications, such as payments of tuition fees, a drop in student numbers, and the need to implement a crisis management readiness plan (Marinoni et al., 2020).

The report concludes that in order to overcome this global challenge in the long run and minimise its risk on HE, "joint solutions" (Marinoni et al., 2020, p. 40), or what

Garcia-Morales et al. (2021) also describe as "participatory culture" (p. 2), that brings participants from HE institutions, governments, private sector and society together should be sought and developed (Marinoni et al., 2020, p. 40). Examples of required assistance to facilitate online instruction starts with access to information on best practices for supporting remote students, access to online digital materials, students' training on how to succeed in online learning, and support with accessibility requirements (Ralph, 2020).

In light of the pandemic, Jere (2020) investigated the factors that influence faculty members to use online learning in South Africa. The author used Teo's model (2011) for online learning adoption which is based on the following three theoretical frameworks: technology acceptance model (TAM) developed by Davis (1989); theory of planned behaviour (TPB) developed by Ajzen (1991); and the unified theory of acceptance and use of technology (UTAUT) designed by Venkatesh et al. (2003). Teo's model is based on six interrelated constructs namely '*perceived usefulness*', '*perceived ease of use*', '*attitude towards the use*', '*behavioural intention to use*', '*subjectives norms*', and '*facilitating conditions*' (Jere, 2020, p. 5). The study was specifically interested in the 'behavioural intention to use' online learning by faculty members at one university in South Africa. The sample size consisted of 132 faculty members of whom 67.4% were males. The results of the study revealed that faculty members' '*behavioural intention to use*' online learning is positively influenced by all of the constructs in Teo's model, and especially by the faculty '*attitude towards the use*' of online learning (p. 8). However, the context in which this study took place has its own specificities and challenges. Therefore, it would be interesting to replicate this study in other HE institutions in a different context, such as the Arab Gulf countries, especially where '*subjective norms*' and '*facilitating conditions*' may vary, in

order to understand their impact on faculty members' '*behavioural intention to use*' online learning in such context.

In Europe, and specifically at a Danish university that provides traditional courses where there is no active learning and problem-based courses that require group work, Hüttel and Gnaur (2020) investigated how online education affected teaching staff. Using a longitudinal qualitative study, the authors first identified resistance to change by some faculty who see that "[t]here is a gap between the potential of technologies for learning and their actual use in practic[e]" (Hüttel & Gnaur, 2020, p. 245). Another reason is linked to the time investested in mastering technological tools that faculty would prefer to put into their research. Also, resistance might be linked back to professional identity and how they view the subject they teach "as requiring a certain mode of teaching" (p. 245). And finally, faculty might perceive management who is encouraging technology as "interfering with the freedom to use their preferred approach to teaching" (p. 245). Using Engeström's (2001) expansive learning model, the authors collected data from 799 participants, and results suggest that 55% of the respondents have "somewhat more positive" and "much more positive" attitude towards online learning after experiencing "teaching and project supervision online during the lockdown" (Hüttel & Gnaur, 2020, p. 247). One way of improving the study is to provide a comparison between the attitudes of faculty members who teach traditional courses and the ones who teach problem-based courses. However, as this study is the first step of a longitudinal one, it would be important to follow up on different faculty attitudes and perceptions in the long term.

Gonçalves et al. (2020) considered four factors that influence online learning. The first factor is the professor who plays the role of moderator, facilitator, participant, and observer. The second factor is the student and their student-teacher and student-student

interactions. Factor three is the space and time when online learning is taking place for each student. Finally, the last factor is the context in which online learning is taking place. Additionally, Ferri et al. (2020) identified three key challenges: a) technological challenges that consist of the infrastructure, the tools, and the connection, b) pedagogical challenges that can also be divided into three sub-challenges mainly faculty's lack of technological skills and the dire need for training, engaging teaching materials, and lack of student feedback, c) social challenges that can be summarised by the lack of a suitable learning environment for students and parents' support (Ferri et al., 2020, p. 4). Furthermore, Vlachopoulos (2020) described four measures that need to be taken on a national level:

- educational policymakers should design validated frameworks for primary, secondary, and HE to "ensure consistency, learning, and achievement;"
- equal access to hardware and software for all;
- training opportunities for teachers and students; and
- regular evaluation of the teaching environment to identify the impact, improve the process, and provide evidence for best practice.

"The US education system was not built to deal with extended shutdowns like those imposed by the Covid-19 pandemic" (Dorn et al., 2020). There is a pressing need to develop and implement a clear roadmap to overcome what Dorn et al. (2020) call the "US academic-achievement gap":

> *The US academic-achievement gap was first identified in 1966. Its persistence is troubling. The possibility that Covid-19 could make it worse deserves focused attention. The achievement gap costs the United States hundreds of billions of*

dollars—and also exacts a long-term cost in social cohesion. This is a moment—and a challenge—that calls for urgency and energy.

Unlike the U.S., China, being the first country to go through the pandemic outbreak, was able to implement a five-step government policy known as 'Suspending Classes Without Stopping Learning' (Zhang et al., 2020):

- Guarantee "fast and stable networks for online education"
- Train teachers for online teaching and provide free sources and consultations
- Ensure students have access to information and resources for free across China;
- Prepare guidelines to ensure smooth transition to face-to-face;
- Develop a plan to reopen school post-pandemic (pp. 2-3).

It is worth mentioning that this policy was undergoing continuous adjustments as it was implemented, and therefore, China's government response to the pandemic could be considered as leading the way in terms of planning and implementing changes during disruptive times. Nevertheless, many problems surfaced while implementing this policy, and the first one is the network infrastructure inequalities between different regions. Another problem is teachers' previous knowledge and use of technology. Also, many students and teachers had to deal with limited adequate space at home for studying and increasing distractions. Finally, an important issue is the adoption of an online teaching pedagogy that does not just replicate the face-to-face curriculum. The 'Suspending Classes Without Stopping Learning' policy can be considered one of the large-scale experiments in online learning during the Covid pandemic (Zhang et al., 2020), if not the largest experiments on a national level.

A more specific example of China's HE response to online learning during the Covid-19 emergency is presented through the case of the Peking University. Bao (2020) investigated the online learning of Peking University that serves more than 44,000 students and concluded that, to facilitate online learning, HE institutions need to develop and implement instructional strategies by creating an emergency plan, dividing content into small modules, "emphasizing the use of voice in teaching" to replace body language and facial expressions, including teaching assistants in course development and class management, improving students active learning experience by revising offline assignments and reading; and finally, combining online and offline learning - or synchronous and asynchronous learning - for a deep learning experience.

Spain, another country that was highly impacted by the pandemic, also adopted online learning to control the spread of the virus and ensure continuity of teaching. Assessment of students' knowledge seemed to be the most challenging process, and faculty were concerned about "how to manage a correct evaluation of students' skills and knowledge" (Gonzalez et al., 2020). Comparing two groups of students at the Universidad Autónoma de Madrid, Gonzalez et al. (2020) analysed learning strategies prior to and during Covid-19 lockdown. The researchers compared the results of courses that followed the same teaching methodology and assessment process before and during the pandemic lockdown. The data gathered from students increased access to online learning platforms, and the number of tests' attempts indicated that students developed a continuous autonomous learning strategy during the lockdown and therefore positively impacted their performance compared to previous years where students would study right before an exam. The results of this study are promising when it comes to the efficiency of online learning and its positive impact on students' performance (Gonzalez et al., 2020).

Although many studies noted the positive impact of online and distance learning on developing lifelong learning, fostering critical thinking, and "enabling a higher degree of interactivity and collaboration among teachers and students", these findings were prior to the pandemic and "were conducted in normal circumstances describing the implementation of online courses with lesson plans, teaching materials and technology support teams" (Almazova et al., 2020, p. 2). Almazova et al. (2020) undertook a study to investigate the implementation of online learning in HE in Russia following the Covid-19 pandemic and the challenges faced by faculty members during this transition. In fact, one of the Russian national goals is to create "a modern digital educational environment by 2024" (p. 1), and many institutions took part in developing national open educational platforms such as MOOCs, LMS, while one institution took this contribution even further by partnering with Coursera - an American MOOCs platform founded in 2012 by Stanford University - to develop online courses. However, online learning has not been widely used and only a third of university students in Russia use online learning. Following the pandemic outbreak, the university under study implemented online learning using Moodle as LMS and MOOCs. They also adopted MS Teams to ensure communication between faculty and students, created online teaching instructions and webinars for faculty members, and established IT support teams. Despite the availability of tools and services to help faculty transition to online learning, the study identified a set of challenges, such as lack of digital literacy, especially for faculty above 55, and lack of time for faculty self-education in online teaching pedagogy and the use of technology, and therefore inability to interact with students or use collaborative teaching methods. This was also reiterated in an article by Govindarajan and Srivastava (2020) that investigates a digital divide among academics and encourages institutions to set up training for faculty members. As for the challenges faced

by students according to faculty members, although students are considered 'digital natives', "most students face a lack of organizational and planning skills," absence of motivation and self-regulation, and failure to meet deadlines (Almazova et al., 2020, p. 8). The authors considered that HE in Russia requires a restructuring on the "psychological, technological and methodological" levels, something that should be extended to the global education system.

2.3.2 The Role of Technology During the Pandemic

Orlikowski (1996), Markus (2004), and Nadkarni and Prügl (2020) agree that although a successful digital transformation in an organisation is enabled by technology, this transformation needs supportive leadership, an accepting culture, and employee training. Following the spread of Covid-19 and the switch to ERT, a study published by Abad-Segura et al. in March 2020 reviewed 1590 research papers on the sustainable management of digital transformation in global HE published between 1986 and 2019 in 850 journals. The authors believe that organisations should use emerging technologies to "reinvent themselves and transform all their processes" (Abad-Segura, 2020, p. 5). Big data and artificial intelligence seem to be valuable learning spaces in current HE. Big data promises a more customised, personalised, and cost-efficient teaching approach to create a unique learning path based on students' profiles, needs, and interest. On the other hand, artificial intelligence is used to identify potential students, monitor their progress, and recognize any struggles that need to be addressed as early as possible. The study found that published literature on sustainable management of digital transformation in HE comes from two main areas, social sciences (28.44% of the total papers included in the study) and environmental sciences (16.66%), followed by engineering (12.68%) and business (8.29%). However, what is intriguing is that some of the areas that are expected to be at the heart of

digital transformation do not count much in the published literature, such as computer science (4.55%), engineering (3.11%), and economics (2.84%). Furthermore, more than half of the articles (54.28%) were published within the last five years with the USA, the UK, Australia, China, and Italy being the top countries that contributed the most to the topic under investigation. The study concludes that the increase in published papers suggests that there is some kind of agreement by "the international scientific community" to the importance of a sustainable digital transformation in HE (Abda-Segura et al., 2020, p. 18). Despite this agreement and the abundance of research, digital transformation was still lagging in terms of implementation before the advent of Covid-19 emergency learning situation.

Many public institutions in developing countries do not have the adequate infrastructure to set up and use learning management systems (LMS). In such cases, social media platforms might be the answer to create an online community of learners. In fact, in a study by Sobaih et al. (2020) investigating the use of social media as teaching and learning platforms in Egypt, the study found that Whatsapp Web and Facebook have been used successfully in Egypt to communicate with students, hold meetings, and share resources. However, many challenges were raised by faculty and students, such as institutional policies, the lack of guidance and support from management, and IT infrastructure. One example of the lack of guidelines from management is the simultaneous use of different social media channels which "added more stress" to the faculty members. Other types of challenges were concerned with communication such as unclear voice notes from faculty and the use of "inappropriate street language" by the students which "affect the quality of communication between faculty members and students" (p. 10). Another challenge when using social media platforms as teaching and learning tools is the instant messaging that

makes it difficult for faculty to keep up with students' questions, or to limit the interactions to class time. Finally, the last identified challenge was students' privacy and online security (Sobaih et al., 2020). The study found that while students used social media platforms to build a community and support each other, faculty used it as a tool for formal learning, hence the gap between the two generations. Despite these challenges, this study showed the potential role social media can play in creating a social presence and supporting online learning. The results of this study call for the implementation of a policy and ethical code in HE that regulate the use of social media platforms for teaching and learning. The study also emphasises the role of telecommunication providers to ensure technical support and improve the technology infrastructure.

Another emerging challenge that has been brought up in some studies on ERT is the use of cameras. While some studies considered that cameras allow "intimacy and immediacy, leading to teacher–learner social presence" (Sederevičiūtė-Pačiauskienė, 2022, p. 3), some studies were concerned with students who would not turn on their cameras. This behaviour stems from different concerns, such as lack of access to a private study environment (Costa, 2020), students' self-consciousness about their appearance (Castelli & Sarvary, 2021), the pandemic induced anxiety and depression (Huckins et al., 2020), or a weak internet connection. However, this challenge that was also observed in the Arab Gulf countries, especially among female students keeping their cameras off, pertains to "conservative reasons" and the fear that their pictures would be taken and made available publicly, which goes against their cultural and family values (Slimi, 2020). In fact, Kundi et al. (2010), who undertook a study in Pakistan on the challenges of adopting e-learning, considered that one of the biggest barriers for developing countries is the implementation of

"borrowed models of e-learning" (Kundi et al., 2010, p. 568) without any considerations to the local context or social practices.

2.3.3 The Future of Online Learning

Thinking beyond Covid-19 and in order to support sustainable education, Petronzi and Petronzi (2020) found that, when adopting blended learning, HE institutions must allow transparency so that "prospective students understand how they fit within a pedagogical plan, including their commitment to autonomous learning" (p. 499). The authors suggested a model to apply blended learning that they called OaC or Online and Campus that is based on three learning stages: asynchronous, synchronous, and face-to-face (on campus). The asynchronous stage allows introducing students to knowledge at their own pace, embed teaching tasks and formative assessments, and provide individualised feedback. The synchronous phase provides direct tutor contact, delivery of key messages, live opportunity for questions and answers, and group work and collaboration. The last stage is the face-to-face one where students apply what they learned through problem-based learning, deepen their knowledge, engage in team building, and faculty ensure active learning opportunities. These phases can be successfully swapped as needed based on the course content, the nature of the subject, and the pedagogy adopted by the faculty member. However, what remains necessary for blended learning to succeed is the student motivation and commitment and faculty willingness to motivate, support and engage the students throughout the three stages. Furthemore, El-Azar and Nelson (2020) imagined a future scenario for HE where learning is individualised and students, while living together, each one of them would join a different set of online courses. This ensures campuses do not lose their social life while also providing flexible and customised opportunities for students.

Another daring vision is shared by Mahlow and Hediger (2019) who consider that the current HE institutions aim at attracting students "detached from any real-world setting with several hundred [...] at a time with only one instructor" (n. p.). The authors argue that to develop lifelong learning skills, "self-efficiency and adaptability to the requirements of the economy" (n. p.), learning should not separate learners from the real world. This is the case of vocational training that allows apprentices to learn by observing their masters and getting involved in real tasks themselves. This approach is similar to the Humboldtian model of HE that brings arts, sciences, and research together to provide a comprehensive learning experience to students. Students are exposed to real situations and well-rounded experiences. However, with the '*massification of higher education*,' hundreds of students are being taught by very few instructors, and learning is happening in isolation from the external, real world. Therefore, digital transformation, such as online learning, can be used to expand pedagogical approaches and enable HE curricula "to keep up with the real-world developments" (Mahlow & Hediger, 2020, n. p.).

2.4 Faculty Experience Pre-Pandemic and their Transformation During ERT

2.4.1 Faculty Readiness to Use Online Learning and Perceived Challenges Pre-Pandemic

Until recently, the implementation of blended learning was taking place on a course level rather than an institutional one (Graham et al., 2013). However, with 70% HE institutions providing some form of online learning and more than 5.5 million students enrolled in at least one online course in 2013 in the U.S. (Allen & Seaman, 2015; Poulin & Straut, 2015), faculty needed training and support in implementing and using technology to ensure student positive experience and engagement in online learning. Most studies examined the factors that promote faculty's use of technology in the classroom or online,

measured faculty awareness of the benefits that technology can bring to their practice, and investigated different methods of supporting faculty in using technology in their teaching. Despite a proliferation of technology in HE, many faculty are still resistant to incorporating technology in their teaching (Senik & Broad, 2011; Zarei et al., 2014) due to technology anxiety as "faculty often lack self-confidence," especially in "older and more experienced instructors" (Johnson et al., 2012, p. 63).

Faculty role in facilitating online learning. The instructor role is crucial in online learning. In a systematic review undertaken before the pandemic, Kalimullina et al. (2021) investigated the instructor's role in facilitating digital learning. The study found that the instructor's presence and role remain crucial to the learning process, and "the use of educational tools without involving the instructor in the process is still difficult" (Kalimullina et al., 2021, p. 234). Additionally, studies before the pandemic suggested that there would be an increased need in the short term for training courses on technology as new tools are adopted and integrated in the classroom (Kalimullina et al., 2021). Furthermore, a study by Northcote et al. (2015) found that faculty concerns shifted from using technology to focusing on pedagogical approaches to engage students and design interactive courses. These findings were re-evaluated by Kilgour et al. (2019) who considered that adopting online teaching "requires shifts that are both ontological and epistemological" and encourages teachers new to online teaching "to engage deeply with technology *and* pedagogy" (p. 1427).

When adopting technologies for teaching and learning, faculty need to rethink their teaching approach and adopt interactive learning to engage students (Lewis et al., 2013). Therefore, it is important to consider two points: "scalability," which suggests a "great support from pedagogical and technical experts" and "professional development," which

supports faculty's "need to upgrade their pedagogical approach for interactive learning with web tools" (Newland & Byles, 2013). Furthermore, faculty need to learn about learning theories to be able to redesign their courses and incorporate educational technologies. Kazley et al. (2013) found that, when adopting educational technology, faculty members have to find a balance between their teaching philosophy and level of comfort using technology, their workload such as classroom and time management, and institutional support.

Collaboration among faculty members and instructional designers. Faculty members are usually responsible for the design and implementation of learning outcomes. However, creating a successful learning experience requires collaboration across campus. Czerkawski and Lyman (2016) undertook an extensive literature review and found that for online learning to be successful, instructors need to increase student engagement, which cannot be done without a well-thought course design. The authors designed an instructional design framework "as a starting point" (p. 533) that can be implemented to promote students' online engagement and encourage "interaction, collaboration, facilitation and feedback strategies" (p. 538). This study reiterated the role instructional designers play in supporting faculty to successfully develop, facilitate, and assess online learning opportunities. While information technology (IT) support usually targets technical aspects of online learning, such as access to Learning Management Systems (LMS) platforms, use of softwares, and implementation of applications, it does not provide guidance on how to design and deliver the content of a course, and therefore, "faculty need the expertise of an instructional designer for online learning to lead the way into quality online course design and development" (Brigance, 2011, p. 47). Reid (2017) recommended that instructional designers play a more active part in faculty development by identifying perceived barriers

that hinder academic technology use. Reid (2017) also suggested that instructional designers help formulate a clear online learning strategy in their institution to support faculty who are keen on utilising educational technology as well as be aware of their circles of control and influence to affect change in faculty adoption of instructional technologies.

Instructional designers can share some of the instructors' workload by deploying tools that communicate the content in an efficient way, engage students to learn, communicate, and interact, and support effective assessment activities (Brigance, 2011; Robinson & Hullinger, 2008). Examining the quality of online course design, a survey of 2300 instructional designers and instructors in the U.S. found that some attributes need to be present in an online course to ensure a high quality (Lenert & Janes, 2017). These attributes include outlining the instructors' expectations for discussion posts, using regular synchronous sessions, setting up students' peer-review and peer-assessment as a formative assessment, and using "excellent work or case studies [...] to demonstrate expectations instructors had of the learners for an assignment" (Lenert & Janes, 2017, p. 8). In addition to the important role of the instructor and the instructional designer in the development of online courses, the survey recommended including librarians in the course design team.

Theoretical frameworks to support online learning. To support faculty in integrating technology in their teaching, Mishra and Koehler introduced the TPACK framework in 2006. TPACK stands for technological, pedagogical, and content knowledge (Baran & Uygun, 2016; Chai et al., 2013; Voogt et al., 2013). Based on Shulman's (1986) pedagogical content knowledge (PCK), TPACK takes into consideration, in addition to understanding the content or subject and using appropriate instructional approaches, the role of technology in delivering effective teaching (Koehler et al., 2013) to ensure a balance is kept between all the different constructs. Koehler et al. (2014) acknowledged the limited

contribution of the TPACK framework which advocates for "teacher education and teacher professional development", while recognizing that as a framework, it does not take into consideration the "broader goals of education" (p. 109), especially in areas such as developing higher order thinking skills, supporting collaboration, and empowering creativity for teaching with technology.

Another emerging model developed by Picciano (2009) proposes a theoretical framework for online education based on the three main learning theories: behaviourism, cognitivism, and social constructivism (Picciano, 2017). Picciano also examined other theories that were derived from these theories, such as community of inquiry, connectivism, and online collaborative learning and concluded that there is a need for a *unified theory* that integrates all important elements. He called this model the *Multimodal Model for Online Education* that consists of the following elements: content, social/emotional, self-paced/independent study, dialectic/questioning, evaluation/assessment, collaboration/student generated content/peer-review, and reflection and in which the learning community is at its centre. Depending on the type of the online or blended course, different elements come into play to create an optimal learning environment (Picciano, 2017).

Faculty's self-efficacy as an indicator of online teaching satisfaction. In the pre-Covid-19 era, face-to-face was the normal delivery method in HE although a few institutions had already established their online and distance learning courses. The generational divide between the teachers and the students also contributed to the teachers feeling a lack of support when it comes to using technology to deliver their classes. Doube (2000) found that when teaching off-campus, and in order to support a student-centred learning, teachers spend more time on putting together lectures than they would usually do

for a face-to-face class. Furthermore, faculty need to build confidence using technology (Kilgour et al., 2019). In fact, a study by Northcote et al. (2011) identified six themes that "represented the concerns of the faculty teaching staff about online teaching and learning, and the process of developing online teaching skills" (p. 79). Indeed, a recent study by Liu et al. (2022) suggests some training strategies that can be integrated into teachers' training to develop their online competencies while also building their resilience, self-efficacy, and wellbeing in a post-pandemic era.

Prior to the pandemic, Day and Gu (2014) found that personal factors play a role in influencing teacher resilience, such as self-briefing, emotional competence, self-efficacy, enthusiasm, and motivation in addition to gender, age, and teaching experience (Liu et al., 2022; Lin et al., 2022), which are considered "an important predictor of teaching quality and student academic performance" (Liu et al., 2022). In fact, self-efficacy of teachers, defined by Bandura (1997) as being confident in their ability to complete their teaching tasks successfully in a specific situation, has been widely researched before the pandemic. In a study by Zee and Koomen's (2016), which provides a synthesis of 40 years of research in teachers' self-efficacy, the authors found that self-efficacy "shows positive links with students' academic adjustment, patterns of teacher behavior and practices related to classroom quality, and factors underlying teachers' psychological well-being, including personal accomplishment, job satisfaction, and commitment" (p. 981). In fact, Hodges (2008) considered self-efficacy as "a reflection on prior performance" where one practices "cognitive weighting" to measure their "prior performance, self-perceptions of ability, effort expended, task difficulty, and the amount of assistance received" (p. 8). Furthermore, self-efficacy can be determined by the physiological and emotional state (Hodges et al., 2008). Students' facial expression in face-to-face teaching is an important factor for faculty

to decipher their students' emotional states. Eye contact, speech, and gesture allow faculty to understand and interfere when necessary to create a positive learning experience (Kort et al., 2001; Reilly et al., 2012), which is not the case in online learning (Sher, 2009) and assess the "affective engagement" of the learner (Dewan et al., 2019; Betts et al., 2010), which in turn feeds into faculty's high perception of their self-efficacy (Pappa, 2014).

Wichadee (2015) used the Technology Acceptance Model (TAM) theoretical framework to survey 62 faculty and found that faculty attitudes towards the usefulness of LMS "were not correlated to actual use of LMS" (p. 53). Horvitz et al. (2015) studied the challenges faced by professors when moving to online teaching and investigated their self-efficacy in online teaching. The study found that the most significant indicator of self-efficacy among professors is *perception of learning* in which professors "witness student performance improvement" and consequently experience an increase in their self-efficacy confidence in online teaching. The authors recommended that early interventions such as "exemplar courses, research-based instructional design approaches, and testimonials from other professors" are useful in supporting and encouraging new online instructors (p. 314).

Opportunities and challenges in supporting student engagement. Moore (1989) distinguished among three types of interactions that occur in online learning: learner-content, learner-instructor, learner-learner. Building on Moore's initial model, Anderson (2003) included three additional levels of interactions: instructor-instructor, instructor-content, content-content. The context in which the learning takes place needs to be explicitly acknowledged by the instructor "since the learning process takes place within a social framework" (De Verneil & Berge, 2000, p. 236). Furthermore, when exploring online courses, Harasim (1989) found that learners build their knowledge as they collaborate, explore different perspectives, develop and defend their arguments.

In a study of online learning conducted at an American university in the U.S., Marinakou and Elias (2012) compared the instruction of an accounting course through face-to-face versus online and concluded that the differences in the delivery methods were statistically significant in the professor's performance and the students' satisfaction with the course. In their response to the survey, students emphasised on the instructors and the quality of their course design in relation to content, learning outcomes, and material rather than the mode of delivery itself. Although the study concluded that online courses were preferred by students for their convenience and self-pacing advantage, the authors also found that respondents preferred the face-to-face mode of delivery for its classroom interaction, the instructor-student engagement with questions and answers, and material supplemented online.

Another important factor in online learning is the use of synchronous online teaching where instructors are physically separated from the students, but they communicate in real time, and asynchronous online teaching where students and instructor are separated spatially and temporally (Roblyer et al., 2007). While some studies did not find substantial differences between synchronous and asynchronous learning, Bernard et al. (2004) found that asynchronous learning resulted in better outcomes, a finding that was emphasised in a recent study by Brierton et al. (2016) that asynchronous learning improves higher order thinking skills. Furthermore, in an online environment, it is important to create a sense of community, and establish a social presence and a teacher presence to reduce learners' isolation and increase their motivation (Esani, 2010). This was shown in a study by Hodges and Cowan (2012) which found that undergraduate students consider teacher presence in an online course essential for their success. This presence can be manifested in

the availability of clear instructions and timely feedback from the instructor in addition to the realistic timeline and deliverables of the course (Hodges & Cowan, 2012).

Many studies have investigated the use of technology in fostering self-directed learning from students' perspective, its impact on their academic success, and its role in lifelong learning and critical thinking. However, very few studies have considered it from a faculty perspective. One of the critical skills for the 21st century (Rashid & Asghar, 2016; Voogt & Roblin, 2012), self-directed learning can be promoted through the use of Web 2.0 tools (McLoughlin & Lee, 2010) and used to "create personally meaningful learning experiences" (Barnes et al., 2007). Lee et al. (2014) found that self-directed learning is an "ambitious form [...] of learning that [is] more demanding than passive listening to teachers' transmission of well-organized knowledge" (p. 426). A learning environment that provides technology promotes students self-regulated learning and fosters their knowledge in managing and using information (Fahnoe & Mishra, 2013). However, without adequate preparation, information and communications technology (ICT) might not deliver the expected learning outcomes. In fact, several research studies suggested that self-regulated learning may be one way of improving students' participation and engagement in online learning (Zimmerman, 2000; Dabbagh & Kitsantas, 2004; Rowe & Rafferty, 2013; Al-Freih, 2021). Quinney et al. (2010) found a relationship between individuals developed online skills and their increased engagement in self-directed learning. For example, online forums are used to positively impact self-directed skills (Guglielmino, 2013), which "has a positive correlation with academic performance" (Hyland & Kranzow, 2011).

Self-directed learning requires self-management and familiarity with other learning strategies that a learner can use when facing problems (Lee & Teo, 2010), and therefore, the use of technology can facilitate overcoming such learning barriers. For example,

students can use online softwares to organise their learning or decide to join online learning communities to learn from peers (Thomas & Brown, 2011; Lee et al., 2014). Lopez-Perez et al. (2013) found that when online tools are used, learners “acquire knowledge and develop skills such as reasoning, problem solving, and decision making, all of which lead to them achieving better marks” (p. 635) and enabling them to be autonomous (Conradie, 2014).

2.4.2 Faculty Readiness to Use ERT and Perceived Challenges

The shift to online teaching following the pandemic put an unprecedented pressure on faculty members and increased their workload where faculty felt they were being assessed for their adaptability and resilience (Egan & Crotty, 2020). Furthermore, student engagement in an online course is an important indication of teacher’s self-efficacy and a challenge that became more apparent during the transition phase (Hampton et al., 2020). Logging his personal accounts in the first seven months of the pandemic outbreak in the Netherlands, de Boer (2021), a faculty member, described this period as full of uncertainties, a constant demand for adaptability, and an “unpleasant feeling of not being in control” (p. 104). When faculty were finally able to go back to campus and use blended learning, de Boer (2021) described it as ‘time consuming,’ especially when “managing the educational programs” and finding “customized solutions for students in trouble” (p. 105).

A study by Rosak-Szyrocka et al. (2022) investigated how faculty from different universities in Poland, Pakistan, Iraq, USA, UK, Germany, and Austria used e-learning resources and their attitudes towards e-learning. The study found that the pandemic helped faculty "appreciate the opportunities offered by distance learning” (n.p.), and they were able to quickly adapt to the situation even though student engagement was the most challenging aspect of ERT. In a study by Culp-Roche et al. (2021), nursing faculty scored

highest on their self-efficacy and computer skills while student engagement had the lowest score. Furthermore, faculty with previous online teaching experience showed higher levels of self-efficacy in online teaching.

The literature on faculty transitioning to ERT during the Covid-19 pandemic is limited and focused mostly on students' perceptions and attitudes (Castelli & Sarvary, 2021; Dorn et al., 2020; Damşa et al., 2021; Gonçalves et al., 2020; Gonzalez et al., 2020; Hussein et al., 2020; Huckins et al., 2020; Iglesias-Pradas et al., 2021; Lin et al., 2021; Mohamad Nasri et al., 2020; Sederevičiūtė-Pačiauskienė et al., 2022; Al-Salman et al., 2022), but little on the quality of teaching or faculty attitudes, perceptions, and experiences (Culp-Roche et al., 2021; Hicks, 2020; Lederman, 2020; Sims & Baker, 2021; Al-Freih, 2021). Based on data from 64 countries and 1144 participants, Scherer et al. (2021) explored faculty readiness for online teaching and learning through three dimensions:

- TPACK efficacy (based on a study by Koehler et al., 2013)
- perceived online presence
- perceived institutional support.

The study identified three teacher profiles that can help in understanding the different perceptions of readiness among teachers so that institutions can set up personalized support and "develop better policies" for quality online learning (Scherer et al., 2021, p. 2). The findings confirm that there are different profiles among teachers which require tailored support for online learning. The study also showed that "personal and contextual readiness may not necessarily go together" as well as perceived support from the institution "may not compensate for little confidence in teaching online" (p. 14). Other studies (Annamalai et al., 2022; König et al., 2020) also used the TPACK framework to understand faculty

teaching practices and professional competence during the pandemic. These findings were drawn from a wide range of countries that do not have defined commonalities in their IT infrastructure, educational policies, or HE system and therefore, these results can be expected. Although such studies are needed to prove these discrepancies in the current educational system, it would have been more useful to group these countries with similar criteria to draw more target conclusions and draw an action plan for improving online teaching and learning. Hjelsvold et al. (2020) interviewed 22 educators in Norway who manifested an optimistic approach to ERT but also admitted lacking pedagogical competence.

Watermeyer et al. (2021) investigated 1148 academics across the UK for their perceptions regarding the short and long-term impacts of online learning, teaching, and assessment. The results show that the majority of faculty members in UK HE institutions had a negative experience of transitioning to ERT and were sceptical about online learning. The study has highlighted faculty perceptions as follows:

> *professional dysfunction and disturbance, of inequality, exploitation and neglect; of confidence and trust abused and squandered; of disempowerment, displacement and marginalisation; of self-concept on trial and in tatters; of vulnerability and helplessness; and of the loss of a much maligned past superseded by the perceived machinations of digital dystopia and threat of professional oblivion.* (p. 638)

Using a poetically-articulated description of faculty perceptions of ERT, the study uncovered serious disturbances expressed by faculty members and a series of concerns regarding their 'pedagogical role' as well as their 'personal lives' (Watermeyer et al., 2021, p. 623). The use of strong words such as *exploitation, abuse, marginalisation, maligned*

past, digital dystopia, and *professional oblivion* creates an extreme image of suffering that faculty experienced during ERT.

However, a study by Lederman in fall 2020 brought a silver lining in the cloud of online learning. The study found that faculty confidence in online learning has grown by 10% between May and August of 2020 (Lederman, 2020). The author quoted some responses that explain the increased positive attitude towards online learning such as "every student engages (there are no 'quiet' students), there's a degree of flexibility for students, using online resources in place of purchased texts relieves student cost" and "course content is the most up-to-date it has been in several years with the extra prep I have been doing for the transition online" (Lederman, 2020).

What is interesting in these large-scale studies is their inability to bring a definite answer to the questions raised during ERT. Many variables play a role in the success, or failure, of online learning, and this can be observed across the board. However, what can be concluded from these studies is that there is a big digital divide in availability and access to technology, in acceptance and use of technology, and in faculty preparedness and skills in the same country, same institutions, and even in the same departments.

Challenges with student engagement and assessment during ERT. Students' engagement seems to be of great concern to faculty members who were teaching online during the pandemic period (Sims & Baker, 2021). During the Covid-19 lockdown period, many universities were focusing on getting their faculty and teaching staff trained to use online teaching resources. However, these institutions did not consider providing training to students who also struggled while adapting to ERT. Neuwirth et al. (2020) consider that students need to be trained "in proper etiquette and professional behaviours" when learning online as these skills "will be both valuable and transferable in future employment settings"

(p. 4). When searching the literature, the authors found only one article by Conrad (2002) that explores students' social presence and the need to create a code of online etiquette to create harmony among learners and ensure they succeeded in their online class. Furthermore, Conrad and Donaldson (2012) considered that to engage online students, faculty need to build relationships through icebreakers and social interactions early on, in the beginning of their course. Since students' lack of engagement was the biggest challenge during the transition period, faculty seemed to make it a priority for the fall semester, which explains having it on top of the list with 71% responses in August 2020 survey versus 57% in May 2020 followed by "providing timely feedback for students" with an increase of 11% for August 2020 (Lederman, 2020). Furthermore, while a previous study considered that the continuous interaction among student-student and instructor-student increased student engagement (Dixson, 2010), Aguilera-Hermida (2020) found that distractions at home were the major reason for students' decreasing engagement during ERT. In order to measure students' engagement, the literature describes some machine learning tools, such as the convolution neural network CNN (Dewan et al., 2019), "to predict emotions with higher accuracy" (Mukhopadhyay et al., 2020, p. 109). However, investing in such technologies, the accuracy of the data, as well as the lack of feedback in real-time makes the use of such tools time consuming (Jiang & Zhu, 2021) and, therefore, less practical.

Using the constructivist learning theory, Tsang et al. (2021) came up with a conceptual framework that consists of three entities: student, instructor, and institution, which "contribute to four predictive variables: student–student dialogue, instructor–student dialogue, course design, and university support" (p. 4). Using a student survey from 11 public and private universities in Hong Kong to measure the four variables, the authors concluded that "student–student dialogue and course design were significant factors that

predicted perceived learning outcomes" (p. 10). However, while instructor–student dialogue did not impact learning outcomes, it was considered significant for student initiative. The authors concluded that:

> *Interaction with instructors during synchronized lectures, breakout group discussions, or arranged online meetings, allows students to communicate with instructors when they have questions regarding the course content. Instructors can clarify students' concerns and inspire students' learning. Interaction with instructors promotes critical thinking and learning interests among students that cannot be achieved by other factors.* (p. 11)

Together, improved learning outcomes and reinforced student initiative positively impact student satisfaction. On the other hand, university technical and administrative support did not seem to have a significant impact on learning outcomes unlike the findings by Wang et al. (2021) in which they considered that a high level of university support is critical and can positively impact students' intention and participation in online education. Although both studies seem to have a similar number of participants, the first one gathered its data from Hong Kong (Tsang et al., 2021), while the second one by Wang et al. (2021) did not specify the sample reach of the survey.

Assessment is another important measure of student success in the traditional educational system and seems to be one of the most challenging aspects of online learning (Sahu, 2020). The Organisation for Economic Co-operation and Development (OECD, 2020) describes formative - providing continuous feedback to students - and summative - evaluating students' skills for specific learning outcomes - assessments as crucial components of the design of online learning. They ensure the provision of critical thinking, course knowledge, problem solving, and teamwork and communication. Alshamsi et al.

(2021) investigated student assessment approaches implemented in Spring 2020 following the lockdown. The authors' HE institution resolved to the use of a mix of formative and summative assessments to ensure the "alignment across curricular components" (p. 61), limit academic dishonesty, and make students accountable for their learning while providing "validated and transferable credentials" (p. 59). The assessment methods included limited-time assignment (short video, oral verification); open book and take-home exams; online quizzes and assignments; virtual laboratories; and projects, portfolios, and presentations. The original contribution this study made to the current research body on online learning in HE in the Arab Gulf is the extent to which the authors were able to gather data from fall 2019 semester and compare them to Spring 2020 semester as student performance indicators. While some results are open for discussion, the authors observed that the implemented assessment approaches succeeded in ensuring a "subtle decline" in student academic dishonesty. However, another possible solution to student assessment is discussed by Knight and Drysdale (2020) who call for integrating digital assessment using technology as a way to provide the students with a real-world application of the acquired skills. Although such an approach requires training and support for teaching staff to implement the technological part, it also necessitates buy-ins from administration to transform faculty negative perceptions of computer-mediated assessment and allay any fears regarding data privacy (Knight & Drysdale, 2020).

Medical education had its share of disruption due to Covid-19 emergency crisis. The academic year was suspended and medical educators had to desert the classroom and respond to the emergency call in hospitals. Medical students in their final year were deployed to help treat patients, clinical training, anatomy dissections, and rotations ceased, and regular examinations were replaced by online discussions (Ahmed et al., 2020;

Almarzooq et al., 2020; Franchi, 2020; Goh & Sandars, 2020; Murphy, 2020). Since medical education relies heavily on traditional didactic learning, “not all teaching and learning activities can be delivered online” (Reyna, 2020), and medical education needs to undergo extensive reevaluation and rigorous planning post Covid-19. To foster a student-centred approach to medical education, Reyna (2020) recommended empowering students by engaging them in learning design, using short videos to enhance faculty presence, and developing interactive modules. Other recommendations include improving the visual design and aesthetics of online modules, using flipped classrooms to improve students’ lifelong learning skills, rethinking assessment activities, providing timely feedback to students, and evaluating the teaching approach for improvement. In China, the National Centre for Health Professions Education Development administered a survey in which medical schools share their ‘best practices’ moving to online learning during the 2020 pandemic lockdown (Jiang et al., 2021). Based on the survey results, Jiang et al. (2021) extracted 12 tips where “each tip reveals a unique perspective aiming to help medical schools differently” (p. 2). The authors aimed at providing real examples of online teaching and learning during the pandemic to help medical schools implement online learning quickly and efficiently. The authors recognized that the tips are not comprehensive; nevertheless, they cover “essential knowledge in teaching modes, infrastructure construction, platform integrations, and other educational policy decisions” (p. 9). In fact, these changes were called upon long before the pandemic by Quintero (2014) who predicted that “in an unstable world in which previously controlled diseases re-emerge and new ones arise” medical education needs to prepare students to stay abreast of the latest knowledge by keeping their curriculum up-to-date, offering interdisciplinary courses, and providing a relevant clinical experience, to make sure students are ready to respond to

challenges emerging in population health (Quintero, 2014, p. 4). Quintero (2014) believes that revamping medical education and making it relevant to current and future challenges needs "global thinking and local implementation in an interconnected world" (p. 4). The change Quintero advocated for was finally imposed among medical schools in March 2020 but lacked any planning, structured implementation, and efficient assessment techniques.

2.5 Transformative Learning as a Theoretical Framework

Measuring faculty experience and transformation following ERT necessitated a different theoretical approach. Following the pandemic, many studies used Transformative Learning (TL) as a framework to understand the transformation that took place in HE. Before diving into the application of TL, the following section provides an overview of TL, its different phases, and how its recent applications.

2.5.1 The Different Phases of Transformative Learning

Transformative learning (TL), sometimes also called transformation learning, is a theory of learning developed by Jack Mezirow in 1978 and focuses on adult education. Mezirow found that with new information coming our way, when critical reflection or evaluation is applied to past knowledge, learners can experience a transformation in their knowledge and a shift in their worldview (Mezirow, 1978). Based on Vygotsky's social constructivism and 'zone of proximal development' (1978; 1986), Kuhn's paradigmatic transformations (1962), Freire's critical pedagogy (1970), and Habermas' sociolinguistic context (1971), TL has passed the test of time for more than three decades and continues to be used as the basis of the adult learning movement (Calleja, 2014; Taylor, 2000). The original conception of TL as described by Mezirow (1978) consisted of 10 stages:

- A disorienting dilemma: A situation where people realise that what they always believed in was not accurate. This situation is usually uncomfortable and might be challenging.
- Self-examination: The next step is for the person to go through a self-reflection about past experiences.
- Recognition of some sort of dissonance that is shared with others: This is when people recognize that what they know or the assumptions they hold may not be the only perspective.
- Exploring possible options: reflecting on the newly learned information or acquired knowledge.
- Critical assessment of assumptions: This is when a person starts to critically review and assess past assumptions while keeping an open mind to new information.
- Trying on new roles: In this phase, people decide to put into practice what they learned.
- Planning a course of action: Once people accept that their past assumptions may have been wrong, they are able to consider new information to learn new things.
- Acquisition of knowledge or skills to implement a new plan: This is when a person gets deeper in transformational learning by undertaking extensive effort into learning something.
- Competence-building: This is when a person starts building self-efficacy and confidence in new skills or understanding.
- Integrating the newly gained perspective into one's life: This is the final phase of the transformative learning where people continue to practice their new role.

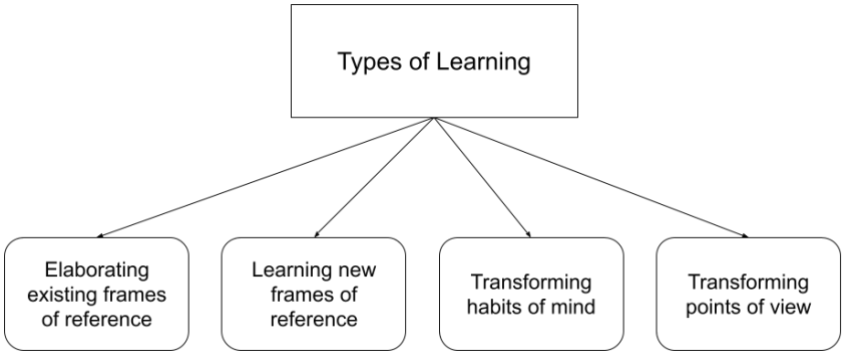
2.5.2 The Frame of Reference and Types of Learning in Transformative Learning

Mezirow revised his theory a decade later expanding on the 'frame of reference' which includes habits of minds defined as "sets of immediate specific expectations, beliefs, feelings, attitudes, and judgments" (Mezirow, 2000, p. 18). Later on, he provided a clear definition elaborating the epistemology of TL as "how adults learn to think for themselves rather than act upon the assimilated beliefs, values, feelings and judgments of others" (Mezirow, 2003a; 2003b), which is undertaken through critical reflection that questions previously held assumptions and beliefs.

In 2009, Professor Edward Taylor provided a list of essential, interdependent, core elements that frame and guide a transformative approach based on his collaboration with Mezirow (Taylor, 2009). These elements are the following: a) individual experience; b) critical reflection; c) dialogue; d) holistic orientation; e) awareness of context; and f) authentic relationships. When put together, all these elements "[provide] a lens for making meaning and guiding a transformative practice" (Taylor, 2009, p. 5). This transformation involves change in the frames of reference to which we refer when making sense of our experience, namely "our values, affective dispositions, moral and aesthetic preferences, paradigms, learning preferences and sense of self" (Mezirow, 2003b). In their turn, these frames of reference include habits of minds, such as sociolinguistic, oral-ethical, epistemic, philosophical, psychological, and aesthetic dimensions (Kitchenham, 2008). When learning new frames of reference and transforming our habits of minds, we experience a change in our points of view (Mezirow, 2000) as illustrated in Figure 2.1.

Figure 2.1

Mezirow's Revised Four Types of Learning (2000)



Although this transformation can be epochal or cumulative (Mezirow, 1991; Kitchenham, 2008), a person might not experience all these phases in the set order to go through a perspective transformation. However, this change cannot happen unless the individual uses critical self-reflection (Calleja, 2014) and is convinced that their assumptions are invalid and if, within a field, enough individuals experience a transformation, "the field itself has a chance to change" (Christie et al., 2015). In fact, following the Covid-19 ERT situation, Hodges and Fowler (2020) urged faculty to incorporate reflection in their daily professional practice, as it improves their teaching skills as well as the quality of their instruction, be it online, face-to-face, or blended.

TL can impact our perceptions as we explore new knowledge. According to Mezirow (1994), the understanding of our past perspective, the ability to critique our old assumptions, and look at new structures and perspectives are key to the TL theory. In the exceptional circumstances under which this study took place, change in faculty perspectives was challenging and accompanied by a range of emotions starting with hostility, denial, distress as also expressed in a study by Servage (2008) who observed the same behaviour

when studying transformative practises in professional learning communities of North American educators.

Critical self-reflection is, as seen earlier, a necessary process to reach transformation. This can be summarised as:

- Content reflection or learning with present meaning schemes: when individuals reflect on their previous actions. This encourages a transformation of a meaning scheme.
- Process reflection or learning new meaning schemes: when individuals consider the origins of their actions, which also leads to a transformation in meaning schemes.
- Premise reflection or learning through meaning transformation: when individuals consider and question the larger picture of their value system. This can lead to a deeper transformation in the meaning perspective.
- Critical reflection of assumptions or objective reframing of assumptions: when individuals reflect on the assumptions behind their actions.
- Critical reflection on assumptions or subjective reframing of assumptions: when individuals reflect on their premise or worldview upon which they have defined a problem (Mezirow, 1998; Kitchenham, 2008; Calleja, 2014).

When applied to the current study, content reflection can lead faculty members to ask what they can do in an online ‘zoom’ presentation, given their past experiences and knowledge. As for process reflection, faculty members can ask what were the advantages and disadvantages of face-to-face class presentation that would help them plan for the online presentation. When it comes to premise reflection, faculty members can ask why it is important to adopt online teaching and develop an online presentation while they could be

using the same slides they used for their previous (pre-pandemic) classes. For critical reflection of assumptions, a faculty member can examine how to use 'zoom' to deliver the live presentation. Finally, critical reflection on assumptions is when faculty members consider why they did not want to use zoom before the pandemic.

This last type of critical reflection - critical reflection on assumptions, or subjective framing - includes four types:

- Narrative critical self-reflection: where individuals examine something communicated to them, considers "the problem as applied to [them], and [comes] to a resolution."
- Systemic critical self-reflection: when individuals examine "taken-for-granted cultural influences." These can be organisational pertaining to the workplace or moral-ethical such as social norms.
- Therapeutic critical self-reflection: when individuals examine their feelings and therefore consequences on their actions.
- Epistemic critical self-reflection: when individuals examine the causes, the nature, and the consequences of their frame of reference (Kitchenham, 2008, p. 117).

All four critical self-reflections are experienced to some different extent among participants as will be shown through the findings of this study, especially in the context where this study took place "where *not-knowing* is the new normal" as expressed by Eschenbacher and Fleming (2020). Mezirow considers that:

> *When a meaning perspective can no longer comfortably deal with anomalies in a new situation, a transformation may commence. Adding knowledge, skills, or increasing competencies within the present perspective is no longer functional;*

> *creative integration of new experiences into one's frame of reference no longer resolves the conflict.* (Mezirow, 1978, p. 104)

Moore (2005) questioned the readiness of HE institutions to shift from their traditional model towards sustainability through TL. In her own words, Moore describes sustainability education as:

> *interdisciplinary, collaborative, experiential, and potentially transformative. Sustainability education is also a process of creating a space for inquiry, dialogue, reflection, and action about the concept and goals of sustainability.* (Moore, 2005, p. 78)

However, Moore (2005) admitted that TL might not be suitable for all fields of study for different reasons such as the type of students who may lack self-directed learning skills or teachers who might struggle giving up their authority in the classroom or learning new skills. In fact, before reaching the final stage of the transformative journey, TL is "difficult and full of emotional upheavals" (Moore, 2005, p. 84).

Many articles have investigated transformative learning from students' perspective following the pandemic. For instance, an article by Kallou and Kikilia (2021) was the first study to apply TL as a framework for tourism education. The authors described how the pandemic affected the tourism sector while also creating opportunities to broaden tourism students' knowledge and skills to prepare them "for the global tourism workplace" (p. 38). The study proposed a flexible educational framework based on TL and the use of digital technologies and aimed to enable students' critical thinking, information synthesis, and communication and, therefore, a higher calibre of tourism service. Another study by Chrismastianto (2020) that investigated the implementation of transformative learning in a

social study programme concluded that transformative learning is effective in providing opportunities for students to put into practice their problem-solving skills.

Schnepfleitner and Ferreira (2021) investigated Mezirow's (1997) core elements that contribute to adults' transformative learning - critical reflection, individual experience, and voluntary dialectical discourse - and suggested a fourth element: *context*. Context, even in its basic form, may influence the transformative learning process or outcome (Schnepfleitner & Ferreira, 2021). Also, with non-traditional adult learners whose age ranged between 41 to 76, Anderson (2021) described the transformative effect her course had on her students after switching to ERT. However, such studies seemed to confuse between TL as a theoretical framework and TL as a learning goal for a face-to-face course that was turned into an online course following the pandemic. This mix-up between using TL as a lens to assess learning outcomes during the pandemic versus using it as a learning outcome by itself has been a popular practice among other studies in HE that followed the pandemic.

Nevertheless, Searle et al. (2021) provide a fresh approach by reflecting on how TL can be assessed using "thought-provoking, creative, real-world experiential, and reflection-based education" (Searle et al., 2021, p. 342), such as films, postcards, and portfolios. An important question raised by the authors is "Who is assessing and who is transforming?" The authors concluded that TL is a 'reciprocal learning' act between students and faculty that takes place 'within disorientating spaces of uncertainty' (Searle et al., 2021, p. 360).

2.5.3 Other Possible Theories, Their Application, and Suitability

When considering a theoretical framework for this study, three theories stood out as possible ones to investigate the use of technology in online learning. The Technology Acceptance Model (TAM) by Davis (1989) which considers that a person's perception of

the usefulness of technology impacts their perception of its ease of use and therefore, their willingness to adopt it. Another theory by Rogers (1962; 2003), the Diffusion of Innovations Theory, which considers that innovation is a five-step process that consist of a) exposing the person to new knowledge or awareness about the innovation; b) persuading the person to adopt it; c) the person takes their individual' decision to adopt the innovation and d) implements it, and e) confirms their decision to pursue the use of the innovation. Finally, the third theory that was also considered for this study is the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003). UTAUT considers that adopting technology depends on four key constructs - performance expectancy, effort expectancy, social influence, and facilitating conditions – and is predicted by age, gender, experience and "voluntariness of use" (Venkatesh et al., 2003).

Despite the popularity of these theories, the Covid-19 situation imposed a different approach to using technology that does not allow users the time to consider its usefulness as in the case of TAM, neither to persuade the user to use it as in Roger's Diffusion of Innovation, nor the belief that using such technology would help them "attain gains in job performance" as described by UTAUT (Venkatesh et al., 2003). In fact, Eschenbacher borrows the concept of immunity from the Covid-19 situation and compares it to the immunity adults build to push away transformative and life-changing behaviours and keep the balance. Furthermore, Eschenbacher (2020) reflects on "how adults manage *not* to learn, to maintain their ways of being and living" (p. 759). The author believes that while we try to resist new ideas, we are "wired and programmed to learn" (p. 760). Therefore, the TL fulfils this role as it helps understand the changes faculty members experienced in their perceptions, attitudes, and practices towards online teaching based on the latest ERT experience. As explained by King (2002) "[t]ransformational learning theory serves as a

comprehensive way to understand the process whereby adult learners critically examine their beliefs, assumptions, and values in light of acquiring new knowledge and correspondingly shift their worldviews to incorporate new ideas, values and expectations" (p. 286).

In order to address this resistance to transform, a disorienting dilemma is needed. The author believes that when a dilemma or conflict happens, this is the time when people become aware of what is holding them back and start to seek change. To facilitate this transformation, there is a need for "a constructive balance between challenge and support" (Eschenbacher, 2020, p. 766). In summary, even though the transformative experience is challenging, it is also a rewarding one. Furthermore, the pandemic provided an ideal opportunity to adopt an open mind attitude, explore the disorienting dilemma, and reflect on own assumptions in order to support and nurture transformative learning.

2.6 Online Learning in Higher Education in the Arab World

2.6.1 Online Learning in Higher Education Institutions in the Arab World Pre-Pandemic

The Arab world has seen a rise in blended and online learning facilitated by technology. This move, combined with the growth in technological availability, is likely to see a continued shift of balance towards online learning. In 2002, the Syrian Virtual University was the first online accredited public university to be established in the Arab countries and was supported by the Syrian Ministry of Higher Education (Dalbani, 2009). In the same year, the Arab Open University (AOU) was established in partnership with the UK Open University and had branches in Kuwait, Lebanon, and Jordan and later on in Bahrain, Egypt, Saudi Arabia, Oman, Sudan, and Palestine (Arab Open University, n.d.). AOU, at its institutional level, has engaged "in analyzing the effectiveness of its open, online and blended education provisions … analyz[ing] the student engagement with its

MOOC courses by utilizing its LMS … [and engaging] in broader Data Analytics" to increase student engagement (The Open University, 2018, p. 29).

Dubai has been investing in its online learning infrastructure since 2002 and encouraged the establishment of educational institutions that offer online degrees (Gokah et al., 2015). Using a quantitative case study, Gokah et al. (2015) undertook an online survey of 5390 students of online learning in business, IT, media and international studies in Dubai. Study participants reported challenges related to computer skills and learning technologies, especially in taking tests and engaging with the faculty in a virtual environment. Moreover, the study revealed issues relevant to faculty training in online learning and other teaching approaches. The authors suggested that for Dubai to become the online learning pioneer in the region, HE institutions should work on improving faculty training in using online learning tools, providing technical support for the use of softwares and connectivity issues, developing policies that support online learning, and creating content in appropriate languages. Finally, HE institutions need to encourage "collegial reflective sharing of practice" (Gokah et al., 2015, p. 464).

Oman's e-learning infrastructure has grown tremendously with the Sultan Qaboos University's (SQU) implementation in 2001 of eight online courses (Al Musawi & Abdelraheem, 2004) that reached 1400 online courses by 2010 (Oxford Business Group, n.d.). In a study by Al-Ani (2013) on the efficacy of blended learning at SQU, the author found that blended learning had a positive impact on students' "motivations, achievements and collaboration and communication skills" (p. 106). The author also called for developing faculty skills in online teaching to enable a smooth transition "towards a web-based-learning environment" (Al-Ani, 2013, p. 106).

Qatar has also seen a rapid development in the infrastructure and implementation of technology to support the transnational HE project that was spearheaded by Qatar Foundation. For instance, American branch campuses in Qatar's "Education City have been using teleconferencing technology to connect main campuses with branch campuses to deliver the most up-to-date live lectures by faculty" (Weber, 2010, p. 1). To illustrate, Georgetown University in Qatar (GU-Q) has "bi-local" classes every semester where students located in Qatar can join classes offered in the main campus in Washington, DC (Weber, 2010). Weill Cornell Medicine-Qatar (WCM-Q) also uses a mix of local and recorded lectures made available by the main campus in Ithaca, NY. WCM-Q students can also attend live lectures in the main campus through teleconferencing as some courses are designed for blended learning and with the aim of bringing students from different campuses together. This approach was also implemented by Carnegie Mellon University in Qatar (CMU-Q) while Texas A&M University in Qatar (TAMU-Q) connected its local students in Qatar with the Writing Center in their home campus in Texas "which hosts a variety of e-learning resources for English language learning, including grammar podcasts, handouts, and a dedicated language lab for computer-assisted English language practice" (Weber, 2010, p. 14).

Another example of integrating online learning is the use of asynchronous discussion boards in an English for Academic Purposes course in an American medical school in the State of Qatar. In a study by Bendriss (2014), the author investigated first year Arab college students' perceptions and attitudes towards the use of the online asynchronous discussion tool in the institution's LMS. Although the sample was very limited with 10 males and 10 females, results revealed that in such cultural context, online learning is found to be more engaging as students feel more comfortable and confident to share their ideas.

Furthermore, the students found the online discussion experience easy and useful in terms of promoting their critical thinking abilities, especially having graduated from schools that promoted rote memorization. The author concludes that using “an online medium that allows [...] students to express their thoughts freely can perhaps aid in the development of second language skills to think critically and reflect effectively” (p. 54) and therefore achieve the set learning outcomes of a course.

An example of remote teaching and learning before the pandemic is a collaborative project that brought together three universities - Texas A&M University Qatar (TAMUQ), University of Houston (UH), and Texas Southern University (TSU) - to develop a remote laboratory (Wang et al., 2015). This project allowed students in Qatar to witness real-time “vivid remote experiments" (p. 12). The data collected from the students’ satisfaction survey showed that this project met its learning outcomes successfully (Wang et al., 2015).

However, despite these initiatives, HE was still lagging behind the online revolution and was continuously challenged (Gallagher & Palmer, 2020). As described by Chamorro-Premuzic and Frankiewicz (2019), “[t]omorrow belongs to the companies and individuals who are approaching education in parallel with work, with continuous loops of learning.” ‘Tomorrow’ started the very next year, in 2020, with the advent of the pandemic that forced all educational institutions all over the world, willingly or unwillingly, to jump on the bandwagon and provide the necessary logistics and support to ensure academic continuity (Nworie, 2021). The literature on ERT and online learning witnessed a growth following the pandemic and included opinion letters, editorials, scholarly articles, blogs, and recorded interviews and online presentations. The following sections summarise the debate around this emerging topic and draw a portrait of the most eminent and relevant literature that will inform this study.

2.6.2 ERT in the Arab World During the Pandemic

Studies on the use of online learning in the Middle East and Arabian Gulf following the pandemic are scarce, and the findings are usually drawn from a very limited number of participants that do not necessarily provide a diversified sample of users, institutions, educational systems, or students' population. This might result in incomplete, limited, and even biased findings that cannot be generalised or built upon. An example of such studies is Thabet et al. (2020) who investigated faculty perception of blended learning adoption and its challenges in a postgraduate HE institution in the UAE. Although the study claims using a mixed-method approach, and that the results showed that faculty members are aware of the positive role of blended learning and ready to adopt it as long as clear policies are in place and professional training is provided by the administration, the methodology used proves to be weak and unfounded. First the study recruited six male participants from the faculty of education who were surveyed then interviewed. An important aspect of the survey that might have impacted the participants' response is the negative-wording style used for the survey questions, such as - "I do not have basic knowledge"; "technology is unreliable"; "I do not have enough time." Another problem is the claim to use a mixed-method approach with only a survey and a one interview question - "what would encourage you to do more blended learning?" - which could have been added to the survey as an open-ended question. Therefore, the lack of rigorous studies and substantial results from the Arabian Gulf impacted the truthfulness of the literature around ERT.

Another example of studies that could have had more impact on HE, online learning, and student engagement is by Gangwani and Alfryan (2020) who surveyed 250 faculty members from different HE institutions in Saudi Arabia to understand the challenges of online teaching during the pandemic lockdown and discuss the use of

students' engagement strategies. While the study sample and tested hypotheses were promising, the discussion section was absent. This absence of in-depth discussion weakened the study as authors rushed into conclusions and recommendations that were rather general than specifically drawn from the study.

The Arab Gulf countries did not look favourably at online learning. However, right before the pandemic, Kuwait started a plan to improve its e-learning infrastructure not as a stand-alone approach but as a complementary approach to face-to-face learning (Alsaffar, 2018; Albader & Al-Raqom, 2020). However, following the pandemic, the Ministry of Education approved the transition to online learning for private HE institutions while postponing the beginning of the spring semester for public institutions until August 2020. The reasons behind this decision came from the lack of preparation of public institutions to adopt online learning as well as the lack of government regulations that support online learning (Al-Taweel et al., 2020).

A study from the UAE had some practical recommendations to improve online teaching based on undergraduate students' feedback. Hussein et al. (2020) collected students' perceptions of positive and negative aspects of online learning during the pandemic. Results revealed four positive aspects of ERT - effectiveness (time and cost); safety; convenience; and increased participation - and four negative aspects - distraction; workload; technology and internet connectivity; and inadequate support from instructors and colleagues (Hussein et el., 2020, pp. 4-5). The study concluded with a list of nine comprehensive recommendations. The first four recommendations were focused on the institutional level as well as the faculty level, such as investing in online education, providing comprehensive training to faculty, introducing a "cohesive frameworks of knowledge" that allows faculty to combine technology, pedagogy and content, and

allowing the use of synchronous and asynchronous classes simultaneously. The other recommendations were focused on encouraging students' psychological and educational support through community formation, supporting student-instructor and student–student interaction channels to improve students' engagement, encouraging students' self-directed learning and building their time management skills, alleviating students' workload to avoid burn out, and finally, considering students' social, emotional, and psychological well-being (Hussein et al., 2020, p. 6).

Al-Freih (2021) used an interpretive phenomenological approach to measure faculty members' experience with ERT at a university in Saudi Arabia and their changing attitudes towards online teaching. The study identified the following three themes:

- The need to encourage students' interactions with the instructor, their peers, and the course material by revising their teaching strategies and tailoring their class activities and assignments to optimise online student engagement
- The need to increase faculty awareness of technology availability and limitations to help them adopt more accessible and engaging tools
- The need to move from ERT to technology-enhanced learning.

The latest pandemic helped faculty increase their experience, confidence, and ability to use technology for online teaching. However, this positive attitude did not completely favour online teaching over face-to-face but called for a blended approach to maintain the "social and emotional connections with students" (p. 16). Although the study used a limited sample of five female faculty members, the interpretive phenomenological approach used to collect data allowed for participants' deep reflection and generated a set of solutions that can be shared with and adopted by other faculty and online teaching staff.

Summary of Chapter 2

In the pre-pandemic online learning landscape, the literature was busy defining online learning and trying to find common grounds among the different approaches: blended learning, distance learning, digitilisation, e-learning, online learning, ERT... Scholarship on online learning shows that the focus was almost always on the availability of technology and the readiness of faculty to adopt this technology in order to offer and support online learning. However, little attention was given to assessment, evaluation, and engagement. It seems that pre-pandemic online learning was more concerned with adult learners who are expected to be responsible for their learning choices, self-directed, and able to commit to required time and acquire the necessary technology for a successful experience.

The pandemic obliged anyone, at any age, despite their technological affordance, self-directedness, and readiness, to be part of an imposed ERT situation. The literature published during the pandemic revealed other important elements that are crucial for the success of online learning: faculty lifelong learning skills, student engagement, and fair assessment. Discrepancies in HE will always exist among different nations, and even within one nation, one government, one education system, and one institution. However, online learning is here to stay and HE needs to embrace it, acknowledge its transformative power, and create opportunities to facilitate its adoption. Therefore, this study investigates the challenges and opportunities that the latest pandemic has created from faculty members' perspective, and their attitudes, preparedness, and response to adopting technology-enhanced learning to ensure continuity of their curriculum.

Chapter 3: Methodology and Methods

This research investigates faculty perceptions and attitudes towards online teaching during the latest pandemic and attempts to answer the following research questions:

RQ1: What were the online teaching experiences of faculty at the American universities in Qatar's Education City during the emergency remote teaching situation?

RQ2: How have faculty perceptions of online teaching changed after the emergency remote teaching situation?

RQ3: What factors contributed to faculty online teaching experience and perception change?

An overview of the adopted theoretical framework and its application to the case study under investigation is needed. Therefore, this chapter presents the theoretical framework in use, the methodology and methods for data collection, research paradigm, researcher positionality, the ethical consideration of undertaking such research, and participants' demographics.

3.1 Methodology

This research uses a case study methodology to explore the factors that shaped faculty online teaching adoption that followed the 2020 pandemic. Case studies are used to provide "an in-depth analysis of a case" (Creswell, 2014, p. 14) and interpret a particular situation (Yin, 2009; Cohen et al., 2018) in which the investigator has no control over the events. According to Cousin (2008), analysing qualitative data requires an exploration of "themes, patterns, stories, narrative structure and language within research texts (interview transcripts, documents, etc.) to interpret meanings" (p. 31) and, therefore, portray a comprehensive picture of the research results. The data gathering process and the analysis are interlinked; they require continuous reflection on the collected data and its connection

with the literature and the theoretical framework. Cousin (2008) also emphasizes that qualitative data analysis consists of three main sources: the literature, empirical data (interview scripts, documents), and "the researcher's reflective notes" (p. 34). For Cousin (2008), the researcher's process of reflexivity is critical in the data analysis. For instance, the author recommends that researchers engage in a continuous research cycle where the literature feeds into the analysis of data and vice-versa. As researchers analyse and code, they need to write memos that might generate some reflections and themes and pay attention to recurring patterns. This mixed-methods case study will use two tools - a questionnaire and interviews - to gather the needed data that will answer the research questions and provide an analysis of the current situation of online learning during troubled times in private HE in Qatar.

3.2 Research Paradigm

Fleetwood (2005) considers that "[t]he way we think the world is (ontology) influences: a) what we think can be known about it (epistemology); b) how we think it can be investigated (methodology and research techniques); c) the kinds of theories we think can be constructed about it; and d) the political and policy stances we are prepared to take" (p. 197). As a researcher, I consider my ontological stance to emanate from constructivism, also referred to as constructionism, where "social phenomena and their meanings are continually being accomplished by social actors" (Bryman, 2012, p. 33) while adopting interpretivism as an epistemological approach which calls for "the social scientist to grasp the subjective meaning of social actions" (Bryman, 2021, p. 30). Therefore, my research paradigm explains my preference for the use of a case study methodology to investigate and explore faculty attitudes towards and perceptions of online teaching during the pandemic and the transformation, if any, this experience had on their practice.

Being a social constructivist whose preference is for a qualitative research approach does not necessarily deny the practicality that quantitative data can bring in research, especially through triangulation. Since research is governed by the notion of "fitness for purpose" (Cohen et al., 2018), the use of mixed methods, especially the questionnaire as a quantitative tool, helped in setting the context for collecting the qualitative data through one-on-one interviews. In fact, Cohen et al. (2018) consider that when the research purpose is to find out the *what* and *why*, a mixed-methods approach is suitable. Therefore, the use of transformative learning as a theoretical framework that emerged from social constructivism is carefully chosen to structure the development of the data collection methods and the analysis of the findings.

3.3 Research Positionality

In my position as a Librarian for Education and Research working in one of the branch campuses under investigation, I was relatively able to get access to some of my participants through direct contact and friends' referrals. However, I experienced the 'double-edged sword' that Mercer (2007) described in two different ways. First, I felt intimidated when inviting people I knew to participate in my study, and asking them to circulate the invitation among their networks, as I did not want to exert any kind of pressure on them. However, I figured that this was the only way of eliciting responses since we live in a highly collectivist society - even though some participants belong to individualistic cultures while practicing in Qatar - (Hofstede, 2011) where connections are important when executing any social research. Second, while collecting my data through the one-on-one interviews, I was challenged by my "insider-researcher positioning" and my "knowledge of existing customs and practices" while trying to maintain a "relative outsider position" to

ensure an “appropriate degree of distance and detachment from the subjects of the research” (Mercer, 2007, p. 5).

While I was able to get access to 13 participants who generously shared their experiences, perceptions, challenges, feelings, and frustrations with me, I ended up with 31 pages of notes. The interviews were conducted using Zoom, and being familiar with the cultural setting in which the study took place, I opted out of recording these interviews for two main reasons. First, while a considerable amount of literature supports the use of audio recording during interviews to accurately capture the data (Tuckett, 2005; Green and Thorogood, 2009; Paulus et al., 2017), the use of a recording device might influence what is being said (Caronia, 2014). Although Benstead (2017) claims that “audio recording is not generally used in the Arab context due to authoritarianism, fear, and lack of familiarity with the research process” (p. 21), this was not the case for opting out of recording the interviews in this study. In fact, this research took place in a collectivist cultural setting, although most of the participants belonged to an individualistic culture, especially the U.S. and U.K. (Hofstede, 2011).

This conflict between the research context and the participants might create some hesitation on the part of participants about participating in this case study where they might exercise some sort of self-censure to protect their careers in a place they might consider as conservative and ‘less democratic’ than their home country. Other studies have also described hesitation to participate in research studies in similar contexts, especially when the interaction was going to be recorded, which might lead to declining or withdrawing from studies (Killawi et al., 2014; Ewers & Dicce, 2016; Abduljawad, 2013). The second reason for not recording the interviews was ensuring the interviewees felt comfortable sharing more information and details including their frustrations, which they might hold

back on doing if the interviews were recorded. My main concern was to establish trust with the interviewees and allow them to vent or call things out while I was able to grasp the essence of what was being said rather than an account of a word-by-word transcript. Indeed, this approach allowed me to collect a substantial amount of data that fed into my theoretical framework and enriched my findings.

Luckily, my insider position helped me grasp the language used by the participants. However, I also had to weigh in the fact that if these interviews were conducted face-to-face and using a recording device, more data could have been gathered, and I would have had the chance to account for the participants' unsaid words and body language. An example of the interview script template is shared in Figure 3.1. While this script was filled out manually during the Zoom interviews, once the interview was concluded, I filled in the missing pieces and jotted down my notes on the interviewees' tone and observed - even though limited - body language cues.

Figure 3.1

Interview Script Template

Interviewee A – Date:

	1.Can you tell me about a course that you used to teach **before** the emergency pandemic crisis, and how you had to change the way you deliver it **during** and **after** the emergency pandemic crisis?	**Notes:**
DURING	2.Reflecting back on your experience teaching online during the emergency pandemic crisis, how would you describe it? (Follow-up question, did you face any challenges? Barriers?)	*CHALLENGES*
	3.How did your institution support you during this experience? Did anyone help you? How would you describe your relationship?	*SUPPORT*
	4.To what extent were you satisfied with the quality of your online teaching during the emergency pandemic crisis?	*QUALITY*
AFTER	5.In hindsight, what resources do you wish you had access to during this crisis for an effective online teaching experience?	*RESOURCES*
	6.To what extent did this experience impact your pedagogical approaches to curriculum delivery?	*PEDAGOGY*
	7.How did this experience shape or affect your outlook on higher education?	*TRANSFORMATION in HE*

Additional Observations:

3.4 Case Description

My personal experience in designing and implementing online learning activities and helping faculty members move to ERT during the pandemic made me reconsider the extent of face-to-face teaching and learning while also considering the opportunities and challenges of online learning. All the technological support our campuses provided did not prevent the ERT situation from hitting hard and exposing the vulnerabilities of our HE system.

Although the topic that underpins this study is not unique to Qatar as ERT has been implemented around the world following the pandemic, there is a dire need to understand the HE landscape in Qatar and its transformation in light of the pandemic. But before doing so, it is important to set the boundaries of this case within the global changes that were taking place during these uncertain times. Following Miles et al.'s (2014) description of a case study, the "period of time" corresponds to March 11, 2020 and the "event" is the declaration of Covid-19 as a pandemic by the World Health Organisation. The "nation" under investigation is Qatar, and the "organisation" is private HE institutions, while the "small group" consists of the American branch campuses in Education City (Miles et al., 2014). Figure 3.2 describes the case study under investigation placing it at the center of the global, regional, and local online learning landscape.

Figure 3.2

Description of the Case Study and its Global, Regional, and Local Boundaries

The context in which this study takes place is unique in many ways. First, the geographical area that hosts these American branch campuses is located at the heart of the Arabian Gulf peninsula. Qatar is a small country that has gained an increasing importance on both economic and political levels due to its leading role as exporter of liquefied natural gas in the world (Ackerman, 2022). The revenues from gas and oil created a stable economy with the fastest growing GDP reaching 64,768 USD per capita for 2022 (Statista, 2022). Realizing its growing regional and international power, Qatar decided to build its local HE and scientific productivity capacity to be able to compete on the international scene (Crist, 2017). With the establishment of Virginia Commonwealth University branch campus in 1998, Qatar Foundation (QF) for Education, Science, and Community Development initiated the first partnership with an American HE institution. A semi-

governmental, non-profit organisation, QF manages Education City, which hosts six American branch campuses that were considered for this case study as they share certain characteristics that make them an example of globalised campuses, faculty, and students (Crist & Powell, 2017).

Despite the ongoing debate about "the considerable social, professional and academic challenges for expatriate professors" in the Arab Gulf countries due to the lack "of elements and attributes rooted in the liberal tradition" (Romanowski & Nasser, 2015, p. 654) of 'western freedom', the availability of cutting-edge technology that supports online teaching and learning is not debatable. In fact, these American branch campuses have been using technology to connect with their main campuses (Weber, 2010), and their generous budget made access to major technology easy and instant (Ibnouf et al., 2013). Therefore, this study is concerned with faculty members teaching at these branch campuses and their attitudes, preparedness, and response to adopting online teaching during the pandemic while also understanding the challenges and opportunities they faced during that period and its impact on their teaching approaches and views of HE.

I tend to describe this case study as a *revelatory case* which, according to Bryman (2012) and Yin (2009), provides an opportunity to investigate a phenomenon that was previously inaccessible or unforeseen. This opportunity was created by the pandemic. Thus, by placing this case in its geo-political context while considering participants' different educational and training backgrounds, cultural and value systems, discipline requirements, the type of students they serve, and the institutional culture in which they operate, I hope to provide insights into faculty members' perspectives of online teaching and learning and highlight any shift in their practice, beliefs, and outlook on the future of HE and their role in it.

3.5 Methods

3.5.1 Study Design

This study uses an explanatory sequential mixed-methods approach as it builds on the quantitative elements of the study to develop the qualitative data collection questions (Creswell, 2014, p. 220). The first part of data collection is a questionnaire that identifies faculty perceived challenges towards the imposed online learning situation following the 2020 pandemic crisis in the State of Qatar. Based on the questionnaire results, faculty members were contacted to take part in semi-structured interviews to investigate their experience adopting, designing, and delivering ERT to students of the six American transnational universities in Education City. The reason for choosing these two data collection methods – a questionnaire and interviews – is the complementarity that these two methods provide. While questionnaires are generally used to identify patterns among a population, interviews are used to gather in-depth insights (Kendall, 2008).

3.5.2 Participants

Participants in this study are faculty members from transnational campuses of six American HE institutions in Education City in Qatar, namely Weill Cornell Medicine-Qatar, Virginia Commonwealth University Qatar, Georgetown University in Qatar, Northwestern University in Qatar, Texas A&M University at Qatar, and Carnegie Mellon University in Qatar. The estimated total number of faculty members based on the annual fact sheets published by these institutions online is 380. However, two institutions - Northwestern University in Qatar and Carnegie Mellon University in Qatar - did not respond to my request of circulating the study, reducing the total number of faculty members to 297. Respondents were also asked to provide their contact information to find out if they were willing to participate in a one-on-one interview.

This method of triangulation serves to cross-check "findings deriving from both quantitative and qualitative research" (Deacon et al., 1998). Bryman (2012) believes that qualitative interviews can be used to "make the survey data more robust" (p. 635), which explains its usage in this study to verify the findings and draw a sound conclusion. For this study, data triangulation helped in building a coherent narrative to justify results based on the convergence of different perspectives from participants (Creswell, 2014, p. 201).

3.5.3 Theoretical Framework

The context of this study requires the use of a theory that encompasses the general and specific situation and provides a comprehensive framework to allow the development of the research questions, the data gathering methods, and the analysis of the results. This study uses Mezirow's theoretical framework of transformative learning (TL) that is considered "a deep, structural shift in basic premises of thought, feelings, and actions" (Transformative Learning Centre, 2016) that adult learners experience when confronted with a disorienting dilemma (Christie et al., 2015). Based on Vygotsky's social constructivism and 'zone of proximal development' (1978; 1986), Kuhn's paradigmatic transformations (1962), Freire's critical pedagogy (1970), and Habermas' sociolinguistic context (1971), TL has passed the test of time for more than three decades and continues to be used as the basis of the adult learning movement (Calleja, 2014; Taylor, 2000). The original conception of TL as described by Mezirow (1978) consisted of 10 stages, and an additional stage - stage 11 - was included later in 1991:

1. A disorienting dilemma
2. Self-examination with feelings of fear, guilt, or shame
3. A critical assessment of and reflection on assumptions
4. Recognition that one's problem is shared

5. Exploration of alternatives for new roles, relationships, and actions
6. Planning a course of action
7. Acquiring new knowledge and skills to implement one's plans
8. Provisional trying of new roles
9. Building competence and self-confidence in new roles and relationships
10. A reintegration into one's life employing a new perspective
11. Altering present relationships and forging new relationships

Therefore, TL will guide this study to explore participants' transformation in their habits of minds and points of view following the disorienting dilemma experienced while teaching online during the Covid-19 pandemic.

3.5.4 Data Collection Methods

Questionnaire. The first data collection tool is a questionnaire designed for faculty members who experienced the imposed move to online learning due to the pandemic crisis of 2020 (see Appendix E). At the time when this case study was being developed - during the ERT situation - there were no available tools that measured faculty online teaching experience in emergency situations. A Google Scholar search identified a couple of articles by Czerniewicz et al. (2019) and Swartz et al. (2018) investigating faculty experiences teaching online during the 2015-2017 protests in South Africa and an article by Mackey et al. (2012) in which the authors explored the Canterbury earthquake experience in 2010-2011 in New Zealand vis-à-vis designing resilient blended learning. However, neither study employed a data collection tool that could be adapted for this study. Therefore, I designed the questionnaire specifically for this case study taking into consideration the available literature that also used similar tools to measure (Bolliger & Wasilik, 2009; Lion & Stark, 2010; Allen & Seaman, 2015; Wichadee, 2015; Lenert & Janes, 2017) online teaching and

learning prior to the pandemic. What helped me anchor and streamline the questionnaire (before, during, and after) were my research questions and my informal conversations with my colleagues. Some of them are faculty members with whom I developed a long working relationship and was helping during the transition to online learning. The questionnaire consisted of three sections besides the demographics that collected information on gender and teaching discipline. Section I was concerned with faculty members' experience teaching online prior to the pandemic. Section II collected participants' responses regarding their experience moving to online teaching during the emergency period, while section III gathered data on faculty's change in perception regarding online teaching and the factors that contributed to that change. The last question asked participants whether they were willing to participate in a one-on-one interview to follow up on the questionnaire results and provide more elaborate information on the topic of online learning during troubled times.

Reliability. According to Cohen et al. (2018), when planning a survey, researchers need to define what exactly they wish to find out, the type of data needed to answer the research questions, and the questions needed to collect the data. To test the validity and reliability of the questionnaire instrument, a pilot one was shared with four colleagues - two faculty members, one instructional designer, and one librarian - whose valuable feedback helped revise and improve the questions on a structural level (revising the flow of the questions and avoiding overwhelming the participants), on a stylistic level (choosing the wording, especially that there are different terms for online learning, e.g., distance education, remote teaching, e-learning, online teaching), and finally, on a data relevancy level (the relevance of certain questions vis-à-vis the research questions). For instance, some questions were removed or divided in two to avoid "double-barrelled questions"

(Cohen et al., 2018, p. 341); the wording of some questions was revised to ensure consistency and clarity, and the organization of the questions was edited to create an easy flow. In order to ensure "a degree of sensitivity and differentiation" among the collected responses (Cohen et al., 2018, p. 480), a five-point Likert scale was used for some questions (Friedman & Amoo, 1999) while avoiding the "I don't know" category as it was found to compromise the quality of the collected data (Krosnick & Presser, 2010) and provides an easy way to complete the questionnaire. It is important to note that the questionnaire and interview questions use the terminology "disruptive period" and "transition period" interchangeably to indicate the beginning of the pandemic when live classes were suddenly replaced by online teaching following the outbreak of Covid-19.

After a careful testing and review of the questionnaire draft, the final version included 20 questions. The first two collected demographic data, and the rest of the questions were divided among three sections:

- Section I: Teaching Online *Before* the Pandemic (Qs4-8);
- Section II: Teaching Online *During* the Pandemic (which is also referred to as disruptive period) (Qs9-13); and
- Section III: Teaching Online *After* the Pandemic (Qs14-19).

The questionnaire was initially planned to be sent to a convenience sample that consists of the faculty members of the six American HE institutions in Education City in Qatar. However, two institutions declined the invitation to circulate the questionnaire for various reasons, such as faculty survey fatigue and their internal review board decision. Therefore, the questionnaire was sent in the Fall semester of 2020 to four institutions - Weill Cornell Medicine-Qatar, Virginia Commonwealth University Qatar, Georgetown

University in Qatar, and Texas A&M University at Qatar - with a total number of 297 faculty members. One reminder was sent after 10 days, and another reminder was sent after two weeks of the first reminder. I also reached out to some faculty members individually asking them to circulate it among their institution's networks. Thirty responses were recorded with one respondent dropping out after taking only the first four questions. Only 29 faculty completed and returned the questionnaire, which constitutes 10% of the total targeted population. The response rate was not surprising, especially during the circumstances in which this study took place. Survey fatigue has been a common problem in research (Whelan, 2008; Hochheimer et al., 2016) and became even more prevalent during the pandemic (Doo et al., 2020; Li et al., 2020).

Questionnaire respondents' characteristics. The questionnaire received a total of 29 responses, with 17 male respondents (59%) and 12 females (41%). The majority of respondents (17 respondents; 59%) taught courses in the Humanities and Social Sciences - History, Anthropology and Sociology, Research Skills and Information Literacy, English Language, Applied Linguistics, Writing, Composition, and Rhetoric, Political Science, International Relations and Political Economy, Fine Arts, Design, Drawing, and Painting and Illustration - while 10 respondents (34%) taught courses in Science and Engineering - Biology, Neurosciences, Physics, Biochemistry, Medicine, Psychiatry, and Engineering - and two respondents (7%) did not indicate their teaching disciplines. Results are summarized in Tables 3.1 and 3.2 below.

Table 3.1

Respondents' Characteristics

		N=29	%
Gender	Female	12	41.4%
	Male	17	58.6%
Discipline	Humanities and Social Sciences	17	58.6%
	Science and Engineering	10	34.5%
	Undeclared	2	6.9%

Table 3.2

Teaching Disciplines of Respondents

	Teaching Disciplines	N=29
Science & Engineering	Biology / Neurosciences / Physics / Biochemistry	4
	Medicine / Psychiatry	2
	Electrical or Computer Engineering	4
Humanities & Social Sciences	Humanities / History / Anthropology & Sociology	4
	Research Skills & Information Literacy	1
	English / English as a Second Language / Applied Linguistics	5
	Writing, Composition, & Rhetoric	2
	Political Science / International Relations & Political Economy	2
	Fine Arts / Design / Drawing, Painting & Illustration	3
Undeclared	N/A	2

Interviews. Once the questionnaire results were processed, faculty members who provided their contact information to participate in the interviews were contacted by email

(see Appendix D). One-on-one 30-minute interviews were scheduled with each participant via Zoom, and a calendar invitation was sent to them as a discreet reminder of the interview day and time. All 13 participants who kindly volunteered for the interview showed up on the agreed day and time. These interviews were not recorded due to cultural sensitivity, and the researcher manually filled in the interview script template (see Figure 3.1) and developed the interview notes right after each interview to ensure the most important points were captured and documented immediately.

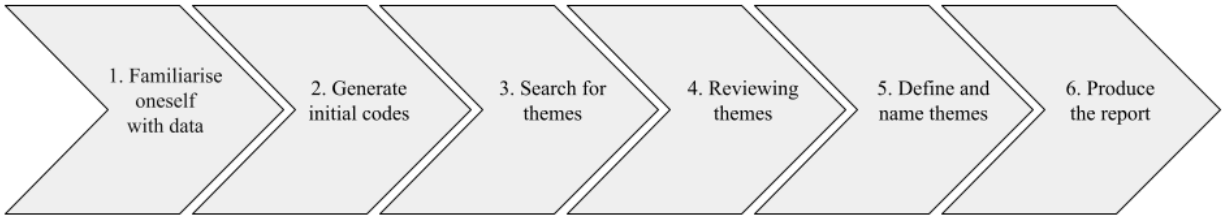
Questions included faculty recalling their latest experience during the imposed online learning situation (also referred to as ERT) and comparing it to their previous teaching experience and their first experience teaching online, if any. Questions also gathered information about faculty course management, assessment, online communication with students, use of technology, support from IT and instructional designers, and any previous training on using technology for teaching. The interviews took place in the Spring semester of 2021, one year into the pandemic. Interviews were scheduled for 30 minutes. Some of them were shorter while others took approximately 45 minutes.

The interviews consisted of seven questions (see Appendix F). The first question was used as an icebreaker to get the interviewee comfortable and set up the scene for the other questions. Qs2-4 inquired about faculty online teaching experience during the disruptive period by asking participants to reflect back on their experience teaching online during the pandemic crisis, and how their institutions supported them during this experience. Qs5-7 collected faculty members' attitudes of online teaching post pandemic and their perception of the future of HE following their experience by inquiring about the resources they wished they had access to during this crisis for an effective online teaching experience and the impact this experience had on their pedagogical approach.

Data analysis and presentation. Qualtrics software was used to collect quantitative data and identify recurrent themes from the questionnaire. Quantitative results were analysed using SPSS, and since the sample size was limited, McNemar and Fisher tests were used to compare percentages between two or more groups. The data gathered from open-ended questions were coded thematically. Faculty interviews generated rich qualitative data from the open-ended questions and were coded thematically in two phases using Atlas.ti software. First, open coding was applied to uncover primary data, give meaning to the raw data, and provide a map towards developing and defining specific codes that would help later. Second, axial coding was applied, a mechanism in which the codes were analysed to establish connections between them (Corbin & Strauss, 2008). These codes were sorted by preliminary themes that were later revised and refined to ensure a coherent pattern existed among the different themes, between the themes and the research questions, and in line with the theoretical framework. The codes resulted in 11 categories that show the different stages of faculty online teaching experience during and after the pandemic. A thematic analysis using Braun and Clarke's (2006) six steps (see Figure 3.3) was applied to "find repeated patterns of meaning" (Braun & Clarke, 2006, p. 86) and following two strategies: inductive, data-driven approach by establishing codes from the raw data (Braun & Clarke, 2006) as well as structural by referring to the study's research questions (Ryan & Bernard, 2003) and theoretical framework. While findings from the questionnaire and interviews are presented in the next chapter, *Results*, the thematic analysis that applied to the interviews is used to guide the *Discussion* chapter and draw a narrative that would help understand the current ERT situation while also engaging with the theoretical framework.

Figure 3.3

Braun and Clarke's (2006) Six Steps for Thematic Analysis



The data analysis was underpinned by the TL theoretical framework. Mezirow's (1994) revised TL approach was used to analyse interview data while drawing a picture of the situation that dominated the HE online learning environment among faculty members in Education City in Qatar.

Applying Transformative Learning theory to analyse data. Mezirow (1994) published a revised version of TL that was reduced to seven stages only and is being used for this study to analyse the data and discuss the results. These stages are as follows:

1. A disorienting dilemma
2. Self-examination of feelings
3. Critical assessment of assumptions
4. Exploration of new roles
5. Planning a course of action
6. Acquiring knowledge and skills for implementation
7. Trying out new roles

While attempting to align these stages to the data collected through the questionnaire and the interviews, it became more evident to me that the stages of

transformative learning experienced during the pandemic corresponded to the TL stages, but in a reversed order. This revelation did not occur to me until I started mapping the interviewees' responses. Table 3.3 below provides an example of each stage as experienced by the interviewees to illustrate how the data was used to explain the reversed TL stages. Based on participants' interview answers, some stages were combined together as they were experienced simultaneously.

Table 3.3

Reversed Stages of TL and Samples from Preliminary Interview Data

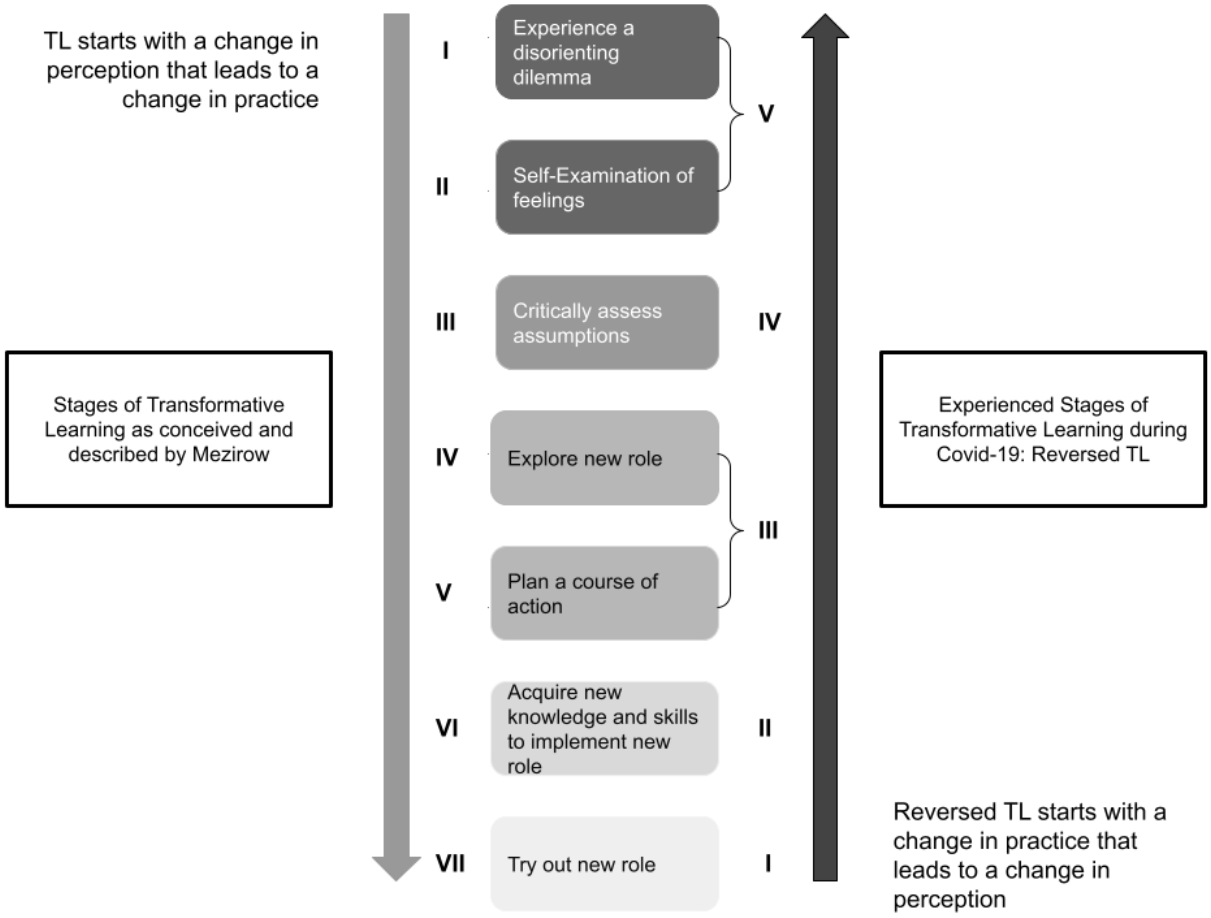
Reversed Stages of TL	**Examples based on Data from Preliminary Interviews**
1. Trying out new role	Moving to online learning overnight or what we call Emergency Remote Teaching (ERT)
2. Acquiring knowledge and skills to implement new role	Learning how to use a learning management system, and how to present on Zoom
3. Planning a course of action and exploring new role	Revising course content and re-organising content, deliverables, and deadlines, and examining new tasks, responsibilities, and functions
4. Critically assessing assumptions	Reflecting on one's assumptions and previously held beliefs
5. Self-Examining their feelings and recognising a disorienting dilemma	Exploring feelings of fear, anger, shame… and acknowledging the volatile yet persisting nature of the 'exceptional' situation while also changing their views

In fact, the Covid-19 emergency situation obliged faculty members to try out new roles overnight, giving them no room to acknowledge the disorienting dilemma, or engage in a

self-examination of their feelings, nor were they able to have time to critically assess their assumptions, or explore their new roles in order to plan their course of action. Therefore, this study adopts a reversed transformative learning in which faculty moved through the stages in the opposite direction. These stages are also used in the Discussion chapter to draw the narrative around ERT and provide a comprehensive picture of the situation experienced during the pandemic. Figure 3.4 provides a visual representation of original TL stages and the new TL stages experienced while teaching online during the pandemic.

Figure 3.4

Mezirow's Original TL Stages (on the left) and the Reversed Ones (on the right) Based on Faculty ERT Experience During the Pandemic



3.6 Ethical Considerations

Ethical approval was received from Lancaster University's ethics board before conducting this study (see Appendix A). Furthermore, local Institutional Review Board (IRB) approval was secured from Weill Cornell Medicine-Qatar, one of the participating institutions. Any research undertaken in Qatar that involves human subjects should follow the Qatar Ministry of Public Health policies, regulations, and guidelines (WCM-Q IRB,

n.d.). This local IRB approval secured access to participants and ensured that the study met the requirements of both the U.S. federal regulations since the institutions in which this research takes place are American branch campuses and the Qatari regulations and institutional policies as the host country (see Appendix B). The IRB approval and Lancaster ethical approval forms were then shared with the six American institutions. However, and despite securing the needed approvals, two institutions out of the six American institutions that were considered for this study decided not to participate due to various reasons including faculty survey fatigue and their internal review board decision. Therefore, the *Information Sheet* describing the aims of the study, data collection methods, and analysis process along with the *Consent Form* (see Appendix C) that explains the purpose of the study, ensures the anonymity, de-identification, and confidentiality of participants' information, and gets their consent to participate in the study were shared with the participants of the four remaining institutions.

Summary of Chapter 3

This chapter presented an overview of the theoretical framework this research is adopting and provided an understanding of the different stages adult learners experience when experiencing a disorienting dilemma and changing their habits of mind. Mezirow's theoretical framework provides a unique approach to understand these changes and the current state of online teaching in a transnational setting. However, the uniqueness of this research and its context lies in how it contributes to the 'transformation' and advancement of the theory of TL itself. The proposed usage of reversed TL corresponds to the exceptional circumstances in which this study took place and which it was investigating as faculty were obliged to take on new roles without even recognizing the disorienting dilemma they were facing at that time.

This explanatory sequential mixed-methods case study used a questionnaire and one-on-one interviews to gather faculty members' perceptions and attitudes of online teaching during the Covid-19 pandemic. The questionnaire gathered a total number of 29 eligible responses out of which 13 faculty participated in the one-on-one interviews. Participants represent a variety of teaching disciplines ranging from humanities and social sciences to science and engineering.

The next chapter presents the results of the questionnaire and interviews and analyses the results based on the research questions.

Chapter 4: Results

This chapter presents the results of this study that explored faculty members' attitudes towards adopting technology-enhanced learning tools in their teaching practice as an emergency response to the 2020 pandemic. Two data collection methods were used in an exploratory sequence starting with a questionnaire used as an initial screening of faculty perception, followed by semi-structured interviews with 13 of the questionnaire respondents. Results of the questionnaire and interviews will be presented by research questions.

4.1 Results of Research Question 1

What were the online teaching experiences of faculty at the American universities in Qatar's Education City during the emergency remote teaching situation?

This question investigates faculty experiences teaching online during the disruptive period, also referred to as ERT phase, and draws from the questionnaire and interview data. Out of the total number of questionnaire respondents (N=29), the majority of the respondents (25 respondents, 86.2%) confirmed having to teach online during the pandemic, and 20 respondents (80%) had to teach two or more online courses. The median number of online courses taught during the disruptive period was three courses.

Almost all respondents (24 respondents; 96%) who taught online during the pandemic confirmed having resources available to them by their institutions. This was also reinforced through the interviews' results where *all resources were available* was a recurrent theme (6 recurrences) along with *using zoom as a main teaching tool* (9 recurrences). While the type of available resources varied between *IT Department Support* (21 respondents; 87.5%), *Instructional Design Support* (12 respondents; 50.0%), and *Budget Increase* (5 respondents; 20.8%) to acquire necessary tools and software, two

respondents (8.3%) mentioned receiving *Peer Support*, and one respondent (4.2%) mentioned having *Extra Preparation Time*. Table 4.1 summarises questionnaire respondents' answers.

Table 4.1

Types of Resources Available During the Disruptive Period

Type of Resources Made Available to Faculty During the Pandemic	Number of Responses	%
IT Department Support	21	87.5%
Instructional Design Support	12	50.0%
Budget Increase (to acquire necessary tools and software)	5	20.8%
Peer Support	2	8.3%
Extra Preparation Time	1	4.2%

About three quarters (19 respondents; 76%) acknowledged seeking help with online teaching during the pandemic. When asked about the type of help they sought, most of the questionnaire respondents (17; 89.5%) mentioned the IT department. Even though this finding was also reiterated in the interview results (6 recurrences), another equally important theme was the *Absence of or Limited Expertise and Support from IT* where faculty were left to find their own resources (9 recurrences). This can explain faculty outreach to peers as per respondents who mentioned asking *Colleagues* for help (10 respondents; 52.6%), seeking their *Professional Community* help (3 respondents; 15.8%), approaching *Library Staff* (6 respondents; 31.6%), and (5 respondents; 26.3%) asking *Instructional designers* for help. It is worth mentioning that not all institutions from which respondents came had instructional designers. Furthermore, some respondents confirmed asking their *Administration or Chair of Department* for help (3 respondents; 15.8%). Another emerging theme from the interview results shows that respondents received timely

local support from their branch campuses (8 recurrences). This can be explained by the nature of these transnational HE institutions that, most of them, rely on their home campus for support, curriculum planning, and content sharing.

From the few respondents (6 respondents) who confirmed not seeking help, five of them (83.3%) reported that they did not need help while one (16.1%) did not know how to access help. These results are in line with respondents' positive experience of ERT as almost half of the respondents (12 respondents; 48%) who taught online during the pandemic rated their experiences as *Excellent* or *Good*. Among these respondents, three believed that their discipline allowed an easy transition to ERT as one respondent commented "the class I happened to be teaching lent itself well to the format." Two respondents believed that technology facilitated the transition. One respondent commented that "using Camtasia and recorded lectures allowed for more flexibility; students liked the experience" and another respondent explained that they were able to learn "how to use breakout rooms in Zoom to facilitate small-group discussion, which was a major component of my classroom teaching."

It is also worth noting that two respondents were satisfied with student engagement and considered their performance as "equal to the pre-pandemic period, and it was in some ways easier to identify who was and wasn't engaging" and "both myself and the students all understood that this is what we needed to do at the time and made it work." However, among the respondents who ranked their experience teaching during the pandemic as *Excellent* or *Good*, one respondent still found "unexpected challenges such as engaging the students [and] checking students' performance."

On the other hand, the other half of the respondents (13 respondents; 52%) who rated their experience as *Average* or *Poor* described different challenges. These challenges

included *Student Engagement*, *Assessment and Academic Integrity*, and *Faculty Increased Workload* as shown in Table 4.2 below.

Table 4.2

Extracted Themes on Challenges During the Pandemic from Questionnaire

Challenges with Online Teaching During the Pandemic	Respondents' Quotes
Challenges with Student Engagement (n=7)	• "My focus shifted from supporting student learning to supporting student well-being. Students had trouble adjusting to online lectures in their other classes, which made it difficult for my very practical course, as they were so stressed out by their other courses that they had little time for mine." • "Little to no effect online, difficult to build relationships." • "Concerns about my degree of engagement and that of the students." • "Difficult to engage students and prevent cheating in exams." • "Lack of student engagement and understanding of online versus f2f learning environment." • "It is difficult to engage students and give fair exams." • "I was terrible at zoom lectures. Students refused to turn cameras on or speak."
Challenges with Student Assessment and Academic Integrity (n=4)	• "Difficulty to interact with students; not being able to make sure that during exams students are not cheating; not being able to find immediately if the students understand the course materials; not being sure if the students are truly attending the lecture." • "Difficult to engage students and prevent cheating in exams." • "It is difficult to engage students and give fair exams." • "Difficult to engage students; integrity risks; assessment of online learning."
Challenges with Increased Workload (n=1)	• "I found new ways to engage my students, and so had meaningful engagement--but it radically increased my workload (at least doubled time dedicated to teaching)."

Challenges with student engagement was a recurrent theme for the majority of the questionnaire respondents. This is also shown in one of the six categories that emerged from data gathered from the interviews. Table 4.3 below provides the codes that were

developed from the interview data and the frequency of the codes. The greyed cells indicate the top emerging themes.

Table 4.3

Challenges with Student Engagement During the Pandemic

Transition Phase Categories and their Corresponding Definitions	Codes Under these Categories	Frequency of Codes
Challenges with Student Engagement During Transition Phase This category is defined as the perceived lack of motivation of students, lack of preparedness, and gradual disinterest during the ERT phase	**Faculty feeling disconnected from class/Lack of student live feedback**	9
	Feeling of anxiety/uncertainty	5
	Students refuse to turn their cameras on	7
	Students come unprepared for live sessions	1
	Students lack motivation in large classes	3
	Students lost interest	2
	Students were not keeping up with schedule and deliverables	1
	Students would not turn up for live sessions	3
	The worst part was not knowing how to help students who were struggling during this time	2

Note. The greyed cells indicate the themes that emerged from the interview data based on the highest recurrences from each category.

Faculty also experienced challenges with *online learning as a modality* as indicated in the interview data, especially the *need for more preparation time and training on technological tools,* and the *lack of human interactions in online lectures*. Therefore, respondents provided some examples on how they modified their teaching approach to accommodate students' needs, especially through *using the flipped classroom* modality (6 recurrences) and *working with smaller groups of students* (7 recurrences). Table 4.4 below summarises respondents' answers with the top emerging themes in grey.

Table 4.4

Challenges with and Modifications to the Online Learning Modality During the Pandemic

Transition Phase Categories and their Corresponding Definitions	Codes Under these Categories	Frequency of Codes
Challenges with Online Learning Modality During Transition Phase These are the difficulties that faculty encountered during the ERT phase, such as the absence of preparation time, issues with assessment, and unfamiliarity with online teaching	Lack of cohesiveness/difficult exchange among students in an online environment	1
	Lack of/limited usability of online book platform/students unable to annotate online resources	3
	Loss of the apprenticeship/Learning by doing element that cannot be transmitted online	5
	Need more preparation time/mastering technological tools for faculty	13
	Online lectures lack the human element that is usually present in live lectures	9
	Students did not have an adequate learning space/internet connection	3
	Students high risk of cheating	4
	Unable to give fair evaluation/assessment to students	3
	Unfamiliarity with online teaching	3
Modifications to Teaching During Transition Phase This category is defined as the changes faculty needed to implement immediately in order to accommodate their students' needs during the ERT phase	Creating a support community	2
	Increasing class discussions	5
	Reaching out to student individually	2
	Reducing live sessions/Replacing with PowerPoint	5
	Replacing student lab work with class presentations/literature reviews	2
	Using breakout rooms for group work	4
	Using more quizzes	3
	Using recorded lectures instead of live ones	3
	Using the flipped classroom	6
	Working with smaller groups of students	7

Note. The greyed cells indicate the themes that emerged from the interview data based on the highest recurrences from each category.

Therefore, these challenges left less than half of the interviewees feeling satisfied with the quality of online teaching during the pandemic (6 recurrences). Interviewees' answers were categorised in Table 4.5 below.

Table 4.5

Low Satisfaction Level of Quality of Teaching During the Pandemic

Transition Phase Categories and their Corresponding Definitions	Codes Under these Categories	Frequency of Codes
Quality of Teaching During Transition Phase This category includes faculty perceptions of the quality of their teaching during the ERT phase such as satisfaction, student feedback, and personal presence	Easy to monitor students' engagement with cameras on	2
	Feedback least impressive from large class and returning students	1
	Less active teaching	2
	Missing important teachable moments	1
	Positive feedback from students	3
	Require more personal presence	3
	Same feedback from students before and after the pandemic	1
	Satisfied with online teaching	6
	Unsatisfied with own teaching quality during transition	2
	Unsure if one's teaching was effective	2

Note. The greyed cells indicate the themes that emerged from the interview data based on the highest recurrences from each category.

Summary of RQ1

It can be concluded that faculty experienced different levels of comfort with online teaching during the pandemic. Most faculty had to teach two to three courses during the pandemic. While most of them confirmed having access to the needed resources and to the required support, especially from their IT department, a considerable number of participants mentioned that they experienced an absence of or lack of IT expertise and

support, which called for them to be creative in their teaching approach, seeking colleagues, professional community, and librarians help. Furthermore, the transition phase required faculty members to spend more time preparing for their classes and mastering the use of technological tools. Respondents expressed their frustration with the lack of the human element that is usually present in live lectures and the lack of student live feedback and engagement.

However, the pandemic seemed to create opportunities for faculty members to adopt new technologies, such as Zoom as a main teaching tool modifying their teaching approach by working with smaller groups of students and using the flipped classroom modality. These results support the argument that when faculty members are put to test, they are able to adapt to the circumstances and adopt an innovative teaching approach, taking into consideration students' engagement and ensuring the content delivered is meaningful and accessible to students.

4.2 Results of Research Question 2

How have faculty perceptions of online teaching changed after the emergency remote teaching situation?

4.2.1 Online Teaching Pre-Pandemic

RQ2 is answered through the questionnaire results and the interviews. Out of the total number of respondents (N=29), only eleven (37.9%) had experience teaching online before the pandemic while the majority (18 respondents, equivalent to 62.1%) did not have any experience. These results suggest that online teaching was neither required nor encouraged by HE institutions. Out of these 11 respondents with prior online teaching experience, 7 respondents (63.6%) had experience teaching online using the blended approach; 3 respondents (27.3%) taught completely online while 1 respondent (9.1%) had

experienced both teaching approaches. Of the same 11 respondents, six (54.5%) had at most 1 year of experience teaching online; 2 had between 2 and 4 years of online teaching (18.2%); while three had more than 5 years (27.3%). Table 4.6 below summarises participants' experience teaching online prior to the pandemic.

Table 4.6

Online Teaching Experience Pre-Pandemic

Teaching Online Pre-Pandemic		**N=29**	**%**
Prior Experience with online teaching	Yes	11	37.9%
	No	18	62.1%
Type of experience†	Only blended	7	63.6%
	completely online	3	27.3%
	both	1	9.1%
Years of Experience in online teaching†	0-1 year	6	54.5%
	2-4 years	2	18.2%
	5+ years	3	27.3%

†*among those who had prior experience teaching online (n=11)*

These results also suggest that teaching online prior to the pandemic was a faculty member's personal choice, or a side task that faculty would engage in and was not supported on the institutional level. This is confirmed by respondents' answers where the majority (21 respondents; 72.40%) stated having a teaching and learning centre at their institution while only 6 respondents (28.60%) reported using the centre for their online teaching.

With this minimal experience teaching online prior to the pandemic, the majority of the respondents (17 respondents; 58.6%) perceived online teaching prior to the pandemic as *Neither Difficult Nor Easy*, while 12 respondents (41.3%) found it to be *Difficult* and *Very Difficult*. None of the respondents perceived it as *Easy* or *Very Easy*.

Among the eleven participants who had experience teaching online prior to the pandemic, when asked about the challenges they faced, the top one difficulty was *Engaging with students* (7 respondents, 63.6%) and *Engaging students with content* (4 respondents, 36.4%), followed by *Using online technology*, *Creating online content*, *IT infrastructure*, and *Communicating with students* with 3 respondents for each category (27.3% each). Respondents were able to choose more than one challenge, and Table 4.7 below summarises their responses.

Table 4.7

Challenges Reported by Respondents who Taught Online Pre-Pandemic

Challenges Faced with Online Teaching Pre-Pandemic	Number of Responses	%
Engaging with my students	7	63.6%
Engaging my students with content	4	36.4%
Using online technology (familiarity with online teaching applications and software)	3	27.3%
Creating online content	3	27.3%
Communicating with my students	3	27.3%
IT infrastructure (connection, remote use of applications and software)	3	27.3%
Ensuring students work as a team	2	18.2%
Receiving support from administration	2	18.2%
Finding suitable online content	1	9.1%
Assessing students' retention of learning outcomes	1	9.1%
[Providing] hands-on instruction with no access to facility [for application]	1	9.1%

Despite the above challenges, almost half of the respondents who had experience teaching online prior to the pandemic (n=11), (5 respondents; 45.5%), described their experience as *Good* and *Excellent* while the other half had an *Average* and *Poor experience*. When asked for the reason behind their experience teaching online before the pandemic, respondents who had an *Excellent* and *Good* provided different reasons, such as the usefulness of the blended approach, clear goals and infrastructure, using technology to maintain student engagement in the course, being able to go on business travel, and the good experience one respondent had using online teaching "to enhance students' writing and thinking abilities." However, respondents who had an *Average* and *Poor* experience explained that online teaching was meant to be a temporary solution and that "nothing replaces face-to-face teaching." Other comments included the need for a better telecommunication infrastructure and "diverse strategies to engage students."

4.2.2 Online Teaching During the Emergency Remote Teaching Phase

Among the respondents (N=25) who taught online during the disruptive period, also referred to as ERT phase, the majority (18 respondents; 72%) reported a change in their perception about online teaching. It is worth noting that more than half of the respondents (14 respondents; 56%) were still finding online teaching *Difficult* or *Very Difficult.* When asked about the reasons for this change in their perceptions, 17 out of 18 respondents provided some explanations that can be divided equally between *Positive*, *Negative*, and *Mixed* perceptions as shown in Table 4.8.

Table 4.8

Faculty Perceptions of Online Teaching following the Disruptive Period

Perceptions of Online Teaching After the Disruptive Period	Summary of Respondents' Answers
Positive (n=6)	• Having extra time and technology helped with the entire experience (1 recurrence) • Satisfied with quality (3 recurrences) • There is room for improvement (2 recurrences)
Mixed (n=5)	• Not as a permanent solution (1 recurrence) • Blended learning is better than online (1 recurrence) • Convenient/innovative but requires extra work for faculty and students (2 recurrences) • Can be positive or negative (1 recurrence)
Negative (n=6)	• Requires a totally different teaching approach (1 recurrence) • Requires lots of time (2 recurrences) • Difficult (2 recurrences) • Face-to-face is more efficient (1 recurrence)

When asked whether they would adopt online teaching in the future, 10 respondents (40%) confirmed their willingness to use online teaching in the future for its flexibility (5 respondents), safety (2 respondents), and availability of online educational resources that facilitate learning (2 respondents). However, eight respondents (32%) did not want to adopt future online teaching as their discipline required face-to-face teaching and learning, and they saw more value in it. Lastly, respondents who were unsure (7 respondents; 28%), gave a variety of reasons, such as discipline, safety, flexibility, and lack of choice for faculty members. When asked for the reasons behind their choices, respondents provided a range of answers that can be divided into different themes as shown in Table 4.9 below. It is worth noting that many respondents expressed their preference for a middle solution, a

blended or hybrid approach that would keep the best of face-to-face and online teaching. This can be observed in respondents' quotes as per the table below.

Table 4.9

Respondents' Reasons for Adopting Online Teaching in the Future

Recurrent Themes on Adopting Online Teaching in the Future		**Respondents' Quotes**
Yes (n = 10)	**Flexibility (n=5)**	• "Yes, because it provides flexibility for students and myself." • "It is practical and, in some ways, easier. I did, of course, already have a significant asynchronous online component to my teaching beforehand (submission and marking, annotation of coursework, discussion board)." • "Some sessions lend themselves well to online teaching and will continue. Some sessions will need to be in person as they are experiential or hands-on." • "I will keep some elements. Too complicated to explain why in this survey." • "Yes, but not completely; a hybrid model of online teaching is viable."
	Safety (n=2)	• "Until we are safe to go back into the classroom." • "For the same reasons we began."
	Online Educational Resources (n=2)	• "I have developed an interactive ebook, which I am planning to use again as it was a successful experience." • "Even if we return to the classroom, I will maintain my online modules, including the discussion forums and video links, etc. that I have collected during this period to enrich learning outside the classroom."
	No comment (n=1)	N/A
No (n = 8)	**Discipline (n=4)**	• "What and how I teach is hands-on." • "Teaching physics must be face to face." • "Not as good as face-to-face teaching." • "Although a great resource under pandemic conditions, online teaching is anathema to a successful humanities classroom."
	Value in face-to-face (n=4)	• "Less instructional value for time spent, both students and I prefer in person." • "It is not sufficient; students need close supervision and teaching effectively requires close interaction. No way

		to teach effectively in labs or courses that require immediate feedback; exams cannot be provided online." • "I would rather not, for reasons already mentioned." • "I would like to return to in person teaching as soon as possible."
Unsure (n = 7)	**Safety (n=1)**	• "Until it is safe to be in the classroom, I plan on teaching online, as my health and my students' health is more important than university."
	Discipline (n=1)	• "Needs to weigh in the efficiency and effectiveness, depending on courses and audience."
	Blended Teaching (n=1)	• "Mostly, in-person instruction works much better in our discipline, which relies on studio-based making and support from labs and equipment. There are parts of tutorials and demonstrations, however, that lend themselves well to the online format. So videos of step-by-step instructions I have made this year may prove to be useful in the future."
	Faculty Have No Choice (n=1)	• "It does not depend on me. If the university asks us to offer the course online or in a hybrid mode, we will have to offer the course in the format required. It is not a question of having the freedom of offering the course online or F2F."
	Flexibility (n=2)	• "I like face to face so students can learn better. But online teaching provides much more flexibility." • "I would be interested in hybrid models (but not hyflex!). For example, I think meeting with students two days a week and then having a third day online could be really beneficial."
	No comment (n=1)	N/A

Respondents were also asked whether they required assistance in building courses in the future, and 40% of respondents (10) indicated the need for help. The most reported assistance required were *Instructional designers* and the *IT department* with 90% each followed by *Training and workshops* with 60%.

Faculty experienced a shift in their pedagogical approach following the ERT phase. One of the common shifts is *breaking lecture and complex issues into small units to keep*

students engaged and making sure they digest the materials as explained through four recurrences while five respondents suggested *the need to reconsider student assessment*. Table 4.10 summarises these emerging themes.

Table 4.10

Shift in Pedagogical Approach following the Disruptive Period

	Codes Under these Categories	Frequency of codes
Shift in Pedagogical Approach Following Transition Phase This category includes faculty reflections on their teaching practice in light of the ERT phase	Becoming a facilitator rather than the expert	1
	Breaking lecture/complex issues into small units/chunks to keep students engaged and help them digest the materials	4
	Collaborating with other faculty/sharing ideas	1
	Keeping some elements of online learning for future face-to-face	2
	Need for flexible availability of and access to faculty	1
	Need for providing a mix of synchronous and asynchronous instruction	2
	Need for rethinking students' assessment	5
	Online teaching improved my course	1
	Smaller classes are more conducive to online learning and engagement	3
	There was none	1

Note. The greyed cells indicate the themes that emerged from the interview data based on the highest recurrences from each category.

Finally, respondents' attitude towards the future of online teaching was gathered, and although most of the respondents reported an equal number of mixed and negative attitudes (6 each; 24% each), a considerable number of respondents (11 respondents; 44%) had a positive attitude. This is aligned with the interview results where the theme *positive experience with ERT* had the highest number of recurrences (12 recurrences) compared to

six recurrences for the theme *negative experience with online teaching and learning*. Below (Table 4.11) are their answers divided by *Positive*, *Mixed,* and *Negative* attitudes.

Table 4.11

Faculty Attitudes Towards the Future of Online Teaching

Attitude towards the future of online teaching (N=25)	Respondents' Quotes	%
Positive (n=11)	• "Will become increasingly important." • "The future will be for the online or the combined teaching method." • "An inevitable and positive part of the overall teaching experience." • "It will thrive and become an important tool." • "Definitely a great part of the overall portfolio." • "Promising and useful in certain areas." • "Promising." • "I think it is becoming easier to engage students online than in the past." • "I suspect it will become increasingly online." • "Inevitable." • "More ubiquitous; here to stay."	44.0%
Mixed (n=6)	• "Mixed." • "Challenging, but better than nothing." • "I don't think it will replace in person teaching, but I think institutions will be more open to online and hybrid models of teaching, especially in the Gulf region where it has been less accepted." • "It can work okay, depending on the subject and method of content delivery. In general, students benefit from in-person interaction and dialog." • "Not sure." • "I think skilled online teachers (I don't count myself--talking about teachers deeply invested in online course design) will be poorly impacted. Students got non-expert approaches that were ill suited, and now a kind of teaching that has real benefits is perceived as inferior."	24.0%
Negative (n=6)	• "I fear it will be used to eliminate more tenure track positions." • "Not good."	24.0%

	• "Highly lucrative for financial stakeholders, damaging for university education if adopted as a pervasive norm." • "I'm glad that other people are good at it, but I do not want to do it anymore." • "It is a possibility, but I do not believe in it. It is not effective." • "It is possible that it may never totally disappear from the curriculum, however the clinical teaching might return to face-to-face teaching more readily."	
No answer (n=2)	N/A	8.0%

Faculty recognized some critical issues facing the *rigid, regimented, and* [the] *lacking innovation* [nature] *of the HE* sector along with the *threat of budget cuts* and *the potential replacement of faculty with recorded lectures,* each having three recurrences. However, faculty also reiterated the *great opportunity online learning offers if well designed and delivered for certain types of students* (3 recurrences) along with the *need for rethinking different forms of assessment* (3 recurrences). Finally, while *technology should be used as a powerful, great,* and *flexible tool for instruction* (7 recurrences) *faculty role, especially in-person teaching, is crucial in facilitating and directing students' learning* (9 recurrences). Table 4.12 summarises interviewees' answers.

Table 4.12

Critical Issues and the Transformation of HE in light of the Pandemic

Post Pandemic Categories and their Corresponding Definitions	Codes Under each Category	Frequency of Codes
Critical Issues and Concerns Towards HE This category is defined as the problems perceived by faculty to be obstacles in HE to effective delivery of high quality learning experience	**HE is too rigid, regimented, and lacks innovation**	3
	Need for recognizing online degrees	1
	Need to be analytical and anticipate future problems	1
	PBL is not effective for young students	1
	Worries about budget cuts/potential replacement of faculty members with recorded lecture	3
Transformation in HE This category represents faculty perceptions of the future of HE in light of their experience with the ERT	**Faculty role/in-person teaching remains crucial in facilitating and directing students' learning**	9
	Hybrid teaching is problematic because it adds another layer of complexity to face-to-face and online teaching	1
	Need for rethinking different forms of assessment	3
	Need to rethinking equity, access, purpose, population, value	1
	Online learning offers great opportunity if well designing and delivering for certain type of students	3
	Rethinking what we can give students above and beyond what they get on the web	1
	Taking advantage of the situation to teach students resilience and creativity during crisis	1
	Technology should be used as a powerful/great/flexible tool for instruction	7
	Unable to evaluate the current transformation/Lost perspective	1

Note. The greyed cells indicate the themes that emerged from the interview data based on the highest recurrences from each category.

Summary of RQ2

Around one third of the total number of respondents experienced online teaching prior to the pandemic and considered the top challenge to be engaging with students. However, only half of them had a relatively good experience thanks to its flexibility, clear goals, and technological infrastructure. Still, the majority (with and without experience teaching online) perceived it to be neither difficult nor easy. These results suggest that there was a misconception about online teaching prior to the pandemic. While some faculty entertained the idea and had some experience, the majority did not use it and were not aware of the challenges and opportunities this teaching approach offers.

It can be concluded that even though the majority of respondents claimed to experience a change in their perception towards online learning following the pandemic, respondents still had mixed feelings towards teaching online with the majority still finding it to be difficult. A considerable number of respondents had a positive experience with transitioning to ERT, and flexibility of the online teaching modality seems to be the main reason for that positive perception. In fact, most of the respondents' comments being in the negative, positive, or neutral camp favoured a mix of online and face-to-face or what they referred to as blended and sometimes using the word 'hybrid' to denote the same idea. Finally, it is important to highlight that faculty still believe that their role, especially in-person teaching, remains essential in the teaching and learning process.

4.3 Results of Research Question 3

What factors contributed to faculty online teaching experience and perception change?

To answer RQ3, this section uses an exploratory analysis to determine the correlation between different variables and therefore understand what factors contributed to

change in faculty experience and perception. Since the sample size is limited, McNemar and Fisher tests were used to compare percentages between two or more groups.

4.3.1 Changes in Faculty Perceptions of Online Teaching Pre- and Post-Pandemic

To assess if there was any change in faculty perception of online teaching between faculty experience before the pandemic and their experience during the pandemic, a McNemar test was applied (Table 4.13) and a $p = 0.182$ indicates a slight increase in negative perception of online teaching after the disruptive period.

Table 4.13

Faculty Perceptions Before and After the Disruptive Period

	Pre-Pandemic		**Post-Pandemic**		**McNemar Test *p*-value**
Perception of online teaching	**N=29**	**%**	**n=25**	**%**	
Very Difficult	1	3.4%	3	12.0%	**0.182**
Difficult	11	37.9%	11	44.0%	
Neither Difficult Nor Easy	17	58.6%	9	36.0%	
Easy	0	0.0%	1	4.0%	
Very easy	0	0.0%	1	4.0%	

Furthermore, while 4 respondents (16.0%) had a positive increase in their perception of online teaching after the pandemic, 9 respondents (36.0%) had a negative increase, and 12 respondents (48.0%) did not experience any change in their perceptions (see Table 4.14). Therefore, despite the slight increase in negative perception among respondents (56% after versus 51.4% before) who perceived online teaching as *Very Difficult* or *Difficult*, this increase did not reach statistical significance.

Table 4.14

Change in Faculty Perceptions Before and After the Disruptive Period

Change in Perception	**N=25**	**%**
Stayed the same	12	48.0%
Positive increase in perception	4	16.0%
Negative increase in perception	9	36.0%

4.3.2 Changes in Faculty Experience of Online Teaching Before and During the Pandemic

To understand the change in respondents' experience teaching online before and during the disruptive period, a McNemar test was applied (see Table 4.15). The result (p <.001) shows a significant increase in negative experience among respondents who taught online *Before* (37.9%) and *During* (86.2%) the pandemic.

Table 4.15

Faculty Experience Before and During the Disruptive Period

	Pre-Pandemic		**During Pandemic**		**McNemar Test *p*-value**
Respondents with Experience Teaching Online	**N=29**	**%**	**N=29**	**%**	**0.000519 (<.001)**
Yes	11	37.9%	25	86.2%	
No	18	62.1%	4	13.8%	

4.3.3 Respondents' Experience Teaching Online During and their Perception After the Disruptive Period

A Fisher test was applied with $p = 0.019$ which indicates no significant difference between respondents' experience teaching online during the pandemic and their perception

after the pandemic. However, it can be noted that those with *Excellent Experience* were significantly more likely to perceive online teaching as *Easy or Very Easy* (50% versus 0% for those with *Good* or *Average and Lower)* as shown in Table 4.16 below.

Table 4.16

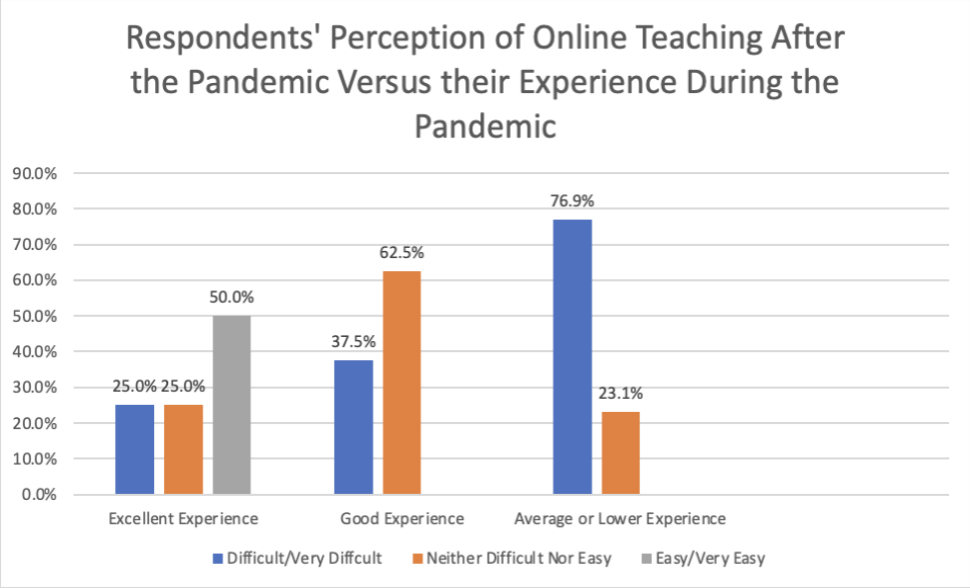
Faculty Experience During the Disruptive Period and Their Perception After

Perception After	**Experience During**					
	Excellent		**Good**		**Average or Lower**	
Difficult/Very Difficult	1	25.0%	3	37.5%	10	76.9%
Neither Difficult Nor Easy	1	25.0%	5	62.5%	3	23.1%
Easy/Very Easy	2	50.0%	0	0%	0	0%
Fisher Test	***p* = 0.019**					

Figure 4.1 provides a visual representation of these results showing that respondents who found online teaching to be *Easy* or *Very Easy* had an *Excellent* experience teaching online during the pandemic. However, respondents who found it *Difficult* and *Very Difficult* had an *Average* or *Lower* experience teaching online during the pandemic.

Figure 4.1

Correlation Between Faculty Perception of Online Teaching and their Experience During the Pandemic



4.3.4 Perception of Online Teaching Before and After the Disruptive Period by Gender

Exploring respondents' perception of online teaching before and after reveals that there is a slight increase in the male respondents' negative perception of online teaching following their experience during the disruptive period (see Table 4.17).

Table 4.17

Faculty Perception Before and After for Male Respondents

Male n=17	Before		After	
Difficult/ Very Difficult	5	29.4%	8	47.1%
Neither Difficult Nor Easy	12	70.6%	7	41.2%
Easy/Very Easy	0	0%	1	5.9%
No answer	0	0%	1	5.9%

For female respondents, there was a slight increase in their positive perception of online teaching following their experience during the disruptive period (0% before versus 8.3% after the disruptive period) as shown in Table 4.18 below.

Table 4.18

Faculty Perception Before and After for Female Respondents

Female n=12	**Before**		**After**	
Difficult/ Very Difficult	7	58.3%	6	50.0%
Neither Difficult Nor Easy	5	41.7%	2	16.7%
Easy/Very Easy	0	0%	1	8.3%
No answer	0	0%	3	25.0%

However, when a Fisher test was applied with $p = 0.12$ before and $p = 0.465$ after, it indicates that there was no significant difference between gender and perception of online teaching.

4.3.5 Respondents' Disciplines and Their Perception of Online Teaching Before and After the Disruptive Period

To understand if there was any change in faculty perception of online teaching before and after the disruptive period as per their disciplines, disciplines were divided into three categories: humanities and social sciences which include Humanities, History, Anthropology & Sociology, Research Skills & Information Literacy, English, English as a Second Language, Applied Linguistics, Writing, Composition & Rhetoric, Political Science, International Relations & Political Economy, Fine Arts, Design, and Drawing, Painting & Illustration; sciences and engineering which include Biology, Neurosciences,

Physics, Biochemistry, Medicine, Psychiatry, Electrical Engineering, and Computer Engineering; and undeclared. Tables 4.19 summarises respondents' perceptions by their disciplines.

Table 4.19

Faculty Perception Before and After by Disciplines

		Perception Before		**Perception After**	
Humanities and Social Sciences (n=17)	Difficult/ Very Difficult	7	41.2%	9	52.9%
	Neither Difficult Nor Easy	10	58.8%	4	23.5%
	Easy/Very Easy	0	0%	1	5.9%
	No answer	0	0%	3	17.6%
Sciences and Engineering (n=10)	Difficult/ Very Difficult	4	40.0%	5	50.0%
	Neither Difficult Nor Easy	6	60.0%	4	40.0%
	Easy/Very Easy	0	0%	1	10.0%
	No answer	0	0%	0	0%
Undeclared (n=2)	Difficult/ Very Difficult	1	50.0%	0	0%
	Neither Difficult Nor Easy	1	50.0%	1	50.0%
	Easy/Very Easy	0	0%	0	0%
	No answer	0	0%	1	50.0%

A Fisher test was applied with a p value of $p = 0.999$ before and $p = 702$ after. Therefore, there was no significant difference among the discipline groups in their perception before and after teaching online during the disruptive period.

4.3.6 Respondents' Need for Help During the Disruptive Period Versus in the Future by Discipline

When comparing respondents' answers regarding their Need for Help during the Disruptive period and in the future, there is a significant decrease in their need for help in the future. Seven (46.7%) out of 12 respondents teaching in the Humanities and Social Sciences require help while only two (20%) out of 10 respondents teaching in the Sciences and Engineering require help with their future online teaching as shown in Table 4.20.

Table 4.20

Need for Help During the Disruptive Period versus in the Future

Discipline	**Humanities and Social Sciences (n=15)**				**Sciences and Engineering (n=10)**			
Need for Help with Online Teaching	**During**		**After**		**During**		**After**	
Yes	12	80.0%	7	46.7%	6	60.0%	2	20.0%
No	2	13.3%	7	46.7%	4	40.0%	8	80.0%
No answer	1	6.7%	1	6.7%	0	0%	0	0%

4.3.7 Experience Teaching Online During the Disruptive Period and Respondents' Attitudes Towards the Future of Online Teaching

The majority of respondents who had an *Excellent* or *Good* experience teaching online during the disruptive period reported a *Positive* attitude towards online teaching in the future (6 respondents; 28%). It is also worth noting that among the respondents who reported an *Average or Lower* experience teaching online during the disruptive period (12 respondents; 48%), almost half of them (5 respondents) still reported a *Positive* attitude towards online teaching in the future as shown in Table 4.21 below. These findings suggest

that when faculty were 'obliged' to use technology, despite their different experiences and the challenges they faced, they found one or more positive aspects to teaching online and were more aware of the possibilities this teaching approach might have in the future.

Table 4.21

Respondents Experience Teaching Online During the Disruptive Period and Their Description of the Future of Online Teaching

	Future of Online Teaching (n=25)							
Experience Teaching Online During Pandemic	**Positive**		**Mixed**		**Negative**		**Missing**	
Excellent	3	16.0%	1	0%	0	0%	0	0%
Good	3	12.0%	2	8.0%	2	8%	1	4%
Average	3	12.0%	3	12.0%	4	16%	0	0%
Poor	1	4.0%	0	0%	0	0%	1	4%
Terrible	1	4.0%	0	0%	0	0%	0	0%

Summary of RQ3

To understand the factors that contributed to change in faculty perceptions following the pandemic and the imposed online teaching, an exploratory analysis was undertaken using the questionnaire results to determine the correlation between different variables. Gender and disciplines did not have any significant impact on experience or perceptions. However, a slight increase in negative perception was noticed in participants who had experience teaching online before the pandemic even though it did not reach statistical significance. What is meaningful is the significant increase in negative experience among respondents who taught online *Before* and *During* the pandemic. Results

suggest that once faculty were obliged to teach online, they realised that online teaching requires considerable preparation time, training on new technologies, and creation of suitable content. Going through this phase helped faculty refine their skills using technology, which also explains the significant decrease in faculty need for help in the future.

Furthermore, results show that respondents with *Excellent Experience* were significantly more likely to perceive online teaching as *Easy or Very Easy,* and reported a *Positive* attitude towards online teaching in the future. This was not limited to respondents with excellent experience as half of the respondents with average or lower experience also reported a *Positive* attitude towards the future of online teaching, which can be considered a favourable consequence of the pandemic.

Summary of Results

The total number of questionnaire respondents was 29. From the 11 respondents who had experience teaching online before the pandemic, only five had a good or excellent experience while the majority (7 respondents) considered engagement with their students to be the most challenging aspect of online teaching. Even though only 11 had experience teaching online before the pandemic, their perceptions were divided between difficult or very difficult or neither difficult nor easy. None of them had considered online teaching as an easy task.

Out of 29 respondents to the questionnaire, 25 indicated that they were required to teach online during the transition period, and 12 reported having a good or excellent experience teaching during the pandemic. The median number of courses taught was three courses per faculty. The majority of the respondents had access to resources to help them teach during the pandemic.

Out of the 25 respondents who taught online during the pandemic, 18 reported a change in their perception and 14 respondents confirmed finding online teaching difficult or very difficult. Ten respondents would consider adopting online teaching in the future, while 8 would not and 7 were unsure.

Although there was no significant change in respondents' perception of online teaching before and after the pandemic, a significant negative experience was observed. Furthermore, there was no correlation between experience and perception, gender and perception, or discipline and perception.

For the interview results, 11 themes emerged from the Transition phase with the most recurring one being the *Need for more preparation time and mastering technological tools* and nine from the Post Pandemic phase with the most recurring one being *Positive experience with ERT*.

Although the interview results correlate with the questionnaire results to some extent, they provide a more "positive" approach to ERT. This might be explained by the timing of interviews that took place at the end of the spring semester 2021, while the questionnaire took place in the fall semester of 2020. The timing of the interviews might have impacted faculty perception and increased their experience teaching online and therefore their positive attitude. A more comprehensive analysis of these results will be presented in the next chapter, *Discussion*, to provide a comprehensive exploration and analysis of the results based on this unfamiliar, yet context-valid approach to TL.

Chapter 5: Discussion

The results chapter presented the data collected from the questionnaire and interviews in a structured way using the research questions. This chapter - Discussion - is divided into three parts. The first part synthesises the answers to the research questions and presents the overarching findings that emerged from this study. The second part constructs a narrative around the development of the reversed TL that took place during the pandemic's ERT. The third and last part describes faculty members' future outlook on HE in light of their experiences during the pandemic.

5.1 Discussion of the Overarching Findings

This study is an attempt to understand the HE landscape in Qatar from the perspective of faculty members teaching at the American universities in Education City, their experiences, perceptions, and the transformation in their attitudes towards online teaching as a result of the pandemic. The following section summarises and discusses the overarching findings that emerged from the results.

5.1.1 Finding 1: An Increase in Negative Teaching Experience During the Pandemic

While trying out their new role, teaching online in the middle of a pandemic, faculty members struggled the most with student disengagement. Even though the majority of the interviewees praised their administration and IT support who made all possible adjustments to ensure the successful delivery of the curriculum, the lack of personal interactions impacted faculty on different levels: lack of administrative and IT support, limited faculty preparation time and training, lack of student engagement, compromised lab and group work, lack of student individual study space, and increased mental health issues. These findings explain the increase in negative experience of online teaching following the

pandemic. As expressed by Treve (2021) the lived experience of faculty members during ERT highlighted the challenges of online learning rather than its benefits.

Despite all that, faculty seemed to embrace the emergency situation and either self-taught themselves using class technology, or attended training and workshops offered by their institutions to help them acquire new knowledge and skills to implement their new role. Therefore, the ERT can be considered as "an assessment of [faculty] adaptability, a reflection of their resilience" as described by Egan and Crotty (2020, p. 7). In fact, faculty found ways of collaborating and institutions from different countries shared their savoir-faire, which in turn contributed to the change HE institutions needed (Treve, 2021). Furthermore, some faculty were creative while planning their course of action where they went the extra mile to support their students' learning needs. They seemed to move back and forth between planning their course of action and exploring the new role. Although the course of action varied between faculty members, their teaching disciplines, and their previous experience, the move to online delivery allowed faculty to explore new avenues. Some faculty created an ebook while others redesigned students' assessment to suit the current pandemic situation. A couple of faculty members requested additional equipment and resources, and a few adopted the flipped classroom delivery method. Finally, some faculty assumed a facilitator role rather than the expert and provided psychological support to their students.

5.1.2 Finding 2: An Increase in Negative Perception of Online Learning

The results suggest that a slight increase in negative perception of online learning following the pandemic was noticed even though it did not reach statistical significance. Results from the questionnaire suggest that online teaching was neither required nor encouraged by HE institutions prior to the pandemic. The results also suggest that there was

a misconception about online teaching prior to the pandemic, and most of the respondents who considered it to be neither difficult nor easy mentioned an increase in their negative perceptions after experiencing ERT. The majority of the interviewed faculty did not use online learning prior to the pandemic and were unaware of the challenges that came with this teaching approach. In a systematic review undertaken right before the pandemic, Kalimullina et al. (2021) cindicated that the role and presence of the instructor in the learning process would remain critical as long as they increase their digital literacy skills through training courses and seminars as new technological tools are being used in teaching and learning (Kalimullina et al., 2021). Up until the pandemic, the idea of online learning was still being entertained and integrated on an individual level, and the majority of faculty in the traditional HE setting were still relying on face-to-face teaching as the basic learning approach (Graham et al., 2013; Wieland & Kollias, 2020). However, when put to test, results suggested that faculty could not meet the requirement of online learning, especially when it came to *student engagement*, *assessment and academic integrity*, and *faculty increased workload*, leading to an increase in the negative feelings and perceptions of online teaching during the pandemic. In fact, and despite the availability of resources and administrative and IT support, once faculty were obliged to teach online, they realised that online teaching required considerable preparation time, training on new technologies, and creation of suitable content. Although the majority of the participants acknowledged the role technology plays in facilitating teaching and learning tasks, after going through this experience, some faculty became more adamant about face-to-face as essential for learning and the irreplaceable role of teachers. Assessment seemed to be the biggest concern among faculty and needed a re-examination to represent students' work in a fair way, while also reducing plagiarism. Furthermore, the flipped classroom, a teaching approach that has been

around for some time before the pandemic, seems to be the go-to solution for faculty who want to make the best of their online time with the students.

5.1.3 Finding 3: Optimism Despite an Ongoing Disorienting Dilemma

Faculty acknowledged different feelings that they experienced throughout their journey during and following the transition period to ERT. These feelings were born alongside the disorienting dilemma they confronted. For instance, the first feeling was a disappointment with students' disengagement and disconnect with the classroom, which in turn emphasised a feeling of resistance where faculty voiced their strong opinion regarding face-to-face being irreplaceable. One faculty particularly stated feeling uncertain about the whole situation since she moved countries during the pandemic. Furthermore, faculty experienced doubts about student assessment and worried about their student motivation, which in turn tapped into faculty feeling guilty about their previously limited availability to students and the need to ensure student well-being and continuous support. However, this strong feeling was met with a different approach from other faculty who were more optimistic and believed that the online teaching crisis created an opportunity for them to try new teaching technologies and adopt the flipped classroom methodology, thereby finding that online teaching was not as difficult as they thought it would be. These findings are in line with Iglesias-Pradas et al. (2021) who found that the presence of a robust learning management systems infrastructure and IT support, flexible decision-making by administration, the establishment of informal communication channels, and the development of faculty members' digital skills allow a successful transition to ERT.

5.2 Reconstructing the Narrative in Light of the Transformative Learning Theory

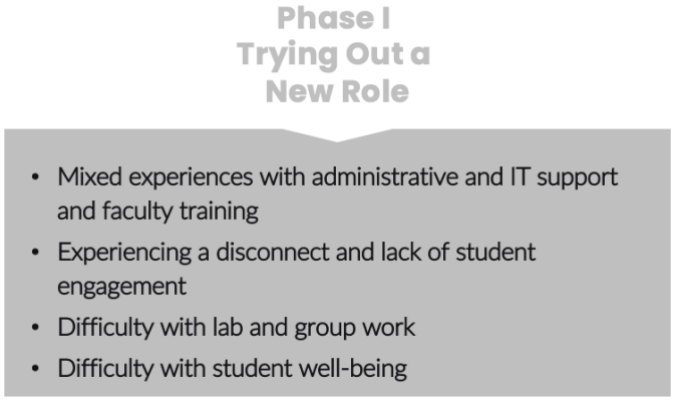
Whether participants liked online teaching or hated it, a transformation had occurred, re-questioning and reinforcing their attitudes or replacing their previous attitudes with new ones. Results show that the pandemic has uncovered hidden attributes of faculty members who can be flexible adult learners, supportive in their teaching approach, and creative in their delivery methods. The attitudes, insights, perceptions, and experiences of thirteen faculty members from four Qatar's Education City university campuses teaching online during and following ERT are explored and analysed in the following sections using the interview transcripts to put the adopted theoretical framework - the reversed TL - into context. The names of the interviewees have been replaced to ensure anonymity.

5.2.1 Phase I: Trying Out a New Role

In this phase, *Trying Out a New Role*, which is the last phase in Mezirow's TL theory and the first phase in the reversed TL theory adopted by this study, faculty members were put into a sudden situation of ERT for which they were not prepared. Even though some faculty claimed having taught online before the pandemic, the majority of this group had only up to one year experience teaching online. Trying out their new role identified many challenges where faculty were put to the test. Whether faculty succeeded in overcoming these challenges or not, these experiences opened their eyes to some issues in HE and online teaching that they did not face or notice prior to the pandemic. Below are the four top themes (see Figure 5.1) that were captured by the interviews data followed by a discussion of each theme.

Figure 5.1

The Top Four Emerging Themes Corresponding to Phase I of the Reversed TL



Mixed experiences with administrative and IT support and faculty training. The amount of work faculty had to put into moving to ERT, the lack of a transitional period, limited personal interactions, and the absence of a "systemic approach to helping" from the administration and information technology (IT) department left the faculty in despair trying to deliver their classes while also doing the IT job of recording their sessions. For Amanda, this new role required her to make more effort. Amanda's feelings during this period were also similarly reflected in a research by de Boer (2021) who found this period as full of uncertainties, a constant demand for adaptability, and an "unpleasant feeling of not being in control" (p. 104).

Although the transition was somewhat smooth for Brandon, the disconnect with administration and the lack of IT support remained the biggest challenges:

> *I felt slightly left out as I am not at the Dean's level and I felt I was not getting a lot of information whereas if you ask the people at the deans' position they had too much information they were dealing with so I felt no part of the community.*

This disconnect can be interpreted as the result of an increased need of administrative as well as technical support during the transition phase (Jumat et al., 2020). In fact, when it comes to IT support, Brandon described IT people as being "reactionary, they did not reach out, and they did not come across as experts in LMS or Zoom." Indeed, the literature showed that while IT support usually targets technical aspects of online learning such as setting up online modules in an LMS, purchasing a software, and implementing an application, guidance on how to design and deliver the content is usually provided by an instructional designer who is the expert in online course design and development (Brigance, 2011). This lack of guidance and IT expertise that Brandon has experienced can be attributed to the absence of instructional designers in his institution and negatively impacts faculty skills and pedagogies for distance learning (Marinoni et al., 2020).

Douglas described the struggle of getting the technology needed, such as an effective camera, wireless headphones, an iPad, and an Apple pen into Qatar, especially with the delay in shipments and the challenge to find the time to master online applications such as zoom and polling tools. Reliance on equipment and laboratories for medicine and engineering, and equipment for design, music and arts, obliged faculty to focus on the "theoretical dimension of the curriculum" (Marinoni et al., 2020, p. 25).

While Eman admitted not attending IT training, which could have been helpful during the transition period, Mona expressed her concerns not getting any training on using technology for online teaching, even though IT support was great. According to Mona, what she needed and expected all faculty to need was a clear map of tools and alternative tools that they could use. This feeling can be related to technology anxiety as the literature has shown that faculty might be lacking self-confidence, especially "older and more

experienced instructors" (Johnson et al., 2012, p. 63). It is essential that faculty are taught the principles of online learning, prepared, and encouraged to use it through professional development activities for it to be successful (Ulrich & Karvonen, 2011). Newland and Byles (2013) consider that when adopting technologies for teaching and learning, it is important for faculty to rethink and upgrade their teaching approach by keeping up with their professional development and learning about online teaching tools.

Despite the availability of tools and services, faculty's lack of digital literacy and lack of time for self-education in online teaching pedagogy and the use of technology hindered their ability to interact with students or use collaborative teaching methods (Almazova et al., 2020).

The negative experience with administration, IT support and faculty training was not common to all participants. In fact, some participants described their administration as being supportive, and their IT as being helpful. For Claude, the course he was teaching during the transition period "happened to lend itself to the format of online delivery." Contrary to the negative experience of Brandon with students' engagement and administrative support, Claude, who teaches a graduate class to a small number of students, found that teaching online was convenient to the students. Furthermore, he was able to keep track of students' engagement by recognizing "when somebody is interested or ceased to be interested so that you can reel them back in." Additionally, Claude praised the administration for the support provided to faculty during the ERT phase, which is also one of the important aspects of a successful online delivery as described by Iglesias-Padras et al. (2021). Claude stated that:

There was a lot of emphasis on the need to provide flexibility to faculty and to students, while at the same time prioritising the key learning that needed to take place to successfully complete the semester.

Even though administration can be a barrier when it comes to access and use of technology for teaching through the lack of institutional support, misunderstanding of faculty required time to develop and deliver an online course, and faculty reward system (Reid, 2014), the majority of the participants in this study acknowledged receiving effective support from their administration and IT personnel. Hassan appreciated the enormous amount of training his administration had put together even though at some point he was feeling overwhelmed; however, he acknowledged that the great help IT staff offered was "absolutely superb." Khalid considered that the collaboration between the local campus in Qatar and main campus in the U.S. was helpful as it brought together experts who had been thinking about such issues a long time before the pandemic and were able to provide support during this time.

Faculty training in using e-learning tools is essential for a successful online learning experience (Gokah et al., 2015). Indeed, Douglas also had a smooth experience transitioning to online learning during the emergency period as he was familiar with the flipped classroom modality he used when he was teaching in the U.S. Additionally, the administration provided support and secured some funds to get the needed tools. Farid was also satisfied with the level of support the administration and IT provided by getting higher resolution cameras, Wacom tablets, and Zoom licence to facilitate online teaching, a feeling that was also shared by Lee and Mona who showed a high level of satisfaction with IT support.

Gina described her experience transitioning to ERT as "convenient" since the course "was designed around expert guest lectures." Gina realised, thanks to the pandemic, that this format could have been used "before the pandemic but it seemed strange, [...] now it seems normal and that worked well for my class." What was of great help for Gina is the instructional designer who dedicated some time to create online materials for this course using templates, creative commons images, open educational sources, public domain materials, websites, and pdf copies of scholarly articles. In general, IT is usually concerned with technical aspects of online learning, such as access to and use of Learning Management Systems (LMS) platforms, software acquisitions and applications implementation and would not provide guidance on how to design or deliver an online course, which is the expertise of instructional designers (Brigance, 2011). Therefore, instructional designers are well placed to support faculty development by identifying barriers to the use of academic technology in the classroom and formulating an online learning strategy in their institution to support the implementation of educational technology (Reid, 2017).

Experiencing a disconnect and lack of student engagement. For Brandon, the transition to online teaching for lecture-based courses "was relatively easy," especially since these videos were available from the main campus and already in use. However, what was "disconcerting" is the absence of students' "facial feedback." Brandon explained that the lack of micro expressions made it difficult for faculty "to judge if the students are completely lost or confused or disengaged" whereas this is something that faculty rely on in face-to-face teaching, and this left faculty feeling disconnected from the class. This feeling of disconnect is not only attributed to the pandemic ERT situation. A study by Sher that

dates back to 2009 found that, unlike face-to-face classroom, in online learning it is not easy for the teacher to decipher students' facial expressions.

Douglas considered student engagement to be by far the most challenging, especially with female students not turning on their cameras or some students not being online even though they were logged in. In fact, current literature from countries which have similar cultural contexts to Qatar describes the same challenge where female students refuse to turn on their camera to avoid having their pictures taken for social and cultural considerations (Slimi, 2020). This resonates with Farid who also stated that while "some females are not comfortable having their cameras on and this is understandable" as we need to be "sensitive to the local culture, being in an Arab, Muslim country," he had challenging times with students logged in but not sitting behind their computers. Similarly, for Khalid, who taught four courses and had a smooth transition online adopting LMS to host his course content, setting up students' discussions, and teaching through zoom, his challenge remained the same. Students would keep their camera off and sometimes would not even reply to questions or volunteer to answer questions, and "it was the equivalent of students who in a lecture room would sit in the back to be as invisible as possible." Some recent articles published during the pandemic found that when students do not turn on their cameras, this can indicate a lack of access to a private study environment (Costa, 2020), students' self-consciousness about their appearance (Castelli & Sarvary, 2021), or the pandemic induced anxiety and depression (Huckins et al., 2020).

Furthermore, this problem intensifies the lack of engagement and hinders the social presence that faculty tries to establish in their classroom (Sederevičiūtė-Pačiauskienė, 2022) as shared by Gina who commented:

In regular in-person classes you develop a community and have small chats before the class. However, I haven't met most of the students and we really wished we knew each other in person to sustain a real sense of community and connection beyond the online moments we were together.

Mona also shared her concerns and frustration regarding students' cameras' behaviour during the transition period:

I did a zoom lecture and I was nearly in tears [...] I said I am not doing it again because I am getting so angry with the students because they wouldn't put their cameras on and wouldn't even speak.

However, Khalid witnessed an interesting experience with student engagement where second-, third-, and fourth-year students were less motivated compared to first-year students whose "engagement was fantastic and performance was fabulous."

Difficulty with lab and group work. However, when it comes to the lab component, Farid was concerned that since "students were not doing the experiments themselves," lab coordinators were required to spend two to three days in the labs to record videos of each session, post them on their LMS, and share data with students. This was also true for Eman, Lee and Mona. Eman described her biggest challenge as converting the labs into an online format while Lee's course was designed around project-based learning where students moved from one step to another, shared their findings with the other groups, and also presented their findings as a group. Lee also had trouble figuring out how to change the lab course format. Mona, who also had a lab component, described this phase as follows:

When we went into lockdown, it was horrible and we did not know what to do. We couldn't go into the lab and I hate not lecturing in person.

These experiences were shared by other faculty members around the world as reliance on equipment and laboratories made it difficult for faculty to complete their curriculum and obliged them to focus on the "theoretical dimension of the curriculum" (Marinoni et al., 2020, p. 25).

Hasan's class usually consisted of students collaborating in groups and engaging in discussions and debates. However, in the midst of the pandemic, this format was difficult to translate online even though using breakout rooms could divide the students in two groups. "Cohesiveness is lost" and "the exchange is made more difficult by the technical logistics," as stated by Hasan. Hasan also stated that using three different platforms to share content, connect with students, and post class material created lots of work. "Work is everywhere, it lives with me and there are no boundaries left," but the whole experience was exciting as expressed by Hasan. The most challenging part was students and faculty feeling isolated and losing the sense of community for a while:

> *On one hand you have the overexposure to technology which results in students' exhaustion, tiredness, and you still want to do what you planned for your syllabus and somehow it takes longer. That was quite off putting for me as a teacher.*

Students turning off their cameras was also a struggle for Hasan, but IT provided a great "absolutely superb" support.

Joanna had a similar experience to Hasan, especially the collaborative aspect of learning where students "would draw on the board, revise each other's drawings, trying to map out the argument." It was not easy to recreate this learning opportunity over Zoom even though the faculty put in use an online group note-taking document.

Difficulty with students' individual study space and well-being. Claude and Farid both raised their concerns regarding students' lack of a private study space where

some of them including Farid have his kids "live in a small house with their siblings that are also attending online classes." In fact, the lack of access to a private study environment might hinder students' engagement in synchronous learning (Costa, 2020).

Additionally, the well-being of students emerged as one of the biggest challenges in the literature following the pandemic. In a study by Al-Salman et al. (2022), students' mental health suffered due to an extended use of digital tools, lack of face-to-face engagement, heavy workload, change in sleeping behaviour, and external stress resulting from increased Covid-19 measures. Joanna also struggled not knowing how to help her students who were stressed out and worried:

> *Just trying to say that 'it is important to read this today' sounded kind of silly, so I ended up spending triple the amount I usually spend on teaching to have one-on-one meetings with students to check how they are doing and getting absolutely no teaching done.*

For Ian, who was teaching two courses during the transition period, his experience teaching online was successful since he had already established a good rapport with the students in person before the pandemic. However, his struggle was that "students were traumatised, and depressed;" they would not turn on their cameras, and they stopped showing up and participating online.

5.2.2 Phase II: Acquiring New Knowledge and Skills to Implement New Role

Trying out the new role exposed faculty members to an array of challenges but also opened up the door for them to acquire new knowledge and skills to improve their skills. There were two opposing approaches to acquiring new knowledge and skills: *Reaching out for help* and *Using self-directed learning* (see Figure 5.2).

Figure 5.2

The Two Emerging Themes Under Phase II of the Reversed TL

Reaching out for help. Prior to the pandemic, most of the HE institutions were already offering access to and training on using Learning Management Systems (LMS); however, "the cultural and institutional mechanisms for faculty to deepen their experiences with educational technologies vary significantly" (Brooks et al., 2020). Following the pandemic, interviewees realised that they needed to capitalise on their online teaching skills, learn about latest virtual classroom technology, and master some tools to facilitate learning.

While acquiring the new knowledge and skills to implement her new role, Amanda recognized that "the resources were not the issue specifically, but it was the modality that was the problem for me" and decided to reach out to her librarian to help her populate the online course, and IT provided her with some training on using Zoom. In fact, in a study by Lenert and Janes (2017), the authors found that in addition to the important role of the instructor and the instructional designer in the development of online courses, librarians should be also included in the course design team.

During the pandemic, there was a pressing need for mastering tools. Eman had a lot of training on using Panopto on her own, even though she did not end up using it. Eman recognized that she could have profited had she attended IT training rather than trying on her own. This need was also expressed by Douglas, and Farid admitted learning from his students how to use Zoom while Gina recognized the important role the instructional designer played in helping her implement her new online teaching role. That was also the case for Ian and Khalid who were able to attend training seminars on using technology, and whenever they needed help, the instructional designer was available. As for Brandon and Lee, their colleagues played an important role supporting them through the transition phase and sharing expertise and experiences.

Hassan, on the other hand, felt overwhelmed with the amount of training and workshops that were available; however, he stated:

> *I feel very pleased that I have been given the opportunity to try so many different ways of engagement possible through online means. There was some excitement on my part; it was the big unknown and it was exciting to be doing something new.*

Using self-directed learning. Brandon spent the first few weeks and months "researching online platforms to deliver content and [...] learn more about Canvas [... and] how to use poll everywhere with zoom." Prior to the pandemic, faculty members seemed to use technology into their teaching for two main reasons: first, to improve their own professional needs such as managing their classroom, creating customised teaching materials, and engaging in their continuous professional development; second, to build their students' critical thinking, encourage higher order thinking, and develop lifelong learning skills through engaging them in an online course (Rovai, 2002; Garrison & Cleveland-Innes, 2005; Shea, 2006; Bogle et al., 2009; Akyol & Garrison, 2011).

For Mona, she stated that she spent the summer learning how to do online courses. "It is not about sticking your stuff or recorded lectures online which a lot of people did," Mona stated. Even though IT provided training on using Zoom and Panopto, what was missing was a clear description of all the available tools and how or when to use a specific tool. "If you don't know what the alternatives are, you cannot decide which one to use," Mona added.

This is another important point made by some studies during the pandemic. Based on Bandura's (1997) definition of self-efficacy, if a faculty member was successful in engaging students during ERT, it is a clear demonstration of their high self-efficacy (Hampton et al., 2020). The more experienced the faculty are, the higher their self-efficacy (Culp-Roche et al., 2021). In fact, a few faculty (Brandon and Lee) did not mention needing any help during that period, and some (Eman and Joanna) stated not needing any help as they were already familiar with some tools and had experience using Zoom as a previous post-doc.

While some institutions were able to provide quick and efficient support to their faculty through Phase II by helping them acquire the knowledge and skills needed to implement their new role through training, and acquisition of new technology and tools, other institutions were more reactive, and faculty had to learn and master some skills on their own as described in the next section.

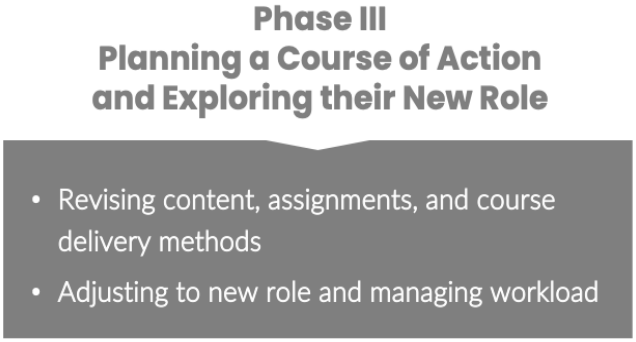
5.2.3 Phase III: Planning a Course of Action and Exploring their New Role

This phase joins two stages of Mezirow's TL framework where faculty engage in *planning a course of action and exploring their new role*. These two stages seem to be strongly connected during the ERT situation. While adult learners usually decided how to move forward by planning their next steps, in the case of reversed TL, faculty members

planned their course of action based on the new knowledge and skills they acquired following the new role they found themselves in while also exploring and adjusting to their emerging needs, their students' needs, and the requirements of the curriculum. Figure 5.3 provides a visual summary of the emerging themes followed by a discussion of each theme.

Figure 5.3

Summary of the Two Emerging Themes for Phase III of the Reversed TL



Revising content, assignments, and course delivery methods. Early studies on ERT during the pandemic found that faculty had to give up their reliance on equipment and laboratories for medicine and engineering and focus on the "theoretical dimension of the curriculum" (Marinoni et al., 2020, p. 25). For example, Eman decided to develop her own e-book that she completed over the summer and used for the fall semester while Brandon worked on creating a case study for his medical students that is suitable for telemedicine. Brandon's approach has already been described in the literature by Quintero (2014) who believes that there is a need to revamp medical education and make it relevant to current and future challenges to make students ready to respond to challenges emerging in population health. In fact, Brandon described how the clinical skills and simulation lab staff were able to recreate the students' experience using breakout rooms in Zoom as if the

students were on-site. For his course, Brandon created small groups of students and redesigned his schedule every day for live small groups, office hours, and review sessions, which gave him a feeling of connectedness with his students. Additionally, attending online conferences helped Brandon make better use of video streamed lectures and adopt the flipped classroom approach where students were asked to do some preliminary readings and during live classes have more hands-on activities. When exploring this new role, Brandon felt "satisfied with the delivery but dissatisfied with the students" as they did not seem to take advantage of the interaction that the faculty implemented based on their request.

Mona, who expressed her dislike of the whole ERT situation she was caught in, decided that she was "never ever going to be caught out like this again" and created an ibook that consisted of

> *short 10-min lecture segments and I created a personalised learning experience. I had a little avatar of myself and I would use little jokes so students get to know me, my personality, and feel safe to come ask questions after class. Because lectures should be a two-way communication.*

Furthermore, Mona was able to find her way back by using the Oxford style tutorials where she met with one small group of students at a time and engaged in a discussion around an assigned topic. Lee also capitalised on meeting his students through individual weekly meetings using Microsoft Teams.

Farid went on developing his slides, adding animation and YouTube videos, and using the chat in Zoom to compensate for the lost class interaction. Similarly to Douglas and Joanna, Farid was not happy with students' assessment as this fear of preventing cheating "is penalising good students who are not cheating." Similarly, for Ian, plagiarism

seemed to be an issue with ERT as Ian had "three cases of plagiarism since we went remote and several of my colleagues also reported a sharp increase in plagiarism."

Eman adopted the flipped classroom modality by using live sessions for discussion and answering students' questions which resulted in improving the overall course content and delivery. Furthermore, Eman and Lee replaced their lab course with a literature search, and Eman expressed her satisfaction with students' work during that time and considered that "they did great!" Similarly, Lee changed his capstone lab course topics to allow students more flexibility while completing the course. Instead of lecturing through Zoom, Lee decided to cancel one of his three classes, record the lectures, embed some questions, and send them along with the slides to students ahead of the live session. The use of a mix of synchronous and asynchronous online teaching results in deeper learning and better outcomes and improves higher order thinking skills (Roblyer et al., 2007; Bernard et al., 2004; Brierton et al., 2016; Bao, 2020).

For Claude, there was a considerable investment in supplies, equipment, training, software, based on an ongoing conversation between faculty and administration. This conversation led to the implementation of an "online teaching lab and [curated] collection of resources for people who will be planning online or remote instruction for the first time." Claude also revised his assignment instruction to allow students to share their progress through formalised in-class dialogue, but also informal outside-of-class dialogue, in small groups using Zoom.

Khalid also questioned the purpose of assigning too many assignments to students and decided to adopt a one-essay format as a flexible way of "instil[ling] quality learning."

Douglas and Eman had to improvise and give more pop quizzes to make sure their students were attending the live sessions. For Eman, adopting the flipped classroom

approach was never planned, but she found herself doing it and it worked well. However, what was game changing for her was the ebook she put together for her course.

While exploring his new role, Douglas found that the most difficult part was giving students a fair evaluation, which was also a feeling shared with Joanna who decided to have her students grade themselves using only qualitative feedback as a way to engage them:

> *I was already considering going gradeless, and when this happened, I thought it was a great time to take the leap and evaluate students' work without using grades. And I don't think I will go back to using grades again.*

Khalid had an easy experience moving online since all his materials were hosted in the college LMS and used on online discussion boards. The only change was moving his lectures from face-to-face to Zoom. Khalid also adjusted the assessment requirements to reduce stress on students. Additionally, to make sure students have access to reading materials, electronic sources were used and more marks were assigned to the discussions section of the course, and "for the best students it worked brilliantly" which is encouraging to Khalid who stated that:

> *I am sure I will continue to learn and adjust some things for the future, but I don't seem to have a problem with it.*

When Lee changed the format of the course, having the students work as groups on a research project and present their findings in a format of a press conference on Zoom, students liked it.

Adjusting to a new role and managing workload. For Gina, the change she had to incorporate in her new role was moving from being the "expert" to becoming "a facilitator and integrator of some new areas for me that I also needed to introduce to students too." This role was also observed by Gonçalves et al. (2020) were faculty members play the role

of moderator, facilitator, participant, and observer in online learning although this approach was not born with the shift to the imposed online teaching. In fact, many studies published before the pandemic stressed the importance of redesigning the role of the instructor to shift from a knowledge container and diffuser to a facilitator who co-constructs knowledge along with students, encourages collaboration, and fosters engagement (Keengwe & Georgina, 2012; Johnson, 2013). Gina spent a lot of time preparing and thinking about how to set up her class, "I tried to recreate the same attention I would give to an in-person class" were students would log in early to "chat with me, I would make sure to greet them when they log in, just as I would in my in-person class." Gina's experience is in line with the findings of a recent study by Hicks (2020) where he argues that liberal arts faculty seem to be "the most sceptical of online learning" as they put a lot of value in "face-to-face interactions inside and beyond the classroom" (Hicks, 2020).

While Ian still believed that his pedagogical approach did not change, "I was told I should make it differ, but it seemed to work very well during the crisis semester and the next semester." Hassan had an overwhelming experience planning his course of action, especially that he found himself using three different platforms. He indicated that when teaching online,

> *I can't not just end a class asking students verbally to read a chapter, but I had to send an email and post it online and that is an additional task that I resent and I feel that my role has diminished and has been replaced by that electronic version of me.*

This has been described in a study by Kazley et al. (2013) who found that when adopting educational technology, faculty have to find a balance between their teaching philosophy and level of comfort using technology, their workload such as classroom and time management, and institutional support. In fact, faculty increased workload was the third

emerging theme from the data and a concern that was shared by previous studies, such as Doube (2000), Bolliger and Wasilik (2009), and Kazley et al. (2013) who considered that faculty need to manage their time and workload when adopting educational technology. In fact, following the pandemic, the shift to online teaching put an unprecedented pressure on faculty members and increased their workload where faculty felt that they were being assessed for their adaptability and resilience (Egan & Crotty, 2020). Therefore, instructional designers can help alleviate a faculty members' workload by developing teaching materials that communicate the content in an efficient way, engage students to learn, communicate, and interact, and support effective assessment activities (Brigance, 2011; Robinson & Hullinger, 2008). Additionally, some training strategies can be integrated into teachers' training to develop their online competencies and build their resilience, self-efficacy, and wellbeing in a post-pandemic era (Liu et al., 2022).

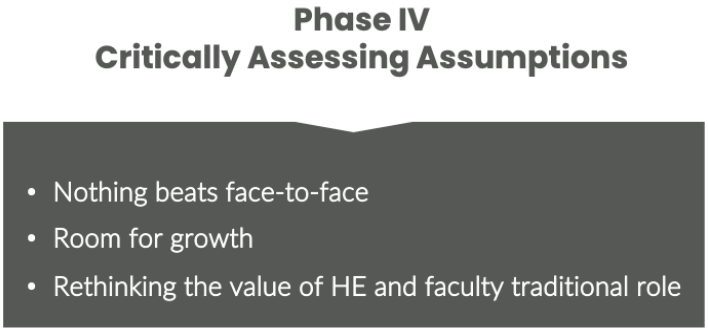
5.2.4 Phase IV: Critically Assessing Assumptions

This stage in the reversed TL framework - *Critically Assessing Assumptions* - resulted from the previously described phases. While trying their new role, faculty members recognized a need to acquire new knowledge and skills to implement their role. They engaged in planning a course of action and exploring how their role was evolving and how to juggle different tasks. This led to a critical assessment of their previously held assumptions regarding online teaching. While a change in their assumptions is not necessarily an indication of a transformative learning experience, the act of engaging with online teaching, reflecting on their assumptions, and adjusting to the urgent needs of online teaching during the pandemic is by itself a transformation that faculty experienced and witnessed simultaneously. Some of that transformative learning was manifested through the strong reaffirmation of the importance of face-to-face learning as the one and only teaching

and learning medium, while another transformative learning recognised the flexibility of online teaching and learning for students and teachers. There was also a middle ground - what faculty referred to as the flipped classroom approach - where a mix of hybrid, synchronous, and asynchronous teaching takes place to cater to the different needs of students and teachers. Below is a visual summary of the three emerging themes for Phase IV (see Figure 5.4) followed by a discussion of each theme.

Figure 5.4

Emerging Themes Related to Phase IV of the Reversed TL



Nothing beats face-to-face. Amanda is a strong advocate of face-to-face learning, especially in medicine where apprenticeship is a valued aspect of medical education. Her views are shared with Douglas who also believes that "face-to-face is indispensable" and Farid who stated that "face-to-face interaction is irreplaceable." However, Farid considers that there is a 'positive side' to ERT, which is the technology we learned to use and that we can keep using when we go back to face-to-face.

This finding seems to emerge from faculty concerns regarding student engagement, a prominent concern for faculty during the pandemic and a top recurrent theme that impacted faculty experience and the success of ERT, as discussed in finding 1. In face-to-

face environments, instructors are usually able to decipher students' emotional states based on facial expressions and eye contact beside speech and gestures, allowing them to intervene when necessary to improve the learning experience (Kort et al., 2001; Reilly et al., 2012), which is not the case in online learning (Sher, 2009). Literature published prior to the pandemic has also investigated student engagement. Czerkawski and Lyman (2016) found that student engagement is crucial for a successful online learning experience. This topic remained one of the top challenges during the pandemic (Lederman, 2020b; Sims & Baker, 2021). Despite the connectedness that was created using online teaching tools, some learners still felt isolated (Marr, 2018; Marr et al., 2013; Crawford et al., 2020,) and this was also observed during the pandemic with the increase in anxiety among learners (Huckins et al., 2020).

Room for growth. Similarly, Douglas also admits that there is a huge value of technology in instruction, especially flexibility that allows faculty members to teach remotely when travelling. The whole experience allowed Douglas to rethink his future teaching approach:

> *When I teach online in the future, I will not give long lectures, but will design the lectures in small segments, 15 mins a piece, then a short summary and do something in between to engage students then move on to the next segment.*

Brandon had a more nuanced stance where a mix of online and face-to-face can be applied to medical education. Brandon stated that the emergency online teaching situation made him realise that the medical school curriculum needs a re-examination:

> *We are in a time where anybody on a planet can get lectures on medical education similar to the one found in medical schools. And if we can do this delivery online remotely without meeting the students [...] what is it we actually give students above*

and beyond what they can get on the web? That is professionalism, clinical skills, and apprenticeship to be a doctor [...] All these things require faculty interaction and students interaction with patients or simulated patients, and being part of a team on a clinical ward. These things you cannot get on YouTube and this is where we should focus our energies for medical school.

Claude considers that this situation created an opportunity to teach students creative skills faculty always wanted them to have:

becoming resourceful, flexible, lateral thinkers, [able to] assess the situation, analyse it and see what the opportunities are and then grab these opportunities in order to make something unexpected. What better moment than a crisis to put it to the task and to demonstrate to the students that yes, we are limited to what we can do compared to normal, but there are always opportunities in any unique situation and this is how we can make something out of the situation.

These findings agree with Ottenbreit-Leftwich et al. (2010) who found that teachers use technology for two main reasons: a) to improve their own professional needs, such as managing their classroom, creating customised teaching materials, and engaging in their continuous professional development; and b) to address their students' needs and engage them by encouraging higher order thinking, enhancing their comprehension skills, and helping them develop lifelong learning transferable skills

Eman stated that now she realised there are "a whole range of other options we can use in the future and we also know whether it works or not since we tried to use them." This feeling was also shared with Lee who found that the flipped classroom modality resonated with their needs, and if it was not for the emergency online teaching, they would not have tried it. A finding that is also shared by Cheema (2020) who describes online

learning as a chance to create new learning opportunities that would not exist in a face-to-face environment.

Rethinking the value of Higher Education and faculty traditional role. Gina's experience allowed her to question the purpose of HE, especially in terms of equity, access, population, and the value of in-person HE. In her opinion, online learning should not "replace what we are doing in institutions, but I think HE needs to be more adaptable, flexible, evolving, responsive, and aware of the context and people's needs."

Similarly, Mona experienced a profound change in her assumptions and showed some concerns about budget strains in HE. She also questioned the fate of faculty if HE institutions decided to replace them with recorded lectures; something that was not considered, or at least pondered, if it was not for remote learning. For Mona, faculty are irreplaceable:

> *Students need to be encouraged to learn. Using recorded learning makes people lazy. The content needs to be updated all the time.*

Hassan and Joanna recognize the deep impact the ERT experience has left on their relationship with their students and their teaching practice. Hassan was worried about not being able to build a long-term relationship with his students:

> *Students used to come to my office, but right now we lost that additional interaction. My students usually become my friends, but this year for the first time, I will not have friends.*

However, Joanna indicated that the whole experience impacted her pedagogical approaches to curriculum delivery "pretty extensively!" questioning the purpose of grades and student assessment. She even decided to go gradeless and rely on qualitative feedback that students generate and that is validated by the instructor. In fact, assessment is the most important

measure of student success in the traditional educational system and one of the most challenging aspects of ERT (Sahu, 2020). Therefore, Alshamsi et al. (2021) suggest using a mix of formative and summative assessments to ensure the "alignment across curricular components" (p. 61), limit academic dishonesty, and make students accountable for their learning while providing "validated and transferable credentials" (p. 59).

Khalid, who stopped using lectures and adopted the flipped classroom modality long before the pandemic, questioned the purpose of faculty office hours and how they

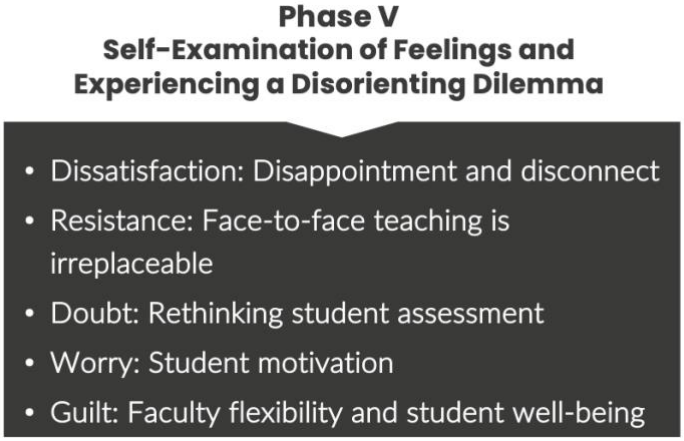
> *should be approached much more flexibly. I always felt they were artificial, but now it is clear that they are pointless. Your contact hours should be real contact whichever way that contact happens: by email, on Zoom, or face-to-face. Once you internalise that, it is much easier to restructure things not to overload people.*

5.2.5 Phase V: Self-Examination of Feelings and Experiencing a Disorienting Dilemma

Faculty experienced an array of feelings during their ERT mode. While in the normal transformative learning approach, this self-examination of feelings comes in the beginning of the transformative process following the disorienting dilemma. In this specific situation, it manifested along, if not preceded, the dilemma, creating an amalgam of positive and negative feelings and emotions while faculty were trying to settle into that volatile yet persisting nature of the 'exceptional' online teaching situation. A study by Kilgour et al. (2019) found that adopting online teaching "requires shifts that are both ontological and epistemological" (p. 1427), which explains the disorienting dilemma such a situation can create. Figure 5.5 provides a visual summary of the five emerging themes followed by a discussion of each theme.

Figure 5.5

The Five Emerging Themes Corresponding to Phase V of the Reversed TL



Dissatisfaction: Disappointment and disconnect. Amanda experienced a feeling of discontent and even frustration with the move to ERT due to the lack of support from administration and IT. This feeling was shared by Brandon who stated that he was disappointed by IT's reactive response during these difficult times. He also expressed his frustrations "not getting a lot of information" from his administration and not feeling being "part of the community." However, this feeling changed later as Brandon was included in meetings where faculty engaged in a conversation about the current situation.

Mona also shares the same experience of discontent at the beginning of the online teaching situation:

> *I did a Zoom lecture and I was nearly in tears by the end of it. It was horrible and I said I am not doing it again because I am getting so angry with the students because they wouldn't put their cameras on and wouldn't even speak. They would only chat. I felt like talking to black squares. I was super stressed by the situation.*

Mona acknowledged not knowing how to teach online even though she used technology in her classroom. In fact, up until the pandemic, HE was still lagging behind the online revolution (Gallagher & Palmer, 2020). To avoid being "caught out like this again," Mona decided to create two versions of her module: one for in-person and one for online teaching. Similarly, while examining his role teaching online, Hassan stated:

> *I wasn't very happy with it […] One of my strongest points is engaging with people and establishing rapport with students as teaching and learning are rooted in personal responses, and if I can't do it I don't feel quite myself as a teacher. I feel [that instructing] and teaching involves so much more than just instruction, it involves personal engagement, emotional response, getting to know each other.*

These findings are supported by previous literature which considers that personal factors play a role in influencing teacher resilience, such as self-briefing, emotional competence, self-efficacy, enthusiasm, and motivation in addition to gender, age, and teaching experience (Day & Gu, 2014; Liu et al., 2022; Lin et al., 2022) which are considered "an important predictor of teaching quality and student academic performance" (Liu et al., 2022).

What Hassan felt is strongly shared by Amanda, who articulated her concerns regarding this new online teaching role as follows:

> *I do feel and continue to feel [...] passionate about the concept of apprenticeship [...] It involves the personality of the teacher very much and their training and their background. This year was a loss [...] We have to see how this is going to impact [students].*

Resistance: Face-to-face teaching is irreplaceable. Amanda expressed feeling sorry for the students as she believed that having to modify the curriculum during the

emergency situation "is a definite loss in the clinical experience." This resistance might be linked to faculty feeling a lack of "autonomy and control of the curriculum," and putting extra time for training on adopting, implementing, and using technology in their online teaching (Doube, 2000; Keengwe & Kidd, 2010; Esani, 2010). As for Brandon, he "was satisfied with the delivery but dissatisfied with the students." However, both participants acknowledged the important role of face-to-face and apprenticeship in medical education that cannot be replicated in an online learning environment, as it is also found in a recent study by Reyna (2020) who re-emphasises that medical education relies heavily on traditional didactic learning activities that cannot be delivered online. The disorienting dilemma that participants experienced redirected them to the essence of medical education. While they showed some positive feelings by stating that "we are grateful that we can continue teaching" (Amanda), "faculty interaction and students' interaction with patients" cannot be replaced by online teaching, and "this is where we should focus our energies for medical school" (Brandon). This feeling was also shared by Douglas and Farid who believed that "classical in-person teaching and experience will continue to be a critical component of higher education" (Douglas) and "nothing will replace face-to-face classrooms" (Farid). Still, this experience showed that faculty can rely on technology when travelling, for example, to teach remotely.

This resistance to change experienced by some faculty can be linked to four main reasons. First, faculty might be perceiving "a gap between the potential of technologies for learning and their actual use in practic[e]" (Hüttel & Gnaur, 2020, p. 245). Second, faculty might be lacking time to invest in mastering technological tools (Ferri et al., 2020). Third, faculty's professional identity and how they view the subject they teach "as requiring a certain mode of teaching" might also play an important role in their resistance (Hüttel &

Gnaur, 2020, p. 245). Finally, faculty might perceive management who is encouraging technology as "interfering with the freedom to use their preferred approach to teaching" (Hüttel & Gnaur, 2020, p. 245).

Doubt: Rethinking student assessment. Assessment of students' knowledge also emerged as an important challenge from the collected data. Although a few studies considered students' assessment pre-pandemic, such as Lenert and Janes (2017), Gibson et al. (2017), Govindasamy (2002), Brigance (2011), and Robinson and Hullinger (2008), this challenge became evident as faculty were concerned about "how to manage a correct evaluation of students' skills and knowledge" (Gonzalez et al., 2020). Many studies published following the pandemic investigated the use of fair assessment in ERT and its impact on students' success, and many questions arose regarding students' academic integrity (Knight & Drysdale, 2020; Treve, 2021; Whalley et al., 2021; Alshamsi et al., 2021; Iglesias-Pradas et al., 2021; Watermeyer et al., 2020; Sahu, 2020).

Douglas, who claimed that "psychologically, [the move to online teaching was] not a big shock" and that "online teaching is actually easier," asserted that the hardest challenge was providing students with fair evaluations. Farid, who was unhappy about the quality of his teaching during the pandemic, shares the same feeling regarding students' evaluations. Cheating was a big issue and faculty became obsessed with it to a point where "it is penalising good students who are not cheating. This is something I wish we can find a solution for." In fact, the literature has shown that online teaching during the pandemic obliged faculty to set up lower expectations for course work, making last minute changes to their course deliverables, modifying, or even dropping exams and assignments, using a pass/fail grading system, and cancelling some reading requirements (Lederman, 2020a; Ralph, 2020).

However, Joanna, who always wanted to change the way she assessed her students, found a good opportunity with the advent of the online teaching situation, and started using qualitative feedback where students also engage in self-assessment:

> *When this happened, I thought it was a great time to take the leap and evaluate students' work without using grades. And I don't think I will go back to using grades again.*

Worry: Student motivation. Hassan felt excited as "it was the big unknown and it was exciting to be doing something new." However, the dilemma that arose from this situation was delivering the syllabus, which necessitates the use of technology while also knowing that overexposure to technology results in students' exhaustion:

> *Students were overtired, overwhelmed, overworked, and overexposed to computer screens and as teachers we have the duty of care, and consider the well-being of each student. And this is very true for the university in which I work, where one of the key principles is to make sure students are developing in different directions, and this clashes with the expectation of maintaining academic standards.*

Hassan's reflection on his experience made him recognize that despite the frustration he went through due to "the inability to engage on a personal level," he wanted to "retain some elements of online instruction and resources" once he went back to face-to-face. This realisation came from the use of these "incredible resources" for online teaching. These findings are in line with Hodges and Fowler (2020) who believed that when faculty members get the chance to reflect on their ERT experience, they "move forward to improve their practice with online delivery or any delivery mode" (p. 120). However, Hassan is concerned about students' motivation in ERT as it "requires a massive amount of motivation and determination on the part of students, which you find with more mature

students." This feeling is echoed in the literature where Lee et al. (2014) found that self-directed learning is an "ambitious form [...] of learning that [is] more demanding than passive listening to teachers' transmission of well, organized knowledge" (p. 426). Ian addressed the same feeling in a slightly different way as he explained that "students who want to learn can certainly learn this way. Students who are marginally involved or who are in an environment that is not conducive might not be doing well." Therefore, while online teaching can still "deliver pretty good quality education remotely", it cannot replace in-person teaching and cannot be "a long-term solution" (Ian).

Khalid also believed that "for the best students [ERT] worked brilliantly." However, what is interesting in Khalid's narrative is that second-, third-, and fourth-year students (the more mature ones) were less motivated and engaged than the first-year students who had never had the chance to meet in person. Still, first year students "were able to create an organic community," collaborate on projects remotely and even support each other. Khalid thought that this had to do with the size of the class where a smaller class seemed to be more engaged and motivated. In fact, previous literature also found that class size also plays an important role in ensuring a two-way communication between students and faculty (Iglesias-Pradas et al., 2021; Taft et al., 2011). Mona also decided to divide her class in small groups since she realised that immature students, if introduced early to problem-based learning, would struggle. Even though this created extra work for her, "it was brilliant, we loved it."

Guilt: Faculty flexibility and student well-being. Joanna, who moved to Qatar in the middle of the pandemic, experienced an "extremely difficult" situation with her students in the U.S. because she did not know how to help them during these times. This was also experienced by Ian who was teaching in the U.S. and Qatar and had to provide

psychological support for his students who "were traumatised and depressed, and some of them were very participatory and suddenly they were not showing up or participating." However, both interviewees were pleasantly surprised that the experience went better than expected. "I thought it was going to be a total waste and that I was going to hate it, but I just completely reoriented the class," stated Joanna. What is interesting in Joanna's experience is that she believed that she lost perspectives while moving from one context (U.S.) to another (Qatar):

> *If I was still in the U.S., I would have been quite pessimistic […], which makes it harder to evaluate change in comparison to before and after.*

One of the participants, Khalid, stressed the importance of faculty flexibility in such circumstances, especially when it comes to faculty availability and student assessment:

> *[Higher education] has always been far too rigid and regimented. So, everything, from contact hours to assessment, should be driven by the experience you want students to get out of it and how you assess that they do. Everything else is secondary. Higher education still has a problem with that.*

Khalid's experience is previously experienced by Orlikowski (1996), Markus (2004), and Nadkarni and Prügl (2020) who consider that although a successful digital transformation in an organisation is enabled by technology, this transformation needs supportive leadership, an accepting culture, and employee training. Khalid's prior experience as a dean made him realise that leadership has less influence on faculty members who exhibit an "instinctive rejection of altering the established habits." The dilemma that Khalid experienced was the great experience he had teaching online and breaking the old rigid status-quo of HE, while also realising that some students are isolated in this mode of

teaching, and "are missing the student social life, and this is the more important reason to go back to a more normal learning experience."

5.3 Optimism: The Crisis as an Opportunity

The previous section described faculty feelings in light of the last phase of the reversed TL, *Self-Examination of Feelings and Experiencing a Disorienting Dilemma*. Despite their feelings of dissatisfaction, resistance, worry, doubt, and guilt expressed in Phase V, faculty were able to recognize the bright side of the pandemic and acknowledge its potential positive impact on the future of HE.

Claude, on one hand, was more in touch with his feelings as he described the anxiety and uncertainty experienced by him and his students where, at times, "it was hard to come to grips with the reality that this is going to be an enduring situation." However, Claude also acknowledged feeling "fortunate just to be in the position of teaching a class that was relatively easy to transition into that mode." He used these uncertain times as a teaching moment for his students:

> *What better moment than a crisis to put it to the task and to demonstrate to the students that yes, we are limited to what we can do compared to normal, but there are always opportunities in any unique situation, and this is how we can make something out of the situation.*

What is also interesting is Claude's experience not only as a faculty member but as an administrator where he witnessed two different approaches from his peers:

> *There are faculty who saw the circumstances and adapted to it in interesting creative ways to make the most of the situation for their students and there are others who liked what they normally do and did not really want to change it. [...] If the situation was not normal and you treated it as normal you are going to be*

disappointed. But if you see that the situation is not normal and reflect on what is different about it and the opportunities there, you can do interesting and exciting things even under adverse conditions.

This analysis of the general feelings among Claude's department faculty members summarises the challenges and opportunities that emerged from this disorienting dilemma, which is also represented by the sample of participants in this study. For example, Eman admitted that while she was lazy to make any changes to her curriculum before the pandemic, online teaching "obliged [her] to change her approach" and recognize that "there is a whole range of other options we can use in the future, and we also know whether it works or not since we tried to use them." Additionally, the whole experience had Eman think about the value of online teaching. Overall, she felt "optimistic about higher education and online learning if we manage to use online resources correctly." This was also true for Lee who felt satisfied about his teaching experience and realised that "even the lab work can be turned online, so I think HE can offer online or partially online education." These findings from the interview align with the findings from DeVaney et al. (2020) who consider that the ERT experience should be adopted in the long run to allow the much-needed digital transformation of HE. The pandemic forced all educational institutions all over the world, willingly or unwillingly, to jump on the bandwagon and provide the necessary logistical support to ensure academic continuity (Nworie, 2021). Furthermore, this experience can also take into consideration Petronzi and Petronzi's (2020) model, OaC or Online and Campus, that is based on three learning stages: asynchronous, synchronous, and face-to-face (on campus) learning.

Similarly, Gina, an administrator and faculty member, also shared similar experience and feelings with Claude and Eman. She was satisfied with online teaching and

thought that it worked well for her course; however, a few questions arose from her experience that fuelled the disorienting dilemma, especially "equity, access, purpose of higher education, population, what it means to be in person, value of in-person high touch higher education." She stated:

> *Higher education will have to think about some of the questions and think about the value of in-person learning and live up to that because if you can do this at a distance, what is the point of moving to another country, living in a dorm, paying for rent, etc… So, I think there are things we have to reflect on such as the traditional model of institutionalised higher education we have in the US and the UK. It is worth trying to understand better how we need to change moving forward and seek opportunities for growth. We should not do away with higher education institutions, I don't think online learning should replace what we are doing in institutions, but I think higher education needs to be more adaptable, flexible, evolving, responsive, and aware of the context and people's needs.*

In fact, El-Azar and Nelson (2020) have imagined a similar future scenario for HE where learning is individualised and each student, while part of the same cohort, can still join a different set of online courses. Such transformation in teaching and learning ensures campuses keep their social life while also providing flexible and customised opportunities for students.

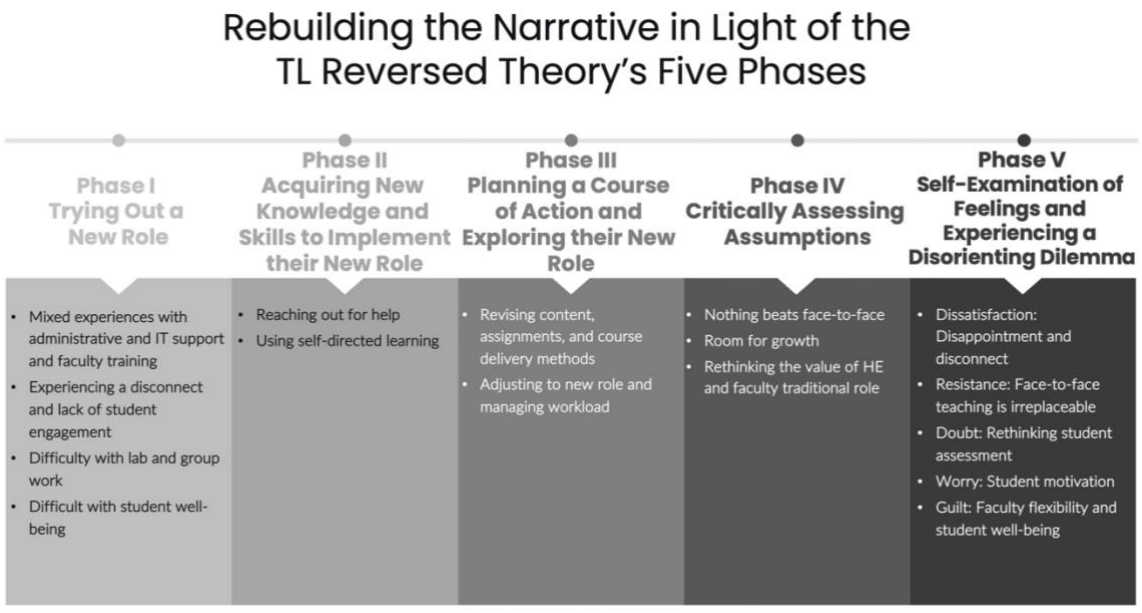
This optimism expressed by some of the participants brings a silver lining to the gloomy post-pandemic HE landscape and highlights the transformative impact the pandemic might have on the future of online teaching and learning.

Summary of Chapter 5

This chapter presented and analysed the findings that emerged from this study and applied a reversed TL approach to draw a narrative to understand the circumstances under which faculty members adopted the ERT approach to ensure the continuity of the curriculum. Following TL's five phases (see Figure 5.6 for a summary of all five phases and emerging themes), the narrative described every phase from how faculty acquired the necessary knowledge and skills to teach online, how they planned their course of action, how they explored and adjusted to their new role while critically and continuously assessing their assumptions, to examining their feelings and recognizing the disorienting dilemma.

Figure 5.6

Summary of Reversed TL's Five Phases and Corresponding Themes



This experience proved that contrary to the traditional view of faculty members as a static, rigid, and regimented community of scholars, faculty members have demonstrated that they can be flexible, supportive, and creative in their teaching approach whenever they find themselves in unpredictable situations such as the latest pandemic. Furthermore, the disorienting dilemma, "an experience that does not fit with a person's expectations [and that] cannot be resolved without the person changing their view of the world" (Beer, 2019, p. 4), can be tracked down through the answers of each participant. This dilemma took its time to manifest as faculty were busy finding their way into ERT resulting in a change in participants' views to varying degrees. While for some participants the disorienting dilemma resulted in a changed attitude towards and acceptance of online learning, for other participants the experience reinforced their views on face-to-face teaching as irreplaceable. Nevertheless, most of the participants tried to hold a middle ground view where they supported a blended approach.

Chapter 6: Conclusion

This revelatory case study (Bryman, 2012; Yin, 2009) took place in the midst of unprecedented circumstances. The *period of time* corresponds to March 11, 2020, and the *event* is the declaration of Covid-19 as a pandemic by the World Health Organisation. The *nation* under investigation is Qatar, and the *organisation* is private HE institutions, while the *small group* consists of the American branch campuses in Education City (Miles et al., 2014).

Using an explanatory sequential mixed-methods approach, this study built on the quantitative method, which in this case is a questionnaire, to develop the qualitative data collection tool, a series of semi-structured interviews with 13 faculty members teaching at four HE American institutions in Education City in Qatar.

While some countries were partially prepared for emergency remote teaching (ERT) thanks to their pre-pandemic online learning infrastructure and socio-economic as well as geographical contexts, other countries and HE institutions struggled with facilitating their faculty and students' access to online learning. Despite inconsistencies in online teaching among HE institutions, the global pandemic created an opportunity for countries to collaborate, share resources, expertise, and effective practices to ensure education was the least disrupted during such uncertain times. Luckily, since Qatar is considered on the high-end spectrum of a strong online infrastructure, HE institutions in Education City were able to adapt to ERT, and technology was deployed to support their needs and students' needs.

Faculty members teaching at these institutions acknowledged the same level of uncertainties other faculty members expressed worldwide and found themselves unprepared to tackle ERT as quickly and efficiently as it could have been had their institutions provided professional development and training in online teaching pedagogy prior to the

pandemic. This lack of preparedness put an unprecedented pressure on faculty members and made their experience during the pandemic tense and unsatisfactory. Nevertheless, faculty members' outlook on the future of HE was more nuanced and inclined to be positive in general despite their concerns regarding their role and the impact of ERT on students' performance.

It can be concluded that whether faculty willingly embraced or were obliged to adopt online teaching during the pandemic, ERT imposed a transformational experience that will impact faculty members' future pedagogical practice: HE will never be the same again.

6.1 Researcher's Reflections on the Challenges and Opportunities of Undertaking this Study

Undertaking this study during the pandemic lockdown situation created both a challenge and an opportunity. The challenge was in shaping the study as new information became available regarding the pandemic. Moreover, the researcher stayed informed about the direction where HE institutions in Qatar were headed based on the communication between the Ministry of Education and Higher Education, Qatar Foundation - the governing body of Education City which hosts branch campuses of six American universities - and the leadership and administration of each university. As for the opportunity, the findings that emerged from this study revealed the resilient, creative, and flexible nature of faculty members who are able to adapt to and adopt new teaching approaches that support their transformative learning journey.

6.1.1 Ethical Concerns

Besides securing the ethical approval of this study by Lancaster University, a local institutional review board (IRB) approval needed to be secured to ensure access to HE

institutions in Qatar. As a staff member of Weill Cornell Medicine-Qatar, I was asked to complete some training requirements, seek the support of a faculty member who would act as my local principal investigator, and submit the IRB application for review and approval before starting data collection. This thorough process was time consuming and required a complex trail of paperwork and approvals to ensure that the study met the local and U.S. requirements before engaging in any research endeavours in Qatar. IRB approval was secured in August 2020. The IRB application underwent continuous re-evaluation throughout the data collection and analysis process and was renewed on an annual basis to ensure the validity of the study.

Another challenge that increased the time spent on data collection was the refusal of two institutions, among the six American institutions that were targeted in the study, to circulate the questionnaire among their faculty members. The stated reason for denying access to their faculty was survey overload. This resulted in a low response rate.

After two reminders were sent to faculty across the four institutions which agreed to participate in the study, only 29 faculty returned the questionnaire. Despite the low response rate to the questionnaire, a satisfactory number of respondents - 13 respondents - were willing to participate in the interviews. This resulted in the collection of diverse and rich data to help in understanding the topic under investigation and provide a rounded narrative that portrays the ERT situation in Qatar's Education City American branch campuses during the pandemic.

6.2 Contributions

When this study was being conceptualised, there was a need to understand the shifting sands in the HE landscape in Qatar, especially from the perspective of faculty members who experienced a transformation in their practice, their beliefs, and consequently

their outlook on the future of HE and their role in it. Despite faculty's different educational and training backgrounds, their value systems, and the institutional culture in which they operate, they share the same ground - teaching at branch campuses of American universities in the state of Qatar - and, therefore their experiences are valuable towards contributing to the global narrative on teaching and learning post-pandemic.

6.2.1 Contribution to Theory

This study used Mezirow's theoretical framework of transformative learning (TL) to understand faculty members' experiences teaching online during the pandemic. TL is considered "a deep, structural shift in basic premises of thought, feelings, and actions" (Transformative Learning Centre, 2016) that adult learners experience when confronted with a disorienting dilemma (Christie et al., 2015). The original conception of TL consisted of 10 stages (Mezirow, 1978):

1. A disorienting dilemma
2. Self-examination with feelings of fear, guilt, or shame
3. A critical assessment of and reflection on assumptions
4. Recognition that one's problem is shared
5. Exploration of alternatives for new roles, relationships, and actions
6. Planning a course of action
7. Acquiring new knowledge and skills to implement one's plans
8. Provisional trying of new roles
9. Building competence and self-confidence in new roles and relationships
10. A reintegration into one's life employing a new perspective

However, this study did not only apply TL, but reshaped the use of TL in extraordinary circumstances that required a totally different approach. Therefore, the

significance of this study lies in its conceptual and applied contributions to the TL theory. Using the revised version of TL (Mezirow, 1994) that was reduced to seven stages, the originality of this study resides in the original and unprecedented use of TL. Once the data was collected, results suggested that during the ERT phase, faculty members experienced a *reversed TL* situation where they found themselves trying out a new role teaching online and navigating different levels of challenges. The reversed TL phases can be summarised as:

1. Trying out a new role
2. Acquiring knowledge and skills to implement their new role
3. Planning a course of action and exploring their new role
4. Critically assessing assumptions
5. Self-Examining of faculty feelings and recognizing a disorienting dilemma

The study argues that, in times of uncertainties, TL can be reversed to support the immediate needs of faculty and students and ensure the continuity of the curriculum. In this study, the reversed TL manifested as follows: faculty started acquiring new knowledge and skills to implement their new role by learning about available technologies and planning a course of action. They revisited the content of their courses, assignments, and delivery methods while also constantly exploring their role and adjusting to the needs of such a situation. Faculty also engaged in a critical assessment of their previously held assumptions, examining their feelings and experiencing a disorienting dilemma. Going back to face-to-face modalities seemed like reaching their safe place for many faculty while few enjoyed the online teaching journey. If it were not for the pandemic, very few faculty would have had the chance and the will to adopt online teaching based on their institutional technological readiness and the support the administration can put forward. However, and

thanks to the pandemic, faculty and administrations had no choice but to embark on this unknown journey, taking a trial-and-error stance, and learning from mistakes.

6.2.2 Contribution to Policy

This study can also be further developed to contribute to policy as it takes place in a relatively new HE environment in a young, yet technologically advanced country like Qatar, which has "the potential to become a regional scientific 'center of excellence'" (Embassy Doha's Follow Up, 2009). In fact, the idea of building Education City and inviting U.S. top universities to open branch campuses in Qatar emerged from a need to reform HE while also gaining international recognition (Chougule, 2022). Besides its announced role as a beacon of 'quality' HE, Education City plays a significant role in the diplomatic relationships between Doha and Washington. Qatar's oil and gas revenues helped finance Education City and "covered all capital and operational costs" (Chougule, 2022), which helped American branch campuses to set up their infrastructure in terms of technology to help connect their branch campuses with their main campuses in the U.S. and facilitate the sharing of resources and services (Weber, 2010). Despite the absence of a national policy that governs online learning in HE institutions in Qatar, this study advocates for the establishment of a national online learning and teaching policy that emphasises the need for continuous professional development opportunities for faculty members to acquire, maintain, and improve their online teaching skills and develop an online learning pedagogy that can complement face-to-face teaching and replace it in case of emergencies similar to the ERT situation experienced during the pandemic.

Based on the results of this study, the affordance of technology does not necessarily lead to the most cost-efficient, savvy use of this technology. Therefore, the Qatari

contextual factors and social complexities of deploying online tools in HE necessitate a re-envisioning of online teaching and learning in Qatar.

6.2.3 Contribution to the Field of Technology-Enhanced Learning

This study contributes to the field of Technology-Enhanced Learning (TEL) by investigating the ERT situation that obliged faculty to adopt online teaching in Qatar, rethink its applicability to their traditional teaching methods, and plan beyond the crisis. In fact, faculty's recounts of their experiences during the pandemic, such as the challenges with student assessment, the lack of administrative and IT support, and the enormous time and effort they had to put into creating their online courses and materials, to name a few, are evidence that ERT was testing the extent to which TEL can cater to the needs of HE in the 21st century. However, the solutions that faculty sought individually, collaboratively among the local institution (colleagues and administration), or remotely through their main campuses in the U.S. to ensure continuity of the curriculum also show resilience, creativity, and a willingness to tap into their community's support system.

Therefore, this study contributes to the changing practice in TEL and provides an account of the challenges that faculty members teaching in Qatar have faced during the pandemic. The study also provides insights into the solutions that faculty members adopted to overcome these challenges and ensure their teaching approach during the pandemic is inclusive, fair, and compassionate. The TEL field can benefit from this study in revisiting its goals and objectives and recognizing that there is a need to prepare future faculty members to successfully integrate, deliver, and fairly assess online teaching and learning not only in Qatar but on a global, multinational level. These practical implications could benefit faculty teaching at HE institutions in Qatar and worldwide, especially in branch campuses following the American HE model, to revisit their curricula to support blended

learning, and rethink their pedagogical preparedness for online teaching and learning.

6.3 Recommendations

Below are some recommendations based on the findings of this study and that build on the shared experiences and testimonies of faculty members from different backgrounds, cultural values, disciplines, and experiences:

- HE institutions need to consider establishing clear training paths for faculty members in the use of technology for online teaching. Regular, continual, and encouraged training could take place as a continuing professional development requirement for all faculty. Such training creates and maintains a high level of self-efficacy among faculty and an increasing confidence in their ability to deliver successful online teaching.
- HE institutions are urged to encourage the development of communities of practice and ongoing communication among their administration, staff, and faculty in which teaching and learning is re-envisioned.
- HE institutions are encouraged to invest in instructional designers to support faculty and ensure a high level of content that is designed specifically for online teaching.
- HE institutions need to re-assess and re-envision student to faculty ratio in the classroom to ensure the highest level of engagement.
- Class assessment should be re-visited to allow students a fair assessment. By re-designing assessment, HE can capitalise on the uniqueness and potential of each student.

As this study is being concluded, a new report from EDUCAUSE about the use of AI in HE was published in June 2022. The report considers the application of AI, its threats and

opportunities, ethical accountability, its potential in helping students with disabilities, its use for proctoring and student success, and the improvement of the chatbot to introduce more empathy during communication. One important statement was quoted from a previous article from Fleming (2020) that was republished by EDUCAUSE (Brooks, 2022) in which he stated:

> *As artificial intelligence continues to move further into the mainstream (which it will) and as regulators struggle to govern AI research and development (which they will) and as the market continues to coalesce around big-tech companies such as Facebook and Google (which it will), higher education is uniquely poised to gain public trust once again.*

This shows the power HE has in leveraging technology while also being mindful about the ethical considerations these technologies present. While we need faculty who are engaged with technology and ready to give it a try to support their needs and their students' needs, HE leaders need to show that they are also "committed to building transparency and trust within the AI world" (Fleming, 2020). Therefore, one last recommendation arises:

- Technology, especially AI, can be leveraged to not only support faculty in managing their workload, but also as a class engagement and assessment tool that can measure students' level of engagement, identify struggling or at-risk students, identify potential threats to student engagement and well-being, customise assignments to match each student's potential, while also safeguarding academic integrity.

6.4 Limitations

This case study was undertaken to provide an in-depth analysis of the ERT situation in Education City's American branch campuses. One of the limitations of this study is its

reliance on a small sample of participants (N=29) to gather quantitative data. This is not a unique challenge to this study. In fact, this is a common challenge in the Arab world, especially in more conservative societies, where people tend to avoid participating in surveys that might expose their identities and collect personal information. The small number of participants who returned the questionnaire may impact the generalizability of the results and therefore, limit the applicability of the findings. The lack of participation in the questionnaire can be linked to two reasons: a) the timing of this study - the start of the pandemic - and the uncertainties that faculty members were dealing with and therefore their increased workload, and b) two universities out of the six American universities refused to circulate the study, despite the use of all necessary ethical approvals and IRB approvals, for fear of having their faculty overloaded with surveys. However, the recruitment of 13 participants for the interviews compensated for the lack of questionnaire responses and provided a rich narrative that helped in recounting faculty experiences and analysing the findings using TL as a framework.

Another limitation can be described as the uniqueness of the geopolitical and social context in which this study took place. Findings generated from case studies are usually hard to generalise because of the specific context in which they take place. It is true that Education City is a unique HE model that cannot be easily replicated elsewhere. However, the findings of this study seem to resonate with the broad literature on online teaching and learning during the pandemic, especially from the perspective of faculty members. Still, the intensity of these feelings and attitudes might vary between one community and another based on their infrastructure, economic situation, and continuing professional development received by faculty members. In fact, very few studies considered the challenges and opportunities faced by faculty members during the pandemic as most of the literature

examined the ERT phenomenon from the students' experience. Therefore, the findings that emerged from this study can help in recognizing the weaknesses and successes of the global HE system in navigating the pandemic from the viewpoints and experiences of its main players, the faculty members.

6.5 Direction for Future Research

What is certain is that online teaching and learning is here to stay. Whether adopted as a unique or blended teaching approach, some elements will never disappear. Online teaching and learning have proved to be complementary to, and sometimes might replace, face-to-face teaching, providing faculty members with the flexibility they need but never pursued prior to the pandemic. For similar studies to take place within a similar HE environment, many considerations need to be examined and implemented to allow a smooth sailing. For instance, expanding this study by collaborating with other faculty members across Education City's American branch campuses can be effective in drawing more participation from colleagues. Such collaboration can be useful in drawing a comprehensive map of online teaching and learning that contributes to the global conversation on the future of online learning post-pandemic. Another possible reiteration of the study can look into reaching out to other regional HE institutions and comparing the experiences of faculty members based on their disciplines, technological infrastructure, requirements of their curricula, and student population. Finally, this study can be used as a stepping stone to allow the refinement and upgrade of the transformative learning theory in light of the latest pandemic that redefined HE. Faculty recognized the necessity to reflect on their practices, re-examine their beliefs, and reconsider their role as lifelong learning facilitators that play a paramount role in improving HE and students' experiences, be it face-to-face, online, or in a blended environment.

Appendix A: Ethical Approval from Lancaster University

Educational Research | Lancaster University

15th June, 2020

Dear Reya Saliba,

Thank you for submitting your ethics application and additional information for "Faculty Preparedness and Response to Adopting Online Learning in Troubled Times: A Case Study of Transnational Higher Education Institutions in Qatar. " The information you provided has been reviewed and I can confirm that approval has been granted for this project".

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress) to your Supervisor.
- submitting details of proposed substantive amendments to the protocol to your supervisor for approval.

Please do not hesitate to contact me if you require further information about this.

Kind regards

Alice Jesmont
TEL Programme Administrator

Head of Department
Professor Paul Ashwin, BA, MSc, PhD
Professors
Carolyn Jackson, BSc, PhD
Don Passey, BSc, MA, PhD
Murray Saunders, BA, MA, PhD
Malcolm Tight, BSc, PhD
Paul Trowler, BA, MA, Cert Ed., PhD

http://www.lancaster.ac.uk/fass/edres/

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Appendix B: IRB Approval from Weill Cornell Medicine-Qatar

Weill Cornell Medicine

Document No.: **HRP-522**

Approval

Rachid Bendriss, EdD
Associate Professor of English as a Second Language
Assistant Dean for Student Recruitment, Outreach, and Foundation Programs
Weill Cornell Medicine-Qatar
+974 4492 8821
rab2029@qatar-med.cornell.edu

August 27, 2020

Dear Dr Bendriss,

On August 27, 2020, the IRB approved the following through August 26, 2021 inclusive.

Type of submission:	Initial-Response/Follow-up
Title:	[1635632-2] Faculty Preparedness and Response to Adopting Online Learning in Troubled Times: A Case Study of Transnational Higher Education Institutions in Qatar
Lead Principal Investigator and affiliation:	Reya Saliba Lancaster University
WCM-Q Principal Investigator:	Rachid Bendriss, EdD
IRB Number:	20-00026
QNRF grant title and ID, if any:	None
Documents reviewed and approved:	• HRP-200 FORM Initial Review Application version date 20Aug20 (UPDATED: 08/20/2020) • HRP-201 FORM - Research Personnel version dated 25Jul20 (UPDATED: 07/28/2020) • Other - IRB-Point-by-point response (UPDATED: 08/25/2020) • Study Protocol version dated 24Aug20 (UPDATED: 08/24/2020) • HRP-501 FORM- Consent Form version dated 25Aug20 (UPDATED: 08/25/2020) • Other - Email to Faculty Members version dated 20Aug20 (UPDATED: 08/24/2020) • Other - Email to instructional designers version dated 24Aug20 (UPDATED: 08/24/2020) • Questionnaire/Survey - Interview Questions V02-19 (UPDATED: 08/18/2020) • Questionnaire/Survey - Survey Questions V02-19 (UPDATED: 07/28/2020)

Additional documents reviewed:	• Letter - Lancaster University-Ethical Approval-June 15, 2020 (UPDATED: 07/28/2020)
Level of review:	Expedited Waiver of documentation of consent
Categories:	6&7

On July 25, 2021, you are to submit a continuing review to request continuing approval or closure. If the IRB does not grant continuing review, approval of this protocol ends after August 26, 2021.

Copies of approved study documents are attached. Please ensure to use the IRB stamped documents in the conduct of the research.

In conducting this study, you are required to follow the requirements in "INVESTIGATOR GUIDANCE: Investigator Obligations (HRP-800)."

WCM-Q HRPP Oversight

Human Subject Research (HSR) Training:
WCMQ researchers must complete the HSR training provided by the Research Compliance prior to initiation of HSR activities. Please contact researchcompliance@qatar-med.cornell.edu to schedule the training.

Sincerely,

Manju Varghese, M. Pharm, CIP
IRB Manager
IRB Office/Research
Weill Cornell Medicine-Qatar
Office: +974 4492 8960
Email: mav2040@qatar-med.cornell.edu

Cc:
Adeel A. Butt, MBBS, MS, FACP, FIDSA
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Appendix C: Information Sheet and Consent Form

Permission to Take Part in a Human Research Study

نموذج طلب إذن للمشاركة في دراسة بحثية تتعلق بالإنسان

1. Title of research

Faculty Preparedness and Response to Adopting Online Learning in Troubled Times: A Case Study of Transnational Higher Education Institutions in Qatar

2. Investigator

Principal Investigator:

- ***Dr. Rachid Bendriss***
- ***Weill Cornell Medicine-Qatar***
- ***+974 5549 0517***
- ***rab2029@qatar-med.cornell.edu***

Co-investigator (Lead PI-UK)

- ***Reya Saliba***
- ***Weill Cornell Medicine-Qatar / Lancaster University-UK***
- ***+974 5547 8245***
- ***res2024@qatar-med.cornell.edu***

3. Why am I being invited to take part in this research?

We invite you, as faculty members, to take part in this research study because we are interested in understanding how your normal adoption behaviours of online learning are radically shifted during crisis as a response to emergency and how you were able to adapt your teaching practice during these troubled times. We also invite you, instructional designers, to share your perspectives and experiences supporting online teaching during the pandemic.

4. What should I know about this research?

- Someone will explain this research to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Whatever decision you make, there will be no penalty to you, and no loss of benefits to which you were otherwise entitled.
- You can ask all the questions you want before you decide.

5. Who can answer my questions about this research?

If you have questions, concerns, or complaints, or think this research has hurt you, talk to the research team at

Principal Investigator:

- ***Dr. Rachid Bendriss***
- ***Weill Cornell Medicine-Qatar***
- ***+974 5549 0517***
- ***rab2029@qatar-med.cornell.edu***

Co-investigator (Lead PI-UK)

- ***Reya Saliba***
- ***Weill Cornell Medicine-Qatar / Lancaster University-UK***
- ***+974 5547 8245***
- ***res2024@qatar-med.cornell.edu***

This research is being overseen by the Weill Cornell Medicine in Qatar (WCM-Q) Institutional Review Board ("IRB").

You may talk to the WCM-Q IRB (at +974 4492 8960 or irb@qatar-med.cornell.edu) if:

- Your questions, concerns, or complaints are not being answered by the research team.

Document Revision Date: August 25, 2020

- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research subject.
- You want to get information or provide input about this research.

6. Why is this research being done?

This research comes in a troubled time where online learning is being repurposed as an emergency response to a worldwide crisis. The pandemic that hit the world in early 2020 created an online learning emergency that required faculty members to move their teaching online no matter how prepared - or not - they were. These events stimulated our interest in identifying faculty members' preparedness and response and investigating how normal adoption behaviours are radically shifted during crisis as a response to emergency as well as the role of professional communities in providing support for faculty during these troubled times. Therefore, this study will explore faculty members' preparedness and response to emergency online learning and the role of instructional designers in supporting online learning in transnational higher education institutions in Qatar in troubled times.

7. How long will I be in this research?

We expect that your involvement in this research will last for an hour.

8. How many people will be studied?

We expect about 40 people will take part in this research.

9. What happens if I agree to be in this research?

The research will take place in Qatar among faculty members from transnational higher education campuses in Education City. This research is expected to start mid August 2020 and lasts for a year.

For faculty members:

This research study consists of two phases: an anonymous online survey and a follow-up one-on-one interview. You will receive an email with a consent form explaining the aims of the study along with a link to an 8-min online survey. The first question of the survey will request your electronic informed consent to participate in the survey. Your answers will be saved anonymously once you click on the submit button at the end of the survey. The last question of the survey is an optional question that requests your consent to participate in a follow-up one-on-one 30-min interview online. You might choose to participate in the survey only and opt out of the interview by not filling in the last question. The interview will not be recorded but will be transcribed manually by the researchers.

The total amount of time spent on the survey and interview is approximately 40 mins to one hour.

The co-investigator (Lead PI-UK), Reya Saliba, will undertake the interview following the submission of the survey.

For instructional designers:

The research consists of a one-on-one 30-min interview. You will receive an email with a consent form explaining the aims of the study and contact information of the researcher in case you are interested in participating. The interview will not be recorded but will be transcribed manually by the researchers.

10. What other choices do I have besides taking part in this research?

You have the choice to not participate in this research study.

11. What happens if I agree to be in this research, but I change my mind later?

If you decide to leave this research, you are free to withdraw at any time during your participation in this study.

You can decide not to submit the survey so your answers will not be recorded and used for the study. However, once you submit the survey, it is impossible to retrieve and extract your answers as your answers are automatically anonymised.

If you want to withdraw from the interview, please let us know, and we will extract any ideas or information (=data) you contributed to the study and destroy them. However, it is difficult and often impossible to take out data from one specific participant when this has already been anonymised or pooled together with other people's data.

Therefore, you can only withdraw up to 2 weeks after taking part in the study as it will not be possible to identify your data once it has been anonymised.

If you decide to leave this research, contact the research team so that the investigator can remove your data.

12. Is there any way being in this research could be bad for me?

There is no anticipated discomfort, inconvenience, or danger that you would experience by participating in the study. The interview conversations will mainly focus on your pedagogical experiences revolving around the quick move from face-to-face to online teaching during and following the 2020 pandemic. No particular physical discomfort will be caused by the participation given that all interviews will be conducted at distance.

13. Will being in this research help me?

We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include providing the participants with a great opportunity to meaningfully reflect on their experiences throughout the period of the pandemic crisis and the sudden pedagogical changes triggered by the sudden online learning situation. This study will also help faculty articulate their thoughts about online learning, and rethink their pedagogical approach that might positively impact their practice.

14. What happens to the information collected for this research?

To the extent allowed by law, we limit your personal information to people who have to review it. We cannot promise complete secrecy. The IRB and representatives Weill Cornell Medical College in Qatar, the Ministry of Public Health in Qatar, and the Office of Human Research Protections in the United States will have access to your records. Others include Lancaster University in UK.

There are two data sets that will be collected for this study and will be stored electronically: i) survey results will be stored in electronic format, ii) interviews will be transcribed, coded, and stored, in an encrypted form, on my personal password-protected laptop. All collected data will be coded and stored, in an encrypted form, on password-protected laptop. The laptop will be securely located in locked cupboard in my office. In accordance with Lancaster University guidelines and in accordance to WCM-Q policies. we will keep the data securely stored for a minimum of ten years. Data will not be stored in a formal databank and will not be used for future research.

Data will be used in Qatar only.

Appendix D: Email sent to Faculty Members

Lancaster University

Faculty of Arts and Social Sciences and Management School Research Ethics Committee (FASS-LUMS REC)

ETHICS APPLICATION FORM FOR STAFF and PhD STUDENTS

Email Invitation to Faculty

Email Subject: Please share your online teaching experience in light of Covid-19

Dear Faculty Member,

I am writing to request your kind participation in a study I am doing on Faculty Preparedness and Response to Emergency Online Teaching during the 2020 pandemic crisis.

Your insight and feedback will be valuable in understanding the challenges, opportunities, and practical tools used during these unprecedented times to maintain academic continuity.

I am attaching a consent form that provides details about the study and my doctoral supervisor contact. If you agree to participate anonymously, please click on the following link to proceed to the survey:

https://lancasteruni.eu.qualtrics.com/jfe/form/SV_eEVTx4byKOh7K4t

In addition to completing a survey, I am also extending an invitation to participate in a 30-minute one-on-one interview to follow up on the survey. Your insight will help me in achieving my study and career goals.

I appreciate your participation and will be happy to share the results of my study.

Sincerely,

Reya Saliba
PhD Candidate, e-Research & Technology Enhanced Learning
Lancaster University

Appendix E: Questionnaire

Part I: Demographics

Q1. Based on the study information sheet that was shared with you regarding the aim of this study, please indicate if you agree to participate in this anonymous survey.

Yes, I agree to participate

No, thank you (Survey ends here)

Q2. Please select a gender.

Male

Female

Other

Q3. Please indicate your teaching discipline.

Part II: Q4-8 are concerned with online teaching prior to the pandemic

Q4. Have you taught online before the pandemic?

Yes

No

Q4a. Which of the following online teaching approaches have you used before the pandemic? (Choose all that apply)

Completely online

Blended (combined face-to-face with online teaching)

Q4b. How many years have you been teaching online before the pandemic (blended or completely)?

0-1 year

2-4 years

5+ years

Q5. Does your institution have a teaching and learning center that provides support to faculty members for using technology or innovative practices in their classrooms?

Yes

No

Q5a. Have you used the teaching and learning center to help you create your online courses before the pandemic?

Yes

No

Q6. On a scale of 1 to 5, how did you perceive online learning before the pandemic?

1 Very difficult
2 Difficult
3 Neither difficult nor easy
4 Easy
5 Very Easy

Q7. What were the challenges you faced while teaching online before the pandemic? (Choose all that apply)

Finding suitable online content
Creating online content
Engaging my students with content
Engaging with my students
Ensuring students work as a team
Communicating with my students
Information Technology infrastructure (connection, remote use of applications and software)
Assessing students' retention of learning outcomes
Receiving support from administration
Using online technology (familiarity with online teaching applications and software)
Other, please specify:

Q8. Please describe your experience teaching online *before* the pandemic?

Excellent, why?
Good, why?
Average, why?
Poor, why?
Terrible, why?

Part III: Q9-13 are concerned with online teaching during the pandemic

Q9. Were you required to transition to online teaching during the disruptive period?

Yes
No, I was already teaching online
No, I was not required to teach online during the pandemic (survey ends here)

Q10. Please type the number of courses you taught during the disruptive period.

Q11. Were any resources made available to you by your institution to facilitate online teaching during the disruptive period?

Yes
No

Q11a. What resources were made available to you to facilitate online teaching during the disruptive period? (Choose all that apply)

Budget (increased budget to acquire necessary tools and software)
Instructional designers support
IT department support
Extra preparation time. How many hours approximately?
Other, please specify:

Q12. Did you have anyone helping you transition to online teaching during the disruptive period?

Yes
No

Q12a. From whom did you receive help while transitioning to online teaching during the disruptive period?

Instructional designers
IT department
Teaching colleagues
Library staff
Professional community
Other, please specify:

Q12b. Why you did not have anyone helping you transition to online teaching during the disruptive period (Choose all that apply):

Lack of administrative support
Lack of IT support
Lack of Instructional Design support
I did not need help
Other, please specify:

Q13. Please describe your experience teaching online *during* the disruptive period.

Excellent, why?
Good, why?
Average, why?
Poor, why?
Terrible, why?

Part IV: Q14-19 are concerned with online teaching post pandemic

Q14. Has your perception about online teaching changed now in light of your experience with the pandemic?

Yes, please explain:
No

Q15. On a scale of 1 to 5, how do you perceive online teaching now?

1 Very difficult
2 Difficult
3 Neither difficult nor easy
4 Easy
5 Very easy

Q16. Will you consider adopting online teaching going forward?

Yes, why?
No, why?
Unsure, why?

Q17. Will you require assistance in building your online course(s)?

Yes
No

Q17a. What type of assistance do you require? (Choose all that apply)

Instructional designers
IT department
Teaching colleagues
Library staff
Professional community
Training/Workshops
Other, please specify:

Q18. Are there any other changes that your institution is considering implementing following this experience with the pandemic?

Yes, please explain:
No

Q19. How do you describe the future of online teaching?

Q20. I would really appreciate your availability for a 30-minute one-on-one interview at a later stage to gain more insight about your experience teaching online during the pandemic.

Yes, I agree to participate in a 30-minute interview. Please provide full name and email

No, thank you.

Appendix F: Interview Questions

1. Can you tell me about a course that you used to teach **before** the emergency pandemic crisis, and how you had to change the way you deliver it **during** and **after** the emergency pandemic crisis?
2. Reflecting back on your experience teaching online during the emergency pandemic crisis, how would you describe it? (Follow-up question, did you face any challenges? Barriers?)
3. How did your institution support you during this experience? Did anyone help you? How would you describe your relationship?
4. To what extent were you satisfied with the quality of your online teaching during the emergency pandemic crisis?
5. In hindsight, what resources do you wish you had access to during this crisis for an effective online teaching experience?
6. To what extent did this experience impact your pedagogical approaches to curriculum delivery?
7. How did this experience shape or affect your outlook on higher education?

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