

**An investigation of the shift to
distance education and the widening
of the digital divide during the
COVID-19 pandemic**

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ABSTRACT

This research aimed at identifying the impact of COVID-19 on students who were forced into distance learning across countries. It examines the experiences of long-distance learning students to understand how they coped with learning and studying via digital means compared with traditional face-to-face methods. The research particularly focused on investigating digital divides due to the sudden shift to long-distance learning.

The study involved qualitative methods when it came to analyzing the experiences of students. The face-to-face interview was not possible due to government guidelines and the lockdown. As a long-distance student myself, I had no option but to adopt email interviews with students to collect data for my research. A semi-structured interview with 20 questions was sent to five participants following their recruitment through an online advertisement. The responses provided by the participants were then analyzed using reflective thematic analysis.

The findings of the research showed that digital divides became much more evident for long distance students during COVID-19. Issues that surfaced were problems with accessing the internet and other infrastructures required for online study as well as not having the appropriate digital skills to conduct their studies and which took time and effort to learn. Further, the research identified the emotional impact the students experienced resulting from the lack of social interaction with teachers and other students, the passiveness of the learning situation, isolation, time difference issues, the high requirement for self-discipline in the studying process, an inability to find solutions to learning problems, mental pressures and anxiety. While these were the major disadvantages of online distance learning, some advantages were recognised including the availability to record lectures, flexibility, and the support of teachers.

Keywords:

Digital divide, online long-distance learning, face-to-face learning, COVID-19.

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ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed:

Date: 18/07/2021

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CHAPTER ONE: INTRODUCTION

1.0 Falling into the digital divide – a personal experience

The sudden impact of the COVID-19 epidemic that spread rapidly around the world in 2020, disrupted the lives of billions of people. This debilitating and life-threatening virus had an enormous impact as countries were forced to close their borders and limit those who entered. While this affected the global economy, there were other aspects of life that were also challenged including education. Traditional school education was interrupted by the blockade of COVID-19. In order to reduce the gathering of people, block the spread of the epidemic and ensure the health and well-being of their nations, many governments shut their borders and, in the case of education, ordered schools to close their doors to students. As a result, digital technologies became heavily relied upon so that education could continue.

Due to the lockdowns and closing of borders that occurred in many countries as a way to stem the spread of the virus, many students in 2020 were required to study from home, unable to attend classes in person. While the Internet offered many opportunities to connect teachers and college students (Lai & Widmar, 2021), the experience was not always the same for everyone. Those university students who had planned to study at a university in another country but were unable to get there were also greatly disadvantaged as they often struggled with the connection and accessibility of digital devices and platforms, and were also confounded by time zone issues, when it came to online participation. I was one of those students who suddenly faced issues, particularly in relation to the digital divide that surfaced through distance online learning. These turns of events had an enormous impact on education for students of all ages. The rapid transfer of traditional forms of teaching, face-to-face and in person, to online platforms, was far from smooth for some.

When I first received the news that New Zealand was in lockdown and I was refused entry to start my first year in the Master's of English and New Media programme at Auckland University of Technology I was taken by surprise. It was right at the time when the first semester was about to start,

and I had not yet flown to New Zealand. I was worried that if I could not get to university, how could I complete my studies? Logging onto the university's website, I saw the notice that during this uncertain period, the school would try its best to provide us with help and support through the Internet. As it was not known how long the New Zealand lockdown would be, I was told that my course would initially start online.

It took some adjustment to this situation. Because of China's Internet restrictions, access to many pages and websites for my studies were blocked. The network transmission speeds were slow, and the quality was erratic. I suddenly realised that I was experiencing for the first time what I understood to be the "digital divide" when it came to long distance education.

I had to communicate with my lecturers by email, they sent me a large number of class materials for further reading and research. I had access to the Blackboard, library and recorded lectures. I had authority to access the course resources and recorded lectures anytime I wanted. However, there was always the chance of missing an email which might include the class content of when the tutor broadcast the lecture. However, the advantage of online courses was their strong sustainability because I was able to access recorded lectures and tutorials even though I could not attend them in real time. I could watch them again anytime and anywhere, while emails could be communicated repeatedly.

One of the biggest differences I experienced between online and offline courses was the interaction between students. Many courses require teamwork, but there were obstacles to working together online. At the beginning, it was difficult to get in touch with the students on the team. If you study offline and everyone is sitting in the same classroom, it is easy to get to know them and communicate, but online it becomes difficult without that personal engagement. My solution was to get in touch with each other through the email addresses of all members of the team through the tutor, and I was able to meet up with a group of some classmates I was working on an assignment with through the online communication software we shared and could discuss and complete tasks. But I also found that the time difference had an impact. Students all came from different parts of the world, and they were in

different places, so they were faced with time differences and often failed to agree on the time to discuss a research topic together. Most of the time, I had a connection late at night, Chinese time, to study and discuss with my classmates. My energy was very low in this state, and my learning efficiency was affected to a certain extent.

My studies in English and New Media however had a strong connection when it came to my experience with distance learning. This made me wonder how other students around the world, who were also forced into a similar situation, might have fared and whether they experienced issues with the digital divide in their online learning. As this was such a new issue where little research would have been done, it inspired me to explore this further through my own dissertation research and find out whether my situation was unique or whether other international university students faced with studying long distance had similar experiences.

1.1 Rationale for the study

International university students were undoubtedly seriously affected by the COVID-19 border restrictions when they were unable to get to their host educational institutions to study. With the Internet becoming the main way of communication among teachers, schools and students' families, students used various live broadcast software, cloud classrooms and other platforms to carry out courses that they should have been in school for (Fernandes, 2020). Then, when college students and faculty were at home, in order to continue their studies, it was necessary to use the Internet and make full use of information technology to complete the information interaction between teachers and college students (Lai & Widmar, 2021). Whether it is called online teaching, online education, or long-distance learning, it was of great significance to the prevention and control of the epidemic. This makes online education the main teaching task for college students.

All kinds of online courses not only emerge one after another, but also different teaching styles bloom on the Internet. No matter what level teachers and schools are at, the most important thing is to do a good job in class. This poses a new challenge to college students' autonomous learning ability (Daniels, Goegan & Parker, 2021). Some scholars have studied the reasons for the lack of

autonomous learning ability of college students. Factors such as weak learning motivation, bad learning habits and unfavourable learning conditions will affect college students' learning autonomy and the final learning (Al-Kumaim et al., 2021).

In addition, because online courses need the support of equipment, the economic development gap between different countries further highlights the digital divide between college students. The digital divide has magnified the public health, social and economic impacts of the COVID-19 crisis, and the impact of the crisis has also led to signs of widening the digital divide between developed and developing countries (Jones et al., 2021). Although there is no doubt about the importance of digitalization to epidemic's recovery and long-term development, the ability and speed of promoting digitalization in different countries during the recovery period and post-epidemic era may be further differentiated. In education, nearly 90% of households in high-income countries have installed broadband communication equipment, while 70% and less than 10% in middle-income and low-income countries, respectively (Molock & Parchem, 2021). In high-income countries, 87% of students aged 0-25 have an Internet connection at home; in low-income countries, the figure is only 6%. At the same time, for general education, the inequality of urban and rural children's network connections is also obvious among different income countries: the network access rate of urban and rural children's families in developed countries is almost equal, and this difference is obvious in middle-income countries, and even nearly three times in low-income countries (Cao et al., 2020). Therefore, the difference in college students' digital coping ability is one of the most important differences in an epidemic economy.

I therefore proposed three research questions:

- (1) In what ways did COVID-19 impact students who were forced into distance learning across countries?
- (2) What do the experiences of long-distance learning students during COVID-19 indicate about the effectiveness of the trend of educational digitalization compared with traditional face-to-face models?

(3) What evidence is there of digital divides as a result of the sudden shift to long-distance learning?

The findings of my study, I felt, would be important for academic institutions who wish to understand the perception and experiences of long-distance learning students during COVID-19. They might help the management to plan future academic courses and sessions as per student's demands and choices. The current research issue has not been much investigated in previous research, so this study could guide future researchers who want to work in the same research field. However, it needs to be noted here that the restricted time available to conduct this research under Covid-19 conditions led to a relatively small sample of five students only from China being recruited as participants. While the research questions above need to be considered within these limitations, the findings still lead to new and interesting insights that can play a valuable role when it comes to identifying issues faced by international students in long-distance learning situations and which may lead to finding prospective solutions accordingly.

1.2. A long-distance approach to methodology

This research aims to examine the impact of COVID-19 on students who were forced into distance learning across countries. The appropriate way to analyze this is by conducting interviews with long-distance students in China. It was not possible to conduct face-to-face meetings with the participants due to the lockdown, so an email interview method was adopted. Under this method, a semi-structured interview questionnaire was sent to the mail-id of the participants after receiving their consent to participate in the research. The interview questionnaire involved 20 open-ended questions related to the research aim and objectives. The response collected from the participants was analyzed with the help of the thematic analysis method. The interview questionnaire helped to analyze the experiences of long-distance learning students during COVID-19 and their perceptions regarding the effectiveness of educational digitalization compared with traditional face-to-face models. A limitation of the study is that the sample only includes Chinese students, hence the findings do not provide a broader perspective regarding the opinions of students from other countries regarding distance online learning. Further, the findings of this research would be only based on the interview method, which

may restrict the researcher in conducting a critical analysis of the research subject. The findings of the current research could have practical and academic contributions. The research findings could benefit academic institutions regarding the perception of students about the issues faced by them in long-distance studying during the COVID-19 lockdown. The findings of this research could also help academic institutions in understanding the experience of students with long-distance online learning so that the issues faced by the students could be resolved as soon as possible. Further, the research issue is quite new, thus, the findings of this research may be used by future researchers as literary evidence.

1.3 Overview of the dissertation

This dissertation consists of five chapters. In this introduction I highlighted my rationale and the significance of this research and how I propose to study the experiences of long-distance learning students. In Chapter 2, the literature review, I provide theoretical and descriptive information regarding the existing literature in order to analyze the issues faced by students during distance online learning. I use the evidence collected from existing literature on online distance learning to understand the perspectives of students towards it. Further, the information gathered through the literature helped me to understand the effectiveness of educational digitalization as compared to traditional face-to-face models. In Chapter 3, the design and method chapter, I start with identifying suitable research designs and methods that could be used by researchers to accomplish the research aim and objectives. I also discuss the significance of each of the research methods in regard to the current research in order to select an appropriate research method and provide a justification for selecting a particular research method. Further, in Chapter 4, the results and discussion chapter, I highlight the key results and findings of the data gathered in the interviews. I analyse responses provided by the participants through reflective thematic analysis. The findings of thematic analysis helped me find answers to the research questions. Chapter 5 is for the conclusion, recommendations, and future research. Here I discuss the key outcomes and findings of the entire research. This includes a brief summary of the research findings gathered through the analysis of the interviews with the study participants and reflecting on the literature. Further, I propose certain recommendations to government and

educational institutions. Finally, I end the chapter with the limitations of the research and provide suggestions for future research.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter situates this study in the body of literature relating to online learning and long-distance learning as education has seen a shift from the traditional classroom setting. I review the scholarly literature to investigate the impact of such change (and sometimes disruption) as experienced during the COVID-19 crisis, on the education industry as well as its overall impact on the stakeholders including students and teachers. Firstly, a brief discussion is provided about traditional teaching, distance learning and online learning to indicate that historical traditions have occurred. I also outline the benefits of online learning and discuss student perceptions about it. Secondly, I concentrate on the wider use of online distance learning that educational institutions instigated during the COVID-19 pandemic which struck globally in 2020. I discuss long-distance learning online particularly during the pandemic considering the benefits and challenges of these changes to education and in particular focus on issues concerning the use of digital technology, the digital divide that suddenly became more apparent at this time.

2.1 History of Education

The global education system has a long history that has primarily been dependent on traditional, offline formats of teaching face-to-face dating back centuries. According to Kirwan and Fu (2020), high schools emerged in the 19th century when demand for knowledge workers increased as it was considered economically valuable. Barros (2016) states that although education became a major issue of concern for modern society only in the 19th century, in countries of northern Europe schooling was already widespread. In Norway, for example, schooling had become compulsory in 1736 and primary schools were introduced in 1827 where it was made mandatory for children from seven years and above. Apart from northern Europe, no other parts of the world focused on education, and their literacy rate was very much lower. Public education became an important issue during the renaissance era; however, at that time education was not separated from religion (Harits et al., 2016). Some of the first schools opened in the United States in the 17th century (The American Board, 2015). Moreover,

by the mid-1800s, public education began to expand globally, and schooling was widespread around the world (Harrist et al., 2016). Free education was available for children in New Zealand and Australia in the 1870s (NZ History, 2020; The National Museum of Australia, 2021). In the United States education became compulsory in the 1920s (The American Board, 2015).

In traditional educational settings, teachers used simple instructional practices where they delivered knowledge of the subject matter to help students gain expertise (Sherin, 2002). Learning therefore can be considered as an act where the student is able to apply his or her knowledge while building perceptions and creating various habits. This encourages the behaviour of inquiry and learning can happen in the absence of a teacher (Sherin, 2002). Learning situations that are conducted in-person (i.e., face-to-face and not online) is synchronous where students learn through live interaction with their teacher and classmates. However, learning is more focused on engaging students and developing their skills by ensuring that they understand the things being taught to them (Polya, 1963). Hart et al. (2019) suggest that in-person learning may be effective in cases where self-directed learning may not be effective as those students who lack discipline or often procrastinate may suffer from no teacher or instruction to direct their attention to the topics discussed.

In some situations, school students have been required to learn long-distance if they lived far from school such as in remote rural locations. The history of distance learning, in fact, dates back to the 1700s when postal services were introduced as study materials were sent through post to prospective students (Harting & Erthal, 2005). However, opportunities changed with changes in technologies such as radio and television that could assist those who lived remotely. Of course, the development of digital technologies and their use in schools in the 21st century enabled remote learning to be conducted online through computers and other devices.

2.2 Distance Online learning

Distance online learning is a teaching process that has become an important part of building a new educational model (Liu et al., 2019). Atmojo and Nugroho (2020) define distance learning as a process where the internet is used to access teaching materials, interact with the content, students and teachers and gain assistance to make the learning more meaningful. Therefore, it is learning that is

accrued through remote assistance of digital technology and resources. In distance learning, teaching is imparted remotely where teachers and students use digital technologies and innovative tools (Rapanta, et al., 2020).

Distance education has been introduced to achieve educational goals by building an online learning platform. Kara and Sevim (2013) mention that distance learning is more flexible and adaptive learning where immediate feedback can be provided based on individual performance and further it allows each student to proceed with the learning at their own pace. As a result, students who can grasp the concepts quicker can move forward without the need for sitting in long offline classroom sessions. Further, the digital curriculum with access to online copies of textbooks, video lectures, online modules and computer-mediated exams has democratised education through better open access. The digital curriculum according to Fulton (2012) has allowed for open-ended and cross-curriculum learning and has brought practical experiences in distance learning through the visual medium.

Before 2012, traditional teaching mostly required that teaching and learning occurred simultaneously in the same physical space. However, 2012 marked the beginning of mass open schooling courses developed by elite US-based institutions that marked the beginning of distance education (Daniel, 2012). Online teaching formats gradually introduced in education used digital technologies in innovative ways, though it must be said that the availability of technical resources and the digital divide meant barriers existed that inhibited the ability for some students to learn online.

2.3 Benefits of Distance learning using the online mode

According to Khalil et al. (2020), online teaching can bring blended teaching and learning where students can learn at their own pace. Moreover, the design pedagogy on online learning helps in peer-to-peer interaction where students learn together in small groups thereby strengthening their collaborative and team working skills. Online learning can be both synchronous where students can engage in live interactions with teachers and other students or asynchronous where there can be delays in time between the sending of a message and its receipt. Moreover, the learning is more student-centred where students can master their learning and process further which empowers learners to control their pace of learning and helps them fulfil their unique educational needs by providing

self-directed learning modules. It allows for better productivity and better utilisation of time. Further, better accessibility to teaching materials in an online learning environment facilitates learning as students can easily access a large quantity of quality information that can aid better learning.

Clark et al. (2021) studied the benefits of adopting online learning in Chinese schools during pandemics suggesting that online learning is the most effective tool to minimise the academic loss in unprecedented situations like a pandemic. Online learning helps in providing distance learning resources that can benefit low-ability students who can access high-quality materials remotely. It therefore can help in minimising performance gaps between high and low-achieving students.

According to the results of an online survey conducted by Yang (2021) of post-graduate university students in Ireland, flexibility in learning was the most important aspect of online learning as it helped students overcome issues related to differences in time zones especially for international students who could record lectures, store files, etc. Live virtual classes allowed for better interaction and participation of introverted students through options for non-verbal interactions through polls or quizzes was found to enhance learning experiences and benefit students. Besides, online learning is the most cost-effective learning system where economies of scale can be achieved which can help in achieving optimal gains from education. The student also benefits from learning new digital skills that can help them in their future career and the students also benefit from getting time to spend with their family and learn from the comfort of their home. The introduction of online learning has made learning from teacher-centred to learner-centred making it a more constructive and cooperative pedagogy. In terms of teaching, a learner-centred approach is the one that places students at the centre of learning and considers learners as active agents (Gavrila-Jic, 2013). The learners tend to bring their own knowledge, past experiences, ideas and educational qualifications which further impacts the way in which they perceive new information and learn. Therefore, it is different from the traditional learning approaches that perceive learners as respondents to external stimuli. As a result, students can actively engage and become more involved and responsible for their learning with the help of the learner-centred approach.

2.4 Students' perception towards online learning

Students' perception towards online learning is an important factor that determines their acceptance and expectations from the lessons taught using the alternative education process. Khan et al. (2020) mention in their research that there is growing acceptance of online learning among students as discovered by the National Centre for Educational Statistics. The study highlights that a majority of the students enrolled in online classes are well-satisfied with their learning. According to Lee et al. (2011), the acceptance and positive perception of online learning among students is crucial for the success of online education. As online learning is relatively new and still evolving, educators need to work well on various aspects of integrating online pedagogy to ensure better acceptance and positive responses among students.

In a study by Lee et al. (2011), it was found that students are more likely to build a positive perception of online learning if the required instructor support and immediate responses are available. The support and accessibility of the course instructor allow for better engagement with the course content thereby allowing improved learning and enhanced course satisfaction. Furthermore, another study by Smart and Cappel (2006) discovered interesting findings of student perceptions about online learning where time for completion of online modules has a significant impact on building favourable perceptions. The research highlights that educators integrating online courses into traditional learning need to build smaller course segments as the major factor for resisting acceptance to online learning was long course modules. Although this study is more than 15 years ago it offers interesting insights that can guide future researchers in understanding factors that influence students' perception towards online learning. Li and Rienties (2016), in a more recent study, found similar results as course duration and length of sessions were found to have a significant impact on learner's satisfaction from the online learning process.

Daumiller et al. (2021) mention that even before the COVID-19 pandemic, there had been a growing use of digital technologies that helped in enriching the learning experience. The traditional face-to-face education format was simply replaced with distance online learning with the advent of

the COVID-19 pandemic making the online curriculum mandatory from March 2020 in most parts of the world (Adnan & Anwar, 2020).

2.5 COVID-19 and the shift to distance online teaching

The COVID-19 crisis was a situation that compelled teachers and students to adjust to alternative learning methods as shutting down educational institutions was the only option to ensure the health and safety of students and other stakeholders (König et al., 2020). The uncertainty of the situation demanded students learn from home and teachers to work from home as it aimed to fully replace the face-to-face teaching format (Dhawan, 2020). The sudden spread of the novel coronavirus pandemic led to a sudden shift in learning where educational institutions and students had to embrace a completely new format of learning in a very short period and most of the stakeholders were completely unprepared as fully online learning was until then relatively rare. However, this sudden shift in the situation has made all educational institutions from primary to higher education rethink, redesign and revamp their education systems to meet the changing demands of learning amidst COVID-19 (Mishra, Gupta, & Shree, 2020). Education has therefore welcomed those aspects of online learning as it has helped the system to ensure that the academic activities do not suffer due to these disruptions. However, it posed a serious challenge to students and teachers where learning requires the use of various digital tools if they did not have this knowledge or experience in using it previously.

Koirala et al. (2020) studied student perception towards online learning during COVID-19. Online learning, they found, has become the most important tool for continuing the learning process amidst COVID-19. However, due to the sudden shift, more than 77% of the students pursuing medicine in Pakistan were reported to have built a negative perception about online learning and showed resistance to the shift from face-to-face learning to online learning. Muthuprasad et al. (2021) in their study conducted among Indian students also studied the perception of students towards online learning vs face-to-face learning where students also discuss the issues related to lack of equal access to online sources due to internet access or technology access that may impact their perception about the effectiveness of online learning.

A shift to online learning amidst COVID-19 was welcomed by most scholars where it has the potential to transform higher education and hence it is considered a revolution for bringing immense benefits to higher education. It was also welcomed because it meant that during the pandemic university teaching and learning could still continue. Adedoyin and Soykan (2020) mention that online education, although considered largely as a crisis response strategy, has proved to bring more benefits to the traditional face-to-face education system by bringing flexibility to learning. It has led to teaching and learning being a more flexible process ‘that will be devoid of geographical and time limitations’. With online learning, curriculum materials are accessible anytime and anywhere which removes barriers to current issues related to accessibility in traditional learning thus encouraging openness of space and time. Therefore, it expands the range of learners giving a wider opportunity for people outside universities and schools to learn and grow. Hutchings and Quinney (2015) argued that online learning using digital tools has helped in the transformation of higher education to embrace the transition to the information era as information tools and knowledge is used to meet the evolving and diverse needs of learners. The harnessing of technology such as social media, mobile devices and digital technology has facilitated learning by making it more flexible and personalised and encouraging life-long learning (Hutchings & Quinney, 2015). It has made learning more collaborative where knowledge is co-created and learners are deeply engaged as more active listeners instead of face-to-face learning where students mostly passively listen to lectures (Hutchings & Quinney, 2015).

However, there are still challenges to online learning which is the focus of this study which investigates the impact of the shift to distance education during COVID-19.

2.6 Challenges of online learning

Although there appear to be multiple benefits of shifting to online learning as it has proven to be a panacea during the pandemic allowing continuing education, there are also several challenges associated with it. Firstly, online learning is heavily dependent on technology as a medium to impart education and this brings limitations. There are multiple technology issues faced by students where the forced integration of online learning has made learning more difficult. This includes issues related to accessibility as there are internet connection problems, many limitations to bandwidth across

geographies and inaccessibility of mobile devices has created issues related to access equity to online learning. For educators and learners residing in rural areas, the issues related to internet accessibility are a major barrier affecting the quality and acceptance of online learning. According to Dube (2020), the majority of students and teachers in rural areas are dependent on internet cafes to access the internet due to lack of required infrastructure and they had severe issues in getting required access to online learning. Lockdown regulations led to the closure of public areas and cafes with internet availability making students lag behind their peers with better internet access. Download issues, installation and login problems are frequent among students working to learn online besides issues related to audio and video quality affects the overall quality of learning and engagement of students.

Secondly, the digital literacy of educators and learners plays a key role in affecting the quality and acceptance of online learning. Digital literacy as defined by Marsh (2016) is the ability of the individual to understand and apply the knowledge and information gained using a wide range of digital sources in varied formats. In research by Bhaumik and Priyadarshini (2020), it was found that lack of readiness and acceptance to switch to online learning can be attributed to the issues related to their digital literacy. Many participants resist learning online as they are not comfortable using the digital tools used in remote learning.

Rapanta et al. (2020) studied the challenges of online learning from the perspective of teachers, finding that the shift to online learning during the pandemic was very sudden and forced transitions that have made teaching a big challenge. As online learning has become the only means of teaching, teachers are facing big challenges adapting to the needs of techno-pedagogical processes. This type of learning, unlike face-to-face teaching, is more user-centric and requires more responsiveness from learners. Only a few teachers have mastered the art of online teaching as most of these tools were designed by experts and only enacted by educators, therefore teachers have to learn new digital skills and flourish in a new teaching environment (Moorhouse, 2020). Most educators still struggle to understand the pedagogical framework of online teaching. According to König et al. (2020) teachers are now required to have diverse knowledge and understanding of information and communication tools (ICT) to teach. The research proposes a TPACK-model for online teaching where teachers are

required to have technological knowledge (TK) and understanding of ICT along with their course content knowledge (CT), general pedagogical knowledge (GPK) and pedagogical content knowledge (PCK).

Thirdly, the sudden and forced transition to online learning from on-campus learning has negatively affected peer-to-peer learning and group interactions. It is evident that most online curriculum designs focused on better interaction between educators and learners, however, student-to-student interaction was highly compromised (Peimani & Kamalipour, 2021). The blended online learning processes have led to low interaction among students due to time and space barriers that led to fewer team discussions and group interactions. It, therefore, poses a serious issue in developing core professional and life skills including communication, team collaboration, interpersonal skills and the ability to work in diverse teams (ibid).

Online learning has widened the theory-to-practice gap. According to Adedoyin and Soykan (2020), online learning cannot be applied efficiently and effectively in all disciplines due to compatibility issues. The approach has many issues with clinical discipline. Further, Dhawan (2020) states that online teaching mostly uses theoretical content which cannot help a student learn well through its practical application. According to a study done by Khalil et al. (2020), it was highlighted that preclinical students supported and were completely satisfied with the sudden shift to online learning, however, clinical students of medicine were of a different opinion. This is because, in disciplines such as medicine, it is necessary to have direct interaction with patients as human interaction is essential to practising medicine.

International students faced many unique challenges due to the sudden and forced shift to online learning. Conducting online synchronous teaching sessions being often difficult to organise and manage due to different time zones was a major issue faced by students in China (Demuyakor, 2020). It has affected their sleep cycle causing health issues. The issue related to physical space disruptions has posed a serious challenge to build an excellent quality online learning experience. International students are stuck abroad finding it hard to return to their homes as flights are cancelled and students have no means to return to their homes during this international health emergency. The border closure

has made them suffer making them emotionally vulnerable. Moreover, many students who had enrolled in a foreign university to get international exposure and experience campus life are stuck within the four walls of their bedroom in their home country (Brammer & Clark, 2020). Sadly, there is not much research published yet looking at the negative consequences of COVID-19 on international students. and the challenges they faced (Lee et al., 2021), particularly when it comes to issues about digital divides.

2.7 Online Learning and the Digital Divide during COVID-19

Despite immense challenges in adapting to online learning amidst the pandemic outbreak in 2020, one of the major issues affecting the efficacy and implementation of online learning to its full potential can be attributed to the existing digital divide in society. The theoretical concepts about the digital divide emerged in the early 1990s where it was used to explain the inequalities and inequity of access to digital tools and technology (Azubuike, Adegboye, & Quadri, 2021). In the late 90s, the concepts of the digital divide were explored to study various issues related to information access among the various groups in society. In that era, there was huge inequality of access related to political and scholarly information among various groups in society. The phenomenon is largely used to determine who gets the most benefit from information exchange using digital tools and innovative technologies and the information era. Therefore, access to information has many issues related to equity among stakeholders as many suggest that demographic, geographic and economic factors contribute to digital exclusion. According to Macleod (2005), the concept of the digital divide is complex and depends significantly on the literacy rate and affordability of technology which has led to an increasing digital divide between developed and developing nations. A study by Ali (2011) found 96% of secure internet users resided in high-income OECD nations although these nations only house 15% of the global population while low-income sub-Saharan African nations with 12% of the global population have only 2% of its population with a stable internet connection. This large population devoid of access to digital information misses out on several social, career, political and economic opportunities brought by the digital revolution. It further widens the digital divide making them miserable and continue to live in a vicious cycle of poverty and illiteracy.

The digital divide in education is not merely related to access to technology for students and teachers as it is a much broader concept. In a study by Song et al. (2020), the researchers conclude that the digital divide may not necessarily be related to poor access to ICT, but it can also be considered as poor ability or skills to integrate digital technology into meaningful practices in social lives that can maximise gains for individuals. Therefore, Song et al. (2020) consider that there exist three orders of the digital divide where the first order is related to accessibility, the second is related to usage and the third is related to benefits derived. In their study conducted in China using these three aspects of the digital divide, it was discovered that income level and education are primarily responsible for the digital divide. However, in urban areas, the digital divide was smaller. Besides primary education increases as internet access reduces the first-order divide while higher education reduces the second-order digital divide.

In the wake of the COVID-19 pandemic outbreak, the education system was forcefully transitioned to an online mode which was a drastic change as no other teaching method was fit to ensure continuity in academics. The existence of a digital divide between students from various socio-economic backgrounds has made many underserved communities in rural and developing nations suffer severely. In Nigerian schools, students studying in public schools were made to suffer more as they lagged behind the students enrolled in private schools with better access to ICT (Obiakor & Adeniran, 2020). Students residing in rural areas were seen to have limited access to the Internet, low device accessibility, poor digital literacy and lack of active parental support in learning. This further amplified the existing disparities in learning and is expected to have a long-term negative impact on the growth and progress of these students. They will be further separated from mainstream communities that are deeply connected through digital tools. The low literacy rate and poor economic status of the households have created a major barrier in updating to a sudden shift in online learning as ICT tools require investments in devices and infrastructure such as computers, mobile phones, internet infrastructure, electricity, etc. which this rural population may not be able to afford. This shows that the emerging information technology users represented by the Internet are mainly a rich

phenomenon and people in low economic sections are completely ignored and made to suffer the most.

According to Hunia et al. (2020), during COVID-19, the indigenous Maori community of New Zealand suffered immensely in adapting to the new normal in the education system as the existing digital divide hurt their adaption and acceptance to change. The existing digital technology gaps and the poor digital skills of educators have reinforced the existing digital divide for this community, and it mirrors existing disparities in provisions for education to these underserved groups. These groups are further alienated from global communities and the access to the information economy is further damaged with no hope for quick remedies.

The advent of COVID-19 has highlighted the existing digital divide among countries where people with the most education and economic resources can adapt quickly and benefit the most from such a sudden shift in the education system. Watts (2020) states that education is one the most important factors that have created the digital divide and led to the phenomenon of digital exclusion for marginalised communities. Given the serious situation of the existing digital divide, the online mode of education as the only option to continue academics has questioned the issues related to equity in education distribution. The young generation who are in their crucial years of learning is made to learn outside their traditional classroom setup without giving much time to adapt to changes as the transition was quick. According to Ahmed and Siddiqui (2020), in an attempt by the various governments to digitalize education and bring technology accessibility, the overall situation is alarming as the learning quality for marginalised students is declining at a much faster rate than anticipated. This humanitarian crisis which had made the marginalised community suffer the most, possessing an additional burden to children's education and future as this offline population has negligible access to required resources (Adnan & Anwar, 2020). Further, the situation is worsened due to poor government schemes, corruption and misuse of public funds delaying their growth and widening the existing digital divide.

With rapid digitalisation education and the integration of innovative technologies, the future of the existing digital divide seems to have no end. d'Orville (2020) fears that the sudden shift to online education as a means to continue education during a pandemic may lead to the introduction of many new digital divides and inequities in education. There is a shift in teaching roles and the technology is widely used to include personalisation features. However, the benefit of these personalised learning solutions can be maximised for students with better acceptance of technology and depends largely on their learning styles. Students and teachers with better knowledge of the basics of technology and understanding of the tools are expected to benefit more which might further widen the academic performance gaps. The introduction of artificial intelligence (AI)-based education for more personalised experiences in learning may make it more inaccessible to students from poor backgrounds as these commercial high-quality services can only be most affordable by small groups. AI (Artificial Intelligence) is an innovative technology which is computer software programmed to interact with humans using algorithms and knowledge and interact like human interactions (Luckin, Holmes, Griffiths & Forcier, 2016). It therefore may lead to an increase in the cost of education and therefore increase school dropout rates as the new normal in learning may not be affordable to all, creating inequity in education.

Given that the long-distance learning in response to the COVID-19 crisis only occurred in 2020, there appears to be limited literature looking at how this has affected students, particularly when it comes to issues relating to the digital divide. The contribution of this dissertation, therefore, looks to address this lack of information, by seeking out the experiences and opinions of some of those students who were affected.

2.8 Conclusion

In this chapter I have looked at the literature about the advancement of digital technologies that have led to online teaching and learning, and particularly in the case of a crisis such as COVID-19, how long-distance learning came to the fore. Of particular note has been the increased visibility during the pandemic of the digital divide. The sudden onset of the COVID-19 pandemic has disrupted the lives of every individual as COVID-19 has caused deadly infection and taken a serious toll on people's

lives and health around the world. This situation led to a pressing need to shift from traditional face-to-face learning to an alternative system of education using digital technology. Online learning is an innovative approach that has helped to sustain education during the COVID-19 outbreak. However, it has brought to the fore a widening gap of inequality that exists between privileged and underprivileged students in their use of the internet and digital technology in education.

CHAPTER THREE: DESIGN AND METHODOLOGY

3.0 Introduction

This study on the shift to distance education and the widening of the digital divide during the COVID-19 pandemic adopts a qualitative methodological approach to answer the following research questions:

- (4) In what ways did COVID-19 impact students who were forced into distance learning across countries?
- (5) What do the experiences of long-distance learning students during COVID-19 indicate about the effectiveness of the trend of educational digitalization compared with traditional face-to-face models?
- (6) What evidence is there of digital divides as a result of the sudden shift to long-distance learning?

In the following sections in this chapter, I outline my design of this research and the processes involved including data collection through email interviews with participants and applying the methodological approach of reflexive thematic analysis.

3.1 Method of Data Collection

My objective in this study was to identify and understand issues that long distance students during the COVID-19 lockdown encountered ranging from connectivity and access to technology, as well as other concerns such as language barriers, lack of face-to-face communication with teachers and other students, time zone differences and the impact this had on their studies. The best way to do this was to

conduct interviews with long distance students as my study participants but as I was in a similar position myself, being based in China, I was unable to meet with participants in person. I therefore had to consider conducting the study using online methods. However, I was faced with a further problem in that my own internet connection and accessibility to video conferencing methods were limited and thus this study was further restricted because of this digital divide. Therefore, I needed to investigate other ways to conduct interviews online, deciding that emails would be the easiest and most efficient way to achieve this.

(i) E-Interviews

Given my own position as an international student conducting her postgraduate research long distance from China, I chose to draw on a methodological approach using the E-interview Research Framework developed by Janet Salmon (2012) to interact with the participants in my study. This framework involves consideration of the best method of online interviewing to provide a compelling reason for the purpose of the researcher's study. In the case of my study this relates to the geographical separation of the researcher from the participants and my decision to conduct interviews by email. Salmon's framework also provides a "conceptual system of key questions about interrelated facets of online interview research" (Salmon, 2012: 52) to guide the planning and design of the research from an ethical perspective based on her own analysis of research applying online interview data collection methods. Therefore, I needed to consider aspects such as the style of interviewing (e.g., semi-structured written questions), the time-response continuum (e.g., asynchronous communication by email) and understanding the balance between the etic (outsider) or emic (insider) stance of the researcher. Salmon recommends that some knowledge of the situation, culture and type of experience being studied "may help to develop rapport and trust with the virtual research participant. At the same time, the researcher can bring broader understandings of the research problem into the study and devise thought provoking or challenging interview questions" (Salmon, 2012:18).

The advantage of conducting email interviews is that they are asynchronous. This means that the email interviews do not occur in real time but give participants time to think about their answers, to write and edit their responses. Participants in this study were given approximately a week to send me their answers. If they did not respond after this time, a second email was sent to remind them, and they were given one more week to send me responses. This time frame was chosen to allow participants enough time to reflect and respond to the email questions which some researchers signal as an advantage of this method.

The 20 questions included in the questionnaire were semi-structured (see Appendix B). There were no 'yes or no' or 'agree or disagree' questions – rather the participants were at liberty to express their opinions and feelings in their own words. The main subject areas I asked students to comment on were their experience of long-distance learning, what digital methods they were required to use, whether they had access and connection to the internet and how well this worked for them. I was also interested to hear any of their personal comments as to how long-distance learning affected their study, interacting with their teachers and other students.

Participants were asked about their education and the responses from the participants would help determine whether they were undergraduate students or postgraduate students and other demographic features such as their gender, length of stay and the specific discipline. Besides this background information, participants were also asked about their experience with online learning and any difficulties related to it since the outbreak of COVID-19.

One limitation here of course with email interviews is that there were no social cues such as facial expressions, body language or voice pitch and tone in the correspondence between us. Therefore, I was only able to make interpretations of their responses based on the words that they used. However, if I required clarification to their responses or wished for more detail, I sent subsequent emails. My language in my emails, while formal, was friendly and polite.

Given that I was a long-distance student in China myself, I felt that my own knowledge of the situation was relevant – though I was also conscious that I was in the position of the researcher and needed to take an objective stance. Therefore, I designed my questions so that they would be easily understood and were not leading them to be answered in any particular way. In order to avoid researcher bias, I tried not to use convenience sampling. In convenience sampling, the participants are selected based on their availability and accessibility.

Because of the limitations of time with this study, I decided to confine my interviews to between four and six long distance students. While this is not a representative sample of students relating to gender, level of study or geographic location, it would still provide me insights into their behaviour as long-distance students and open up areas for further research in this area. The process of participant selection is described in the next section.

(ii) Selection of Participants

This study involved human participants, therefore before I could proceed with recruitment of them, ethics approval was required from AUTECH (Auckland University of Technology Ethics Committee). This was not considered a high-risk project though the identity of the participants would need to remain confidential (<https://www.aut.ac.nz/research/researchethics/ethics-approval>). Approval was granted on 14 May 2021 number **21/152**(see Appendix A).

The requirements were that a recruitment advertisement for participants would be uploaded to platforms where it would be seen by students such as a Learning Management Systems such as Blackboard and the university international students Facebook page. (For reasons of confidentiality I do not state which universities the participants came from but do confirm that they were located in New Zealand.) As stated earlier I was looking to interview between 4-6 participants by email. The recruitment advertisement, which can be seen in Appendix B, introduced my research and gave the criteria for people I was looking for as participants. That is, they must have been international

students enrolled in a university in a country where they were planning to study but were prevented from doing so because of the closure of country borders during the COVID-19 pandemic in 2020.

The advertisement asked that if any students wished to participate in my research, they should email me direct and I would provide them an information sheet (Appendix C) about the study and a consent form for them to sign should they wish to proceed as a participant (see Appendix D). Taking into account ethical issues for participants I assured potential participants in these forms that they only needed to answer questions they felt comfortable with and that they could withdraw from the study at any time. The email that was sent to the potential participants asked them to respond within one week. Potential participants responded to the invitation by emailing the researcher direct. Potential participants completed the consent form and emailed it back to the researcher. An email was sent to potential participants a week following their being sent an information sheet and consent form reminding them to respond. They were given a further week to respond. If there was no reply after this second request no more emails were sent, and another potential participant was approached.

The identities of the participants remained confidential when writing up my dissertation and they were given pseudonyms instead of their real names and no other identifying information was included.

The email interaction back and forth between me and the participants was conducted with respect. The interviewees did not influence the methodology or aims of the research, but the information they share is the data for analysis. Participants were encouraged to email the researcher further if they wished to clarify or add comments for the data. Any requests for retraction, clarification or deletion of comments in their emails were respected.

Protection of participants in this study was ensured by maintaining the privacy and confidentiality of participants' identities. No identifying information will appear in the papers, and all transcripts and consent forms will be locked away for six years before being destroyed. Like the participants, I as the researcher am a long-distance learner so this familiarity of experience helped build rapport between us. There was no anticipated power imbalance between me and the participants, and there was no

pressure on them to provide information beyond the research email questions. The participants were also told that the email interviews would only be seen by me and my supervisor, and all word documents of the interviews will be emailed to the supervisor at AUT on completion of the thesis where these will be saved on a USB, held in a locked room at the University and destroyed after six years as per the AUTEK requirements.

Following this recruitment advertisement six potential participants responded but only five proceeded with the email interviews. These participants were university students from China though one was based in New Zealand and four were based in China. Though one student was based in the host country, New Zealand, their experience of long distance may likely to be similar to the other students as all the students needed to participate in long distance learning. The effect of the digital divide and access to university platforms might not be different for the students staying in China or New Zealand as all the students were forced to participate in online long-distance learning during the pandemic.

Four identified as female and one as male. All the questions were sent to participants in one email. The interviews were conducted by email over a two-week period following the process outlined earlier in this chapter. (See Appendix E for interview questions.)

Following a close reading of the participants' initial email responses to my questions, if I wished them to explain or elaborate on their responses, further email interactions occurred. However, I aimed to keep the correspondence with the participant to around two or three emails maximum so that they do not feel over-burdened with my questions. Any follow-up emails to participants repeated what had appeared in the information sheet and consent form that they could decline to continue with the interview or stop at any point if they wished. Once all the email responses for each of the participants had been received, these were copied and pasted into individual word documents for ease of reading and comparison and so that a reflexive thematic analysis could be conducted.

3.2 Method of Analysis - Reflexive Thematic Analysis

The philosophical position that underpins this study is hermeneutic (interpretive) phenomenology as my reflexive thematic analysis of the email responses of the participants involves immersing myself in the data “to identify common ideas or themes that emerge based on the phenomenon under investigation and that resonate with the research question(s) posed in the study” (Petersen, 2017: 56). A reflexive thematic analysis that foregrounds the subjectivity of the researcher (Petersen, 2017) was applied in analyzing the participant emails to identify themes relating to their long-distance learning experiences during COVID-19 and in particular their digital experiences of their study. The reflexive thematic analysis offers a convenient and effective way when it comes to qualitatively analyzing large amounts of textual data. Reflexive thematic analysis enables researchers to change the qualitative text into a coded one that is convenient for research. I applied a systematic deductive approach in reviewing the participant interviews because it enabled me to search for themes by “determining the prevalence, relevance, and importance of ideas, concepts, or communication aspects present in the data to decide whether the idea, concept, or communication contributes to a theme” (Petersen, 2017: 57).

The reflexive thematic analysis involved six phases based on recommendations by Braun and Clark (2020) which I describe below:

- (i) **Familiarization.** At the first phase, the interview responses will be read and re-read so as to get familiar with its contents (Braun & Clarke, 2020).
- (ii) **Coding.** At this phase, I will generate codes that appropriately identify the important features or characteristics of the data which might be relevant to answering the research questions. The whole dataset will be coded and the codes, along with data extracts, will be collated together for analysis (Braun & Clarke, 2020).
- (iii) **Generating Initial Themes.** At this phase, I will examine the codes and collated data to identify the potential themes that summarize the significant broader patterns of meaning.

Different themes may be generated based on the variation of the data in the dataset. Each theme is examined to gain an understanding of participants' perceptions relating to their online distance learning experience (Braun & Clarke, 2020).

- (iv) **Reviewing Themes.** At this phase, I will check the themes against the dataset to determine if the themes adequately respond to the research questions. There might be several themes that could be integrated, combined, and split (Braun & Clarke, 2020).
- (v) **Defining and Naming Themes.** At this phase, I will conduct a detailed analysis of each theme, figuring out the focus and scope of each and assigning them an appropriate name (Braun & Clarke, 2020).
- (vi) **Writing Up.** In this phase, I will weave the narrative and data extracts for the analysis into a discussion about the findings of the research (Braun & Clarke, 2020).

3.3 Methodological Choices Evaluation and Justification

In this section I offer evaluation and justification of the methodological choices I have made in conducting this research, that is, the adoption of the qualitative data collection method of asynchronous email interviews and reflexive thematic analysis.

The research questions I posed in this study required feedback from international students who have experienced long distance learning during the COVID-19 pandemic. Given my own geographic limitations in conducting this study the e-interview was the most effective way to achieve this as described earlier. This choice of method through an email interview provides the participants with an opportunity to express their personal views and feelings about their online learning experiences in their own words particularly when such opportunities to tell others in wider society have been limited. At the same time, in doing a thematic analysis on a selection of international students I can offer insights on situations that were experienced in common, which suggests that these issues that may exist on a broader level across institutions and could benefit from further research.

The findings from this study, I believe, can alert those who lead educational institutions to become more aware of the specific experiences of these students, resulting in a better understanding of their needs. This will enable more thought to be put into solutions relating to online learning and in particular to issues surrounding the digital divide which may have previously gone unnoticed. This could avoid such difficulties being encountered with distance learning in the future. Universities, schools, and polytechnics could adopt more inclusive opportunities for international students who are unable to attend classes and tutorials in person or are not even able to access lectures through online videos.

On a personal level the methodological choices I have made in conducting this study enabled me to gain experience in conducting a research project that involves interviews. I will also gain more knowledge about the digitization of education and its uses particularly in times of crisis, as well as a greater understanding of theories relating to the digital divide. It enables me to make a significant contribution towards knowledge in this area. I am also aware of the limitations of the research pertaining to the small number of participants involved and the lack of face-to-face interaction in an interview situation. However, the study does provide a basis for further larger projects to be built on my findings.

3.4 Conclusion

In summary, this chapter has presented the design and method of my study involving my decisions to conduct asynchronous email interviews with international long-distance learning students who were prevented from attending their host university in person in 2020 due to the COVID-19 pandemic. I described the process involved in deciding why e-mail interviews was the best approach for this study given my own experience with the digital divide. I explained the process in, gaining ethics approval from AUTECH, selecting the participants, designing the research questions, conducting the interviews online and the reflexive thematic analysis of the interview data. The next chapter presents the findings of this research.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.0 Introduction

In this chapter I present the findings of my research that involved email interviews with five international long-distance students who were unable to travel to their host universities during 2020 because of the COVID-19 border restrictions. I received seven inquiries from students in China and from the Middle East who responded to my recruitment advertisement as described in the previous design and method chapter. Five of the students agreed to participate in my research after they received my information sheet and signed the consent form. There were 1 male and 4 female students with four of them living in China. All except one were studying at universities abroad. One individual was an overseas student living in New Zealand who was supposed to be studying in another country but was stuck at home for distance learning because of the lockdown. Among the five students, three were enrolled in undergraduate courses and two were enrolled in a postgraduate Master's course. The identities of the participants had to remain confidential for ethics reasons – however I refer to the students as J, Z, K, O and V. The names of the universities they attended are not identified to protect the students and their educational institutions. It was unfortunate that in my study students from other countries were unable to proceed as participants. Therefore, rather than changing the research questions to reflect this, I decided that the findings needed to be considered within the context of international students from China.

I conducted the email interviews in English with each participant over a 4-week period which also gave me time to go back to the participants if I had further questions or needed clarification. The 20 open-ended questions I asked, as seen in Appendix E, related to the participants' experiences of long-distance learning, the technologies they used, their interaction with teachers and other students, and any other challenges they encountered, particularly relating to the digital divide such as connection, accessibility and digital skills. The texts of the interviews were saved into word

documents for my close reading and conducting of a reflexive thematic analysis as described in the design and method chapter. During the close reading coded topics were raised such as routine expectations of students and difficulties in adopting online distance learning. I then grouped these topics into five themes, checking that they aligned with the research questions. The findings of the reflective thematic analysis are presented next.

4.1 Reflective thematic analysis

Reflective thematic analysis is a crucial step of data analysis, which helps convert raw data into meaningful findings. It helps in conducting an in-depth analysis of interview data. It offers an opportunity for the researcher to convert a large amount of qualitative textual data into reliable information. This section presents the findings of my reflective thematic analysis of the responses collected from the participants that address the research questions about how international students coped with online distance learning in 2020.

Research Question 1: In what ways did COVID-19 impact students who were forced into distance learning across countries?

Theme 1: Routine expectations of international students before COVID-19

This theme was formulated based on my analysis of the participants thoughts about their education as international students before the global spread of COVID-19 led to their long-distance online learning. All of the respondents were located in China in the months leading up to the pandemic and described their expectations of their university study in 2020 to be a routine plan of going to their host university in another country and attending classes as usual. Most of the respondents had planned to return to start regular classes in the first university semester in March, while respondent K had planned a later start stating: *“I thought I had a gap of half a year. Then go back to join the campus in July”*. Respondent O indicated their expectation about the social side of university which they felt was important and which they were looking forward to, stating:

“The main goal is to experience the campus life and try to achieve a good academic performance at [university name deleted]. Besides, I also planned to expand the social relationships and local resources in the tourism industry when coming to NZ.”

Respondent V also elaborated on their expectations of the benefits of traditional face-to-face learning methods they expected to encounter commenting:

“I had planned to attend in-person classes as they allow the student to interact with the teachers and other classmates. I think that offline classes induce discipline and enhance communication among the students. They provide an opportunity to the students to ask their queries from the teachers so that all their doubts can be resolved”.

In this quotation above V suggests that the physical presence in attending classes would aid their learning because this would involve a structure of classroom discipline and conversation with their peers and their teachers. Moreover, it can also be interpreted that in-person learning enhances the communication of the students and provides them with an opportunity to interact with others.

Generally, the participants indicated that their idea of university life where they would learn in-person, interacting with teachers and making new friends, was quite different to what they were to experience as a result of the COVID-19 pandemic that hit in 2020.

Research Question 2: What do the experiences of long-distance learning students during COVID-19 indicate about the effectiveness of the trend of educational digitalization compared with traditional face-to-face models?

Theme 2: Difficulties adapting to Distance Online Learning tools

According to Clark et al. (2021), online learning helps in providing distance learning resources to students by accessing high-quality materials remotely. However, in the COVID-19 situation when asked about interacting with the lecturers and other students in distance online learning, a common theme arose that the students experienced difficulties in adapting to distance online learning when they were not familiar with the required processes and at times struggled to adapt to new systems.

First, however, I provide examples of the multiple modes of learning and communication tools that the international students from China were suddenly faced with having to use:

Respondent O also described the many different online methods that they were required to learn for distance learning which they had not previously been familiar with:

“I obtained the learning materials via Blackboard and MS Teams. There are various learning types provided by the lecturers, namely PowerPoint, recommended reading materials, pre-recorded lectures, and online tutorials”.

In a similar regard, Respondent Z in New Zealand also elaborated that they used different digital tools to interact with the teachers and specified that, *“I use digital tools such as Zoom and Google hangout meetings”*. Respondents K and V also responded that they used email and online tutorials during online learning, and their assessments required written essays, online tests, and online presentations.

Respondent O described the mode used to communicate with the teachers and said:

“I usually wrote emails to my lecturers when encountering the learning questions. The assignments are mainly categorized into two types: individual assessment and group assessment. The individual assessments include essays, reports, and online tests. The group assessments contain group essays, group reports and group oral presentations”.

Most of the students were freshers so they did not have experience in using Turnitin and other academic platforms. In this regard, Respondent O said:

“It was quite challenging for me to know how to use the platform, especially when I was still a freshman. Because there are no quick-access instructions for the students. For example, where to enter the classroom, how to use Turnitin, how to check the scores, where to find the feedback of the marked assessments”.

Respondent V also reported technical challenges, including digital competence, software issues, particular platform issues and assessment submission challenges, interactions with the university, and the support of teachers. Further, respondent Z described the challenges in using the technology at the initial stage stating:

“It is just the beginning of getting used to everything and knowing how to use all the keys, but then it becomes easy. I think because I already knew how to use technology like I have background information already”.

Respondent J described that the most serious problem was not being used to online learning and reported:

“I think the most serious problem is the consequence caused by not being used to online studying. Because the difficulties can be solved by a period of adaptation, but the consequence is that the low grades will impact your future, like applying for a Master's. What's more, it is a problem now I am facing I don't know how to ask for recommendation letters”.

As pointed out in the literature review, students can learn things at their own pace in online learning (Khalil et al., 2020). However, they lack knowledge in working on various software and online learning tools, which becomes frustrating for them at times (Rapanta et al., 2020). This theme highlights the perspective of participants regarding the advantages and disadvantages of face-to-face and online learning. Respondent J suggested that:

"The disadvantage of online learning is that I need a period to learn the software to be practical. And how to keep good communication with the lecturer.

Respondent O mentioned various difficulties faced during online learning and said:

“I have a lot of difficulties in the process of remote learning. The biggest one I have to mention is the limited research resources and channels. Because I have no chance to go on the fieldwork led by the lecturer as the students on campus. Besides, when working on the academic essay or report, the channels I could get information are via the e-library or Google.”

In addition to this, the student has described various disadvantages of online learning and educational digitization compared with face-to-face learning including, the passiveness of the learning situation, lack of interaction, loneliness, isolation, time difference, high requirements of self-discipline, lack of instant solutions to learning problems, mental pressure, anxiety caused from the uncertainty of exploring online learning, frustration caused by the long wait for the reply of your lecturer's email, the difficulty of working on group assessments online.

The second relevant part of this theme is the inconsistency in how the lecturers used different platforms for their teaching and how this impacted on the students and the difficulties in adapting to

online learning. Respondent J said that the lecturers were often inconsistent in the way they tried to adapt the in-person courses suggesting that the teaching staff were also feeling under pressure when it came to be adapting to so many different digital tools and platforms. Though as respondent J indicates below that there were expectations put on the students about using tools as indicated in this quote which includes the words “need to know”:

In the group work, some lecturers would change group-work assignments to writing essays, some would not. You still need to do the group work, so you need to know how to use some collaboration tools such as Messenger, Google documents”.

Respondent J also described how overseas students seemed to be treated differently when it came to some of their assignments – presumably because of issues with time zone differences making real-time contact difficult:

“Writing work was [done] the most, and the presentation, for overseas students, should record their presentations.”

Rapanta et al. (2020), stated that online learning requires a good knowledge of technology which can be lacking in both teachers and students’ abilities as they are more used to offline learning methods.

The interview participants were asked about the challenges faced during online distance learning. In this regard, Respondent J said that:

“Technology is a difficult part. I should spend a lot of time figuring out how to use them. Besides that, we still need to study how to use reference management software like EndNote, Zotero, and typesetting software like LaTeX. Sometimes I will think that the technology is used for helping us increase efficiency, but why should I spend more time figuring out how to use them”.

In this next quotation respondent J goes on to indicate that the pressure and stress felt by the lecturers in adapting to online processes was transferred to the students:

“I interacted with the lecturers with the online workshop on Blackboard Collaborate, but the online classes depended on your lecturers, some lecturers were strict and valued that each student must participate, and everyone should interact with them.”.

Here we can see that respondent J felt that there was a lot of pressure on students on how they should participate implying that lecturers could have been more sensitive to the students’ needs in adapting to

online processes they were not familiar with. The findings suggest that long-distance learning students felt more disadvantaged than domestic students due to the different time zones. In this regard respondent K mentioned that:

"Sometimes I forget I am in a different time zone. My professor posted an online office time in NZ's time zone. I attended in CN's time zone. Eventually, I missed office time. For me, a BA student, my course requires a lot of discussions."

The findings suggest that the domestic long-distance students had more difficulty in online distance learning as the time zone was according to NZ time. Some students missed their classes due to different time zones.

Respondent J also indicated how the difficulties with online distance learning impacted on their study, their relationships with lecturers and their grades:

"I seldom connected with my lecturers. I just connected with them, emailed them when I have questions about my assignments, at the beginning of online classes, in 2020. But in 2021, this year, I have stayed in frequent connection with my lecturers. Because my grades in 2020 were not good".

In this next quotation however, respondent V seems appreciative of the lecturers for resources they provided:

"Most of the required materials or data can be obtained from AUT's online library, and some rare ones can be obtained through lecturers".

Respondent Z too preferred not to be on campus during COVID-19 and was also grateful to his lecturers:

"I felt more comfortable than being there with all the students and trying to take a chance to speak and ask my questions. Written essays, posting of information, presentations (like recording myself in a video). And yes, I was given extra time in which to complete these because of distance learning".

We can also see in this quotation above that respondent Z was appreciative for the extra time given to complete assignments which showed that some lecturers acknowledged that distance learning could be problematic for international students.

These findings indicate that the participants' feelings about online distance learning and educational digitization, and the issues they experienced, varied compared to their experiences with face-to-face learning of university study.

The responses of participants described the scenario of a trend towards educational digitization which was accelerated because of the pandemic. This experience was quite different to their usual face-to-face classroom learning which they missed. Most of the students were unprepared for the long-distance learning because of the border restrictions and therefore their unfamiliarity with the online tools they needed to use for their study became a distraction as they struggled to learn them. This is similar to findings from other studies that indicated students' lack of technical expertise and knowledge in using various online software and learning tools while studying online during Covid-19 frustrated them (Rapanta et al., 2020). Further to this, the participants in my study when reflecting on the trend towards educational digitization and long-distance learning, highlighted difficulties interacting with the teachers and other students compared with the more traditional face-to-face, in person model of teaching. Generally, the participants said they felt more at ease in the physical classroom situation when it came to be participating in lessons. Doing this online could be cumbersome, plagued by technical difficulties and issues with time zone differences, especially when working in groups with their peers. Waiting to get feedback from their teachers via asynchronous digital communication methods also led to delays in proceeding with their work.

Research Question 3: What evidence is there of digital divides as a result of the sudden shift to long-distance learning?

Theme 3: Students perceive the digital divide as an issue

Khan et al. (2020) state that there is wide acceptance for online learning among students. However, when they are forced to suddenly move online such acceptance is not so apparent particularly when digital divides are experienced. When it comes to thinking about digital divides, the student participants offered their opinions about how they experienced this on different levels. Besides their lack of digital skills in some instances, as discussed in an earlier theme, other digital divide issues

arose concerning access and connection, time zone differences, language barriers, and feelings of isolation.

(i) Access and connection

Internet connection and data availability were clearly a problem for some students. Respondent K mentioned that this was an issue indicating that he was fearful of the result of not being able to connect at specific time periods for university work:

“For essays, I need to use Google scholar search via VPN. But the connection is not always good, and most VPNs are not free. For online tests and presentations, I am so afraid of losing connections. And if I need to prove my awful network for an extension. It is hard to collect evidence”.

Similarly, respondent Z was also satisfied with the online learning despite some technical issues and reported:

“I think it was ok but sometimes I had trouble like charging my devices before lectures to be on time and also making sure that my internet and everything is working perfectly so I don't have a problem”.

(ii) Time zone

Most of the interview respondents have encountered the issue dealing with the different time zones. In this regard, respondent O in this regard said that:

"Yes, the time difference is an undoubted problem. In semester 2, 2020 (my first semester), I had to frequently get up before 4 a.m. China time (8 am NZ time) in the early morning to attend the online session”.

Further, respondent V elaborated on both the positive and negative aspects of online distance learning and mentioned that:

“On the one hand, online learning breaks the limitations of time and space, making learning time more flexible. On the other hand, online learning reduces the opportunities for face-to-face interaction with locals and reduces oral English skills”.

Respondent Z discussed the difficulty in dealing with different time zones and specified that it is difficult for students staying in other countries to attend the lectures and workshops at night due to having different time zones. It is identified that lack of interaction with the students and time differences were the serious consequences of online distance learning.

Further, respondent K mentioned the disadvantage of online learning due to different time zone and reported that:

"Sometimes I forget I am in a different time zone. My professor posted an online office time in NZ's time zone. I attended in CN's time zone. Eventually, I missed office time. For me, a BA student, my course requires a lot of discussions. I used to accept info from teachers and classmates. Now I only have info from teachers. I feel like missing something".

(iii) Isolating effects of the digital divide

Online learning at a distance also creates a literal digital divide where students felt disconnected either because the technology did not work properly, or they missed face-to-face communication.

Respondent O for example expressed concern about online learning and said that:

"It is very difficult to learn online due to the isolation, the limited research resources and lack of interaction. The instability of the Blackboard platform often made me unable to smoothly get access to the classroom. I even could not clearly hear what the lecturers said and cannot see the PowerPoint shared by the lecturers".

Similarly, respondent K also described the challenges of not seeking the help of staff and classmate due to distance education and said:

"If I am on campus, I can easily find a classmate or staff to help me. Since I am offshore. I can only figure it out by myself".

Respondent J, in this regard, said:

"I rarely developed a friendship with the fellow students; although I have added some of my classmates, whatever the Chinese or the New Zealanders, the communication is just about assignments, group-work assignments, or exam issues. I think that cannot be called friendships".

The digital divide issues that were mentioned by the participants highlighted issues that they had not previously realised until they became long distance learning students. This shows that a lot of their previous university experiences of learning in-person were taken for granted. However, once they had to learn online, they realised that they were often at a disadvantage.

Theme 4: Emotional impact of transitioning to distance online learning

The literature review in Chapter 2 highlighted that, due to the COVID-19 lock down and country border closings, educational institutions had to redesign their programmes and courses so that students could be taught online. However, this was not a smooth process, and it took time for teachers and students to get used to online learning (Mishra, Gupta, & Shree, 2020) and the respondents in this study indicated transitioning to distance online learning impacted them in several ways.

Respondent J, for example, tried to convince themselves that because they were not the only student to be affected that it should be easy enough to adapt to studying long distance. They commented:

“I had no other choice but to accept the fact, it’s a problem all overseas students in the world, not just me just NZ’s overseas students, so just be fine”.

Several of the respondents found difficulty in having to transition to online learning long distance affected their mental well-being. While respondent O said that they *“felt greatly frustrated when knowing the truth that I could not return to NZ”*, it seemed others experienced more serious issues with anxiety and loneliness:

Respondent V: *“the whole study plan was suspended because I could not return to NZ, and I fell into a state of anxiety”.*

Respondent Z: *“I was in NZ but studied online. I was anxious that I wouldn’t learn as I was before, I thought it would be so hard to communicate just by the laptop(online) without meeting the teacher face-to-face”.*

Respondent J: *“In addition, I have to face loneliness, which means that I have not talked with my classmates or friends in Auckland for a year after studying online for nearly a year. I feel like a lost kid. The good thing is that I just have more freedom with my time and life”.*

Some respondents felt that long distance learning negatively impacted their relationships with their families as in this comment from O:

"My parents don't understand me. They don't know how online studying works. Sometimes I am busy with my assignments or online tests, I don't respond to them immediately. They get upset. I explain to them about my work. They try to understand and support me".

In contrast, however, respondent K stated: *"I am happy to stay at home"* though this may have been that she was more anxious about contracting COVID-10 and felt safer to remain where she was.

Overall, it was clear that the sudden change to the students' study plans in not being able to travel to their university in another country and to instead learn online had an impact on their emotional and mental well-being.

Theme 5: Balancing the pros and cons of Online Learning

The interviews indicated that the interview participants missed the traditional in-person learning that they expected when attending university as an international student. But there was also the realisation that as there was not much choice but to continue with online learning at a distance, there were both pros and cons about their experiences.

Respondent J admitted that it was really a matter of time to adapt to new ways of learning. He said:

"After a long time to adapt to learning online, I think it is an excellent way. I can stay at home instead of driving to campus every day. And to some extent, I can get more degrees of freedom from a self-perspective".

Respondent K has specified the pros and cons of online learning over face-to-face learning indicating the advantages of a flexible time schedule needed to be balanced alongside communication and social benefits of more traditional learning ways:

"The pros are flexible time schedule for international students, I can stay with family during COVID, and cons are hard to communicate to TA and professors, no social life on campus, no experience of abroad study".

Respondent O has also elaborated the benefit of online access to the material that can be accessed anytime and emphasized that:

"Online learning has the flexibility of learning time and place. It means that I could watch the recorded video and soft learning materials at any time and any place as I like".

Respondent Z also expressed similar views highlighting that there is a positive side to online learning that needs to be understood and that may become preferable:

"The most crucial benefit of online learning is the recorded lectures which we get available in online learning, but we don't get in face-to-face. We could always go back and watch again till we got all the knowledge. Personally, despite all difficulties people might face, I prefer online learning because in that way I am able to manage my time how it suits me".

Respondent V described how they learned to balance their time more effectively and deal with anxiety:

"Online learning allows me to spend more time at home, which cuts off contact with the outside world to a certain extent. Sometimes it makes me feel anxious. As I adapt to online learning, I gradually find a way to balance learning and life-taking part-time job, which can strengthen the social connection with the outside world while improving work experience".

In this final quotation respondent K has come to realise that attending university in another country actually was a more negative experience for her when it came to living conditions and that there were advantages in studying at home where she had the support of her family:

"When I was in NZ, I had depression and self-harm. When I was told I had to stay at home, I felt happy about it. I can try to heal myself with the company of my family. But I didn't expect the border to be closed for this long. Moreover, I think for international students, the changing of learning styles is not the only challenge they meet. They also need to deal with the renting problems and where to keep their luggage".

Although the digital divide issues caused concern for students – there was an indication that some positive benefits could be realised and that perhaps a lot of problems encountered in online learning could be dealt with and improve over time.

4.2 Conclusion

In this chapter I have presented the findings of my reflexive thematic analysis of five interviews with international long-distance learning students. I identified five themes that surfaced through my analysis that ranged from what the participants were expecting from studying at an overseas university through to the experiences that resulted from suddenly having to learn online at a distance and the impact that this had on their lives. My findings indicated that there are numerous aspects to consider when it comes to international students and the issues that they encountered during 2020. However, it was also useful to see that the students were keen to learn from their experience and develop their digital skills that would improve their future abilities to learn and study online.

CHAPTER FIVE: CONCLUSION, RECOMMENDATIONS, AND FUTURE RESEARCH

5.0 Introduction

The research undertaken for this project aimed to investigate the shift to distance education for international students and the impact of the digital divide on their learning experiences during the COVID-19 pandemic in 2020. It aimed to answer the research questions:

- (1) In what ways did COVID-19 impact students who were forced into distance learning across countries?
- (2) What do the experiences of long-distance learning students during COVID-19 indicate about the effectiveness of the trend of educational digitalization compared with traditional face-to-face models?
- (3) What evidence was there of the digital divide as a result of the sudden shift to long-distance learning?

This final chapter discusses the key findings of the research along with suitable recommendations to address the issues encountered by international students who were forced to study long distance. As has already been acknowledged the participants in this study were from China only which limits any generalisations. However, the findings are still useful when it comes to offering insights that have emerged and which signal the potential for further research in similar areas, or for comparison, with students in other countries. Discussion of this features later in this chapter.

5.1 Key observations of this study

This study involved interviews with five international university students from China about their experiences of long-distance learning during the pandemic. A reflexive thematic analysis was conducted of the email interviews and identified that while the students' intentions for overseas study at the beginning of 2020 involved a plan of returning to the campus of their host university and attending regular classes, these expectations were dashed as a result of the pandemic. As a result of this research there are several key points to make.

- (i) **Impact of Covid-19 on the international students who were forced into distance learning across countries:** In reference to the first research question, participants were found out to be more inclined towards traditional learning because it allowed them an opportunity to interact with the students and classmates. The outcomes of the study highlighted that traditional face-to-face learning induced greater learning discipline and enhanced interaction among the students. Moreover, it also allows them to have an open discussion on a topic with the teachers. Moving to online learning was hard for the students especially when it came to be communicating with the teachers without meeting them face-to-face. The study's findings highlighted that most of the students experienced initial anxiety on hearing about online distance learning as they were not used to it. However, it is also evaluated from the findings the perception of students towards online distance learning depends on the support provided by the instructor. The enhanced support and availability of the instructor enhanced the engagement level of the students with the course and increased their satisfaction level.

- (ii) **Experiences of long-distance learning international students during COVID-19 about the effectiveness of the trend of educational digitalization compared with traditional face-to-face models:**
Student mental well-being was challenged through online learning raising concerns about the effectiveness of the trend of educational digitalization when it came to long

distance situations. It was found that most of the participants faced difficulties adapting to online distance learning due to isolation, lack of interaction, and limitation of resources. One of the major disadvantages of online learning, and which is of concern, is the isolation that occurs when a student is a long-distance international student. They felt there was a lack of physical communication which hampered their ability to make friends compared with traditional learning in a classroom face-to-face with their peers and teachers. They felt lonely and were sometimes anxious or depressed which affected their grades.

Benefits to online learning were experienced. The research aimed to investigate the pros and cons of the online distance learning and the trend towards educational digitization and found there was some benefits experienced in spite of the digital divide issues and the mental health effects. The research findings depicted that, while the study's participants experienced numerous issues with online learning, there may be positive outcomes as a result of having to study this way. To start they have learned new digital tools and methods. Online learning provides an opportunity for the students to update themselves with the new software and digital tools while staying at home. This signalled that the introduction of new tools to students at an early age and the trend towards educational digitization may better prepare them in surviving in the future workplace. Online learning has become more learner-centric but has also required greater co-operation between students and lecturers as part of the process. The study participants overall seem to have gradually become more responsible and engaged in the online learning environment as their digital literacy increased. The utilization of social media tools has also made learning more flexible and personalized.

(iii) **Digital divide issues surfacing during the transition to online learning.** In reference to the third research question, the research findings highlighted the various ways the students were required to interact with the lecturers and classmates online during COVID-19 which drew attention to various digital divide issues. Students used various online platforms such as Blackboard, Microsoft teams, Zoom, Google hangout meetings,

and could review pre-recorded lectures to interact with the teachers and classmates. Sometimes they were required to record and upload their own presentations as part of their assessments. The study findings also highlighted that most of the students used to write e-mails to their lecturers when they encountered any issues in completing their assignments. But the students' digital skills were sometimes lacking, and they had to learn how to conduct these online activities. They also encountered difficulties with accessing resources, Internet data and platforms and time zone issues could also create a problem if they were required to attend an online lecture which might be in the middle of the night or early morning for them. Further, due to the pandemic, students were living in their home countries having different time zones, so they had to attend some lectures even at night. It is identified that students faced unique challenges due to the forced shift to online learning. It became difficult for the staff to conduct synchronous teaching sessions due to different time zones. The problem of different time zones has created health issues and physical disruptions among the students. The issues related to physical health have disrupted building an excellent quality online learning experience among the students. The research has evidenced several challenges faced by the participating students while adapting to online distance learning. The response of study participants revealed that it was difficult for the international students to deal with the technology while online studying. Due to this, most of the students spent a lot of time understanding the systems and reference management software. The students also understand that technology is crucial for increasing efficiency, but they did not want to spend so much time figuring out how to use it.

However, over time they appeared to adapt to online learning, becoming more comfortable with it as universities assisted in making more resources available online through libraries, through their lecturers and on the learning platforms. It seemed that the universities and their staff too took some time to adapt to the situation which impacted the learning experience overall.

Some participants were happy with the fact that they got an opportunity to stay with their parents due to online distance learning, but it also affected their social life and their experience of the abroad study. One of the crucial benefits of online learning identified from the perspective of the participants is the availability of the recorded lecture, which was not provided in the case of traditional face-to-face learning. The students can download and access the lectures anytime, according to their convenience. Additionally, some students also described that they can spend more time with the family due to online distance learning, and it helped them balance their education and a part-time job. The study also showed that online learning can be synchronous, wherein students can participate in online discussions with their teachers and classmates in real time. It is evaluated that online learning is more student-centred, wherein students have scope to fulfil the unique educational needs as they have access to the online materials. Online learning increases the productivity of the students and helps them to utilize their time effectively. The findings highlighted the availability of various learning materials in online learning to conduct high-quality research. It is evaluated that online learning is the only method to prevent academic loss in the pandemic situation. It is essential to minimize the academic gap of the students.

Overall, the findings of this study have emphasized the impact of the phenomenon of the digital divide, which highlighted the inequalities present in university studies online in terms of access to the internet and other infrastructures required for learning and also due to different time zones and other barriers faced by the international students in my study. The notion behind this aspect of the digital divide is that, in general, access to the internet, computers and other equipment, as well as the digital skills required for effective online learning, can be seen to differ substantially between the populations of developed countries and developing countries and also between the urban and the rural populations of different countries (Azubuike, Adegboye & Quadri, 2021).

The findings of the study have aligned with the evidence collected from existing literature in the domain of online education during the ongoing and unprecedented crisis of the COVID-19 pandemic and regarding the impacts of the same in the domain of the already existing digital divide in online

education (Harits et al., 2016). This study and the interviews conducted with the selected respondents can be seen to highlight the presence of different benefits as well as challenges in the domain of the online educational contexts, and the study has also revealed that the problems and challenges are not only faced by the students but also the teachers involved in the domain of imparting knowledge using this new form of educational medium, which has become an absolute necessity in the contemporary pandemic situation (Peimani & Kamalipour, 2021). There are arguments present in favour of the online education system, which can be seen to be considerably robust and strong like that of the cost-saving aspects of the concerned form of study, which are especially true in the case of international students. However, online studies have increased the problems in terms of different time zones and in reducing the opportunities for face-to-face interactions, and the absence of English skills (written and oral skills) can also be seen to be making it considerably problematic and challenging for a section of students (especially international students) in learning in the online educational framework.

5.2 Recommendations

The above discussion and the findings from the study (even though confined to international long-distance students from China) have implications for the presence of considerable dynamics and changes faced by many students and teachers in the online educational framework, especially during the COVID-19 pandemic situations worldwide. Keeping this into consideration, and especially taking into account the digital divide and the aggravation of the same due to the rising adoption of the online education system in the different parts of the globe, the following recommendations are put forward for ensuring positive implications for the students irrespective of their locations, socio-economic conditions and other attributes:

- The effects of the pandemic situation are expected to stay for the long term and even after the aftermaths of the pandemic. Thus, it is of immense importance for the governments of both the developed as well

as the developing nations to develop their infrastructures and access to technologies, the Internet and other equipment to ensure that the digital divide existing in this domain is considerably reduced.

- There are challenges due to lack of understanding of the lectures and the lessons, especially for long distance international students who do not have English as their mother tongue and for ensuring that the new ways of online learning are beneficial to them. Hence, it is of immense importance for the educational institutions across the globe and especially in the concerned country to develop curricula in multi-lingual interfaces and also to provide considerable time and scope for students to come up with their doubts and queries. It is also expected to be a considerably important responsibility of educators to ensure that they provide sufficient attention and time for every student to facilitate learning and skill development in the new online teaching and learning framework.
- Apart from the long-distance international students, the teachers and the educators face different challenges in the domain of adoption of this new form of teaching, and much of this is cropping up due to the lack of their knowledge and acquaintance with the online teaching methods. To ensure the mitigation of these problems, it is recommended to provide substantial training, skill development provisions and support to these teachers to mitigate their tensions and anxieties in conducting online lectures and also to make them more efficient in handling the students and the curricula efficiently in the online teaching framework.

5.3 Limitations of the study and future research

The primary aim of this study had been to analyze the impacts of the ongoing pandemic crisis on international students who are forced to move to a distance and online learning framework and also to assess the experiences of long-distance learning students during COVID-19. Also, the emphasis has been given to understand what they tell about the effectiveness of the trend of educational digitalization compared with more traditional face-to-face models. The study has emphasized the existing literary works and scholarly evidence in these aspects to gather existing knowledge and to fill the gaps existing in the present literature, the study has also tried to collect in-depth information from a small number of students. However, there are some limitations to this study that need to be noted.

This study was conducted within the scope of a short time frame and as a result one of its limitations was that the number of international students interviewed was small – only five participants from China. While I had hoped to get students from a range of different countries, I was only able to use the interviews with those students who responded and agreed to participate in this research.

Therefore, the participants involved cannot be seen to offer a representative sample of all international long-distance students, and the findings of the study are not generalisable to a broader level. However, the fact that the study involved individual interviews and was not a survey, meant that it enabled more personal insights of student experiences to be gained that may also be applicable in other countries. Regardless of the limitations encountered, I am grateful for the time that these participants took to offer their comments and experiences which I hope will help towards a greater understanding about online distance learning.

Keeping this in consideration, there are opportunities for more extensive and inclusive studies to be carried out in the future. For example, with a larger and more diverse sample size of international students interviewed about their experiences. Follow up research could be also conducted to see whether students have had to remain long distance in 2021 and how this has affected their studies, or whether they have become more engaged with online learning. Research into the experiences of university lecturers would also provide another perspective.

Among all the research participants, four were staying in NZ and one was staying in China, so there might be differences in their experiences of online distance learning due to availability of resources in different countries. It is recommended to future researchers to identify the differences in the experiences of students participating in online distance learning and staying in different countries due to the pandemic.

At the writing of this dissertation the COVID-19 pandemic still rages in countries around the world. Vaccination programmes are in progress – but what the long-term effects might be on international students and those that are faced with long distance learning while other students are now back in classrooms are still to be determined.

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APPENDIX A: Ethics Approval



AUT

TE WĀNANGA ARONUI
O TĀMAKI MAKAU RAU

Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

14 May 2021

Philippa Smith
Faculty of Culture and Society

Dear Philippa

Re Ethics Application: **21/152 An investigation of the shift to distance education and the widening of the digital divide during the Covid-19 pandemic**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 13 May 2024.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the [Auckland University of Technology Code of Conduct for Research](#) and as approved by AUTEC in this application.
2. A progress report is due annually on the anniversary of the approval date, using the EA2 form.
3. A final report is due at the expiration of the approval period, or, upon completion of project, using the EA3 form.
4. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form.
5. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.
7. It is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard and that all the dates on the documents are updated.

AUTEC grants ethical approval only. You are responsible for obtaining management approval for access for your research from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

Please quote the application number and title on all future correspondence related to this project.

For any enquiries please contact ethics@aut.ac.nz. The forms mentioned above are available online through <http://www.aut.ac.nz/research/researchethics>

(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: 452118567@qq.com

APPENDIX B: Tools

a) Recruitment Advertisement



Attention Lecturers and Students

AUT
TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

Looking for Participants for a Study about

International Student Long Distance Learning Experiences During Covid-19

Hello, my name is Yaxin Liu and I am a student in the Masters of English and New Media programme at AUT.

I am looking to interview international university students aged 18 years and over for my dissertation research about students who, like me, had to study long distance because of the Covid-19 pandemic in 2020.

Interviews will be conducted in the English language by email as I am currently still in China. I am keen to ask students about their learning experiences particularly in their use of the internet and digital technologies such as, accessing resources such as library materials, attending live online lectures, interacting with lecturers and other students online, and any issues such as internet connection, time zone differences, digital skills etc.

If you are an international student aged 18 years or older who had to learn long distance in 2020 because the borders were closed and would willing to be a participant in my study, please contact me at the following email address (452118567@qq.com) and I will send you more information. It will take you approximately 15-20 minutes to answer the questions in this research. You are free to answer only those questions you wish to but you are free to write as much or as little as you want. Equally, if you are a lecturer who knows of a student who studied long distance last year who might be interested in participating in this research, please forward them this advertisement. Please note that I am unable to accept participants who are current students of my supervisor Dr Philippa Smith, at AUT. Participants involvement in this research will contribute to a better understanding about long distance learning for international students and the digital divide issues they may encounter during a pandemic.

Potential participants should contact me by 28 May 2021 to be included in this research. Thank you for your time.

Yaxin

b) Information Sheet



Information Sheet for potential participants

11 May 2021

Project Title

An investigation of the shift to distance education and the widening of the digital divide during the Covid-19 pandemic

An Invitation

Hello, my name is Yaxin. In order to study for a Master's in English and New Media, I'm am conducting research about international students and the impact of the Covid-19 pandemic that forced them into long distance study. I would like to know how you feel about the e-learning process due to the pandemic, and the digital divide that you may have encountered in the e-learning process. If you are a student who was not be able to return to your university in another country due to the closure of national borders during the COVID-19 pandemic in 2020, and you are 18 years old or older, please participate in my email interview. Please note that if you are currently a student of my supervisor Dr Philippa Smith at AUT you will not be able participate in this research.

What is the purpose of this research?

The findings from this research will contribute knowledge about the impact of COVID-19 on university students forced to undertake distance learning when the borders to the countries of their intended universities were closed. The research will be seeking to understand what the experiences of distance learning students during the COVID-19 outbreak can tell us about the effectiveness of the trend towards digital education as compared to traditional face-to-face teaching models. It will also be interested in whether the sudden shift to distance learning revealed significant digital divides when it came to the use of the internet for accessing courses and interacting with lecturers and other students. The outcomes hope to provide recommendations based on the findings for overcoming the difficulties of online education, particularly if universities continue to operate this way after the pandemic. The findings of this research may be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

The participants of this study are international students who had to study long distance from their university in 2020 because of the border restrictions imposed during Covid-19. Through the advertisement on the blackboard forum, you will have identified whether you are a potential participant for this research.

How do I agree to participate in this research?

You have two weeks to consider whether you want to participate in the study and to let me know by email. If you agree to be a participant, I will send you a consent form to fill in and return to me by email.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

As I am a long distance student myself, this project will involve interviews with you by email. I will send you some questions in an email asking you to reflect on your experience as a long distance learner during Covid-19 particularly in relation to your use of digital technologies. You can complete my interview anywhere and you are free to choose the amount of time that suits you to answer my questions. This may take around 15-20 minutes, but you are free to write as little or as much as you wish. These questions have been designed to prompt your thinking, but you are not obliged to answer them all if you do not wish. You are also at liberty to provide any additional information that you want. You will send your responses to me by email and I may contact you again if I have any further questions to ask. You will receive no more than three emails from me in total regarding this study.

I will analyse all of the information provided by the participants where I will look for common themes about people's experiences as long distance students. The findings will then be written up as a dissertation and I may present my findings at a conference or publish in an academic journal or book.

What are the discomforts and risks?

You may also feel uncomfortable with conducting the interviews by email and the amount of time it takes to answer questions.

How will these discomforts and risks be alleviated?

When it comes to responding to the questions by email, you should only spend the amount of time you wish in putting together your answers, and you are free to only respond to those questions you feel comfortable with. You can also email me to change a response or delete a response if you after you have sent the email.

Remember that if you feel uncomfortable in any way, you may withdraw from the study at any time.

If you feel as if you require any counselling as a result of the interviews you can email AUT Health Counselling and Wellbeing for advice.

AUT Health Counselling and Wellbeing is able to offer three free sessions of confidential counselling support for adult participants in an AUT research project. These sessions are only available for issues that have arisen directly as a result of participation in the research and are not for other general counselling needs.

You can find out more information about AUT counsellors and counselling on <http://www.aut.ac.nz/being-a-student/current-postgraduates/your-health-and-wellbeing/counselling>. However, if you are still living overseas you may wish to contact a counsellor in your location.

It is possible that there are other counselling resources available for you in your own country which I can assist in helping you find. For example, in China you can call the national free psychological counselling number 010-82865508 or visit <http://www.laahome-ccc.com> for free psychological counselling.

What are the benefits?

The results of this study will help to understand the impact of COVID-19 on university students forced to study at a distance during the Covid-19 pandemic, particularly when it came to their use of digital technologies to complete their studies. I plan to conclude my study with a list of recommendations for educational institutions when it comes to their implementation of long distance learning strategies. In addition, this research will assist me in obtaining my Master's diploma in English and New Media, and the results of this research can be used for academic publications and presentations.

How will my privacy be protected?

To protect your privacy, I will aim to keep your identity confidential and will not use your real name, or the name of anyone else you mention, or identify the university where you were/are enrolled. Your emails and consent forms will only be viewed by me and my research supervisor, and these will be stored securely at AUT following the study and destroyed after a six-year period.

What are the costs of participating in this research?

The interviews are conducted via email and do not involve any cost to you apart from the time taken to answer the questions which is estimated to be around 15-20 minutes.

What opportunity do I have to consider this invitation?

You have two weeks following receipt of this invitation to respond if you wish to participate in this research. I am happy to receive any questions regarding this research, but if you wish to participate you will need to sign the consent form and return it to me by email. If I have not heard from you after one week, I will email you a reminder. If no further response is received after the second request, no more emails will be sent to you.

Will I receive feedback on the results of this research?

At the conclusion of my study I will send you an email with a summary of my research findings.

What do I do if I have concerns about this research?

If you have concerns about this project, contact the researchers directly.

The researcher: Yaxin Liu

Telephone: + 8613909368161

Email: 452118567@qq.com

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor,

Project Supervisor: Philippa Smith

Telephone: (09) 9219999 ext: 8276

Email: philippa.smith@aut.ac.nz

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, ethics@aut.ac.nz, (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

The researcher: Yaxin Liu

Telephone: + 8613909368161

Email: 452118567@qq.com

Researcher Contact Details:

The researcher: Yaxin Liu

Telephone: + 8613909368161

Email: 452118567@qq.com

Project Supervisor Contact Details:

Project Supervisor: Philippa Smith

Telephone: 9219999 8276 or 021 1815096

Email: philippa.smith@aut.ac.nz

Approved by the Auckland University of Technology Ethics Committee on 14 May 2021, AUTEK Reference number 21/152.

c) Consent Form



Consent Form

Project title:
An investigation of the shift to distance education and the widening of the digital divide during the Covid-19 pandemic

Project Supervisor: Assoc Prof Philippa Smith

Researcher: Yaxin Liu

I have read and understood the information provided about this research project in the Information Sheet dated 10 May 2021.

I understand that this study involves a series of interviews via email, but that I only need to answer questions I feel comfortable with.

I have had an opportunity to ask questions about the study and to have them answered.

I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.

I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.

I agree to take part in this research.

I wish to receive a summary of the research findings (please tick one): Yes No

Participant's signature :

Participant's name :

Participant's Contact Details (email only) :

Date :

Approved by the Auckland University of Technology Ethics Committee on type the date on which the final approval was granted AUTEK Reference number type the AUTEK reference number

Note: The Participant should retain a copy of this form.

Appendix 2 Yaxin Consent Form page 1 of 2 This version was last edited in March 2020

d) Email-interview Questions

Email with questions

Dear (Participant)

Thank you for agreeing to participate in my study about international students and their experience of long distance learning and the use of digital technologies during the Covid-19 pandemic in 2020.

Please find below a list of questions I would like you to think about and respond to. You have one week to complete your responses and send back to me by email. You only need to answer those questions you feel comfortable with, and your responses can be as short or as long as you like. Please feel free to ask me any questions for clarification of these. Following receipt of your responses I may come back to you with another email with some follow up questions. Again, you only need to respond to those that you want to, and you can email me to make any changes or ask for the deletion of any responses you have already sent.

I look forward to hearing from you.

Kind regards

Yaxin Liu

QUESTIONS

Please give me some background information as to your level and stage of university study:

1. Are you an undergraduate student or postgraduate student (Masters, Doctoral)?
2. What discipline is your study in e.g. arts and humanities, sciences, communication studies?
3. What year of study were you at in 2020 at an international university, i.e. first, second, third, or more?
4. Had you attended your international University in the year/s prior to the outbreak of the pandemic?
5. How many years had you been studying your degree?
6. What were your plans in 2020 to attend university before the pandemic occurred?

Now, I would like you to tell me about your experience as a long-distance student during 2020. You can use these questions below to guide your response and add any further information that you want.

7. What was your initial reaction when you learned that the COVID-19 outbreak meant you were unable to return to New Zealand to study?
8. In what ways were you required to interact and communicate with your lecturers and the other students? E.g. were you asked to use digital tools such as the University Learning Management System (LMS) such as Blackboard or Canvas, attend lectures via platforms such as Zoom or Ultracollaborate, or review pre-recorded lectures?
9. Did you interact privately with your lecturer/s? E.g. email? Video conference? Online discussion forums?
10. What types of assignments were you required to do - were these written essays, posting of information on the LMS and were you given extra time in which to complete these because of distance learning?
11. How did you feel about learning online? Did you have any issues with the technology in either accessing platforms, having enough data, finding resources for your study?
12. Did you have any difficulty in knowing how to use the technology?
13. Did you have difficulties with being in a different time zone?
14. Were you able to develop friendships online with your fellow students?
15. What difficulties have you encountered in the process of distance learning?
16. Were you given extra time to complete your assessment because you were studying online?
17. Did you consider delaying your study until the borders to the country of your University opened again?
18. What are the advantages and disadvantages of online learning compared to traditional face-to-face learning?
19. How has online learning affected your daily life? How did you deal with and solve these problems?

20. Please feel free to comment on any other aspect about your distance learning.

Thank you very much for your participation.