

Student Experiences of Emergency Remote Learning and Teaching During COVID-19



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of the requirements for the award of the degree of
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Abstract

This study aimed to explore and understand the University of Cape Town student perceptions and lived experiences of Emergency Remote Teaching and Learning (ERTL) during COVID-19. COVID-19 is a communicable disease instigated by a novel virus (SARS CoV-2 virus). After the inevitable subsequent national lockdown of South Africa, the university placed ERTL measures in place for the second quarter of the first semester to curb the impact of the virus on its students while also enabling learning and teaching activities to continue remotely. ERTL meant that learning and teaching activities were 'rapidly' shifted from face-to-face learning to remote learning. This study reports on the 707 students who responded to an online survey while engaged in their online courses. The Substitution, Augmentation, Modification, and Redefinition (SAMR) and Andersons' Online Learning Model were used to engage with students on the use of technology that enabled their interaction with lecturers, each other, learning and teaching activities, and other remote learning resources. Understanding the student experiences was achieved through a mixed-method study approach that involved undergraduate and postgraduate students. The Google form online surveys, with both open and closed ended questions with some using the 5-point Likert scale ratings, were distributed using social media platforms and university email system to students in order to collect the data. MAXQDA and Excel software were later utilised to analyse and code the data. Findings for this study indicate that the ERTL experience of the participants during the COVID-19 pandemic presented both opportunities and barriers. Some of the perceived opportunities by students were flexibility and convenience, pedagogical improvements, time saving, self-directed learning (working anytime they want and creating and managing their working schedule), and spending time with family.

Interestingly enough, some of these benefits turned out to be challenges for some of the students. Hence, some of the barriers students perceived were distractions, internet connectivity and technical issues, inequitable living and environment conditions, lack of hands-on experience and how this made their degree feel incomplete and difficult, mental health issues, and many other barriers. The disciplinary faculties that experienced most of the obstacles and difficulties associated with ERTL were those whose academic experience depended on practical work in labs and studios or needed software that can only be accessed through labs and would need a specific operating system. The carrying out of this research will help ensure the effectiveness, investment, and continual integration of technology in future programs that involve learning and teaching.

Keywords: emergency remote teaching (ERTL); SAMR; online learning; COVID-19, students.

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List of abbreviations, acronyms

CHED	Centre for Higher Education Development
CILT	Centre for Innovation in Learning and Teaching
Col	Community of Inquiry
COVID-19	Coronavirus Disease 2019
ERTL	Emergency Remote Teaching
HE	Higher Education
HEIs	Higher Education Institutions
LMS	Learning Management System
MOOCs	Massive Open Online Courses
NEHA	National Environmental Health Association
SAMR	Redefinition Substitution, Augmentation, and Modification
UCT	University of Cape Town

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CHAPTER 1 - INTRODUCTION

1.1. Introduction to the Problem

Without a doubt, preparation for any pandemic requires an effort that stretches to all dimensions, especially in a university context. In this case, Western Cape and South African universities were the ones affected, and a central focus for this paper will be the University of Cape Town (UCT), in the Western Cape of South Africa.

The dissertation will share a particular interest in the concerns, perceptions, expectations, and the understanding of the student stakeholder on remote learning during a pandemic. A student being a stakeholder in Higher Education (HE) makes them a significant participant in the Higher Education Institution (HEI). Thus, it is essential to satisfy their needs and interest by understanding their learning experiences and teaching in HEI. Therefore, the problem that students and the HE faced was how students could be supported in teaching and learning in an unequal and changing landscape as they underwent Emergency Remote Teaching and Learning (ERTL) during COVID-19. This research study tackles the main research question with associated sub-questions to produce data that will help researchers, universities, and all other stakeholder and decision makers understand how students from UCT perceived their experience of ERTL during COVID-19.

1.2. Research Question and Purpose

This research will be looking at data concerning students on the UCT campus. It will look more into ERTL experiences, perspectives, understandings, and practices of students within the HE context during COVID-19. Hence, the research question is described as follows:

Main Research Question: *How do university students perceive working and learning remotely during a pandemic?*

Sub-Question 1: *How do students perceive time during remote learning?*

Sub-Question 2: *What advantages (opportunities) do students perceive in working and learning remotely in comparison to traditional learning and teaching?*

Sub-Question 3: *What disadvantages (barriers) do students perceive in working and learning remotely in comparison to traditional learning and teaching?*

Sub-Question 4: *What perceptions exist from students in different disciplines/professions??*

Sub-Question 5: *Did students perceive that Emergency Remote Teaching and Learning (ERTL) manifested the full scope of technology integration?*

Sub-Question 6: *How do students perceive educational interaction in working and learning remotely?*

1.3. ERTL as a subset of online learning

Hodges et al. (2020), on a website, defined an array of terms in online education, and this included the definition of emergency remote teaching (ERTL). They defined ERTL as:

“a temporary shift of instructional delivery to an alternate delivery model due to crisis circumstances.” (paragraph 13)

Essentially, ERTL is different from e-learning as it pertains to the preparedness of operating and delivering learning and teaching. Figure 1 below shows the illustration of tools utilized in an ERTL environment and their complementary purpose.



Figure 1: Media tools in ERTL and their use (Rahiem, 2020)

It also shows how the use of readily available social media communication services (WhatsApp, YouTube, etc.) and the fact that these readily available platforms are used repeatedly to achieve enrichment, instruction, discussion, and evaluation. Shisley (2020) shares the following regarding the difference between ERTL and online learning:

“In other words, emergency remote learning may take place online and share similar components as online learning, but it differs from online learning because of design. As is to be expected, the difference in design is the reason for several other differences between emergency remote learning and online learning” (paragraph 2)

Shisley (2020) uses design to differentiate the two because design includes the delivery of instruction, preparation, planned integration of technology, technology training, online pedagogy, course design, and many other design factors. Hodges et al. (2020), in Figure 2 below, alludes to this difference when explaining the nine dimensions that highlight the complexity of the building, maintaining, and operating highly effective online learning and teaching. This is important as students use various tools for alternative learning and teaching, self-directed learning, and interactions with their peers and family. Schultz and DeMers (2020) add to the definition of online learning when mentioning that:

“Online learning is the well designed, planned approach to storyboarding and creates deep virtual learning experiences with no physical interaction in a physical classroom environment, which includes a design phase potentially lasting several months in advance of offering the course.” (paragraph 8)

From the definitions, online learning is more about using the internet to allow students and teachers to virtually connect and allow online access to resources, teaching, and collaborative learning. As seen in Figure 2, online learning is better and strategically organized and planned than ERTL, which ultimately means that it is permanent. Conole et al. (2004) and Pelz (2019) mentioned how the central focus on learning design is essential when mentioning how effective online learning and teaching is achieved. They mention that it is achieved through strategic charting and articulation of reflexive and consistent learning pedagogical procedures, resources, and techniques. Essentially, what Conole et al., (2004), Pelz (2019), and Hodges et al. (2020) are indicating is that better course design strategies enable the focus of online learning to be on learning and not necessarily teaching.

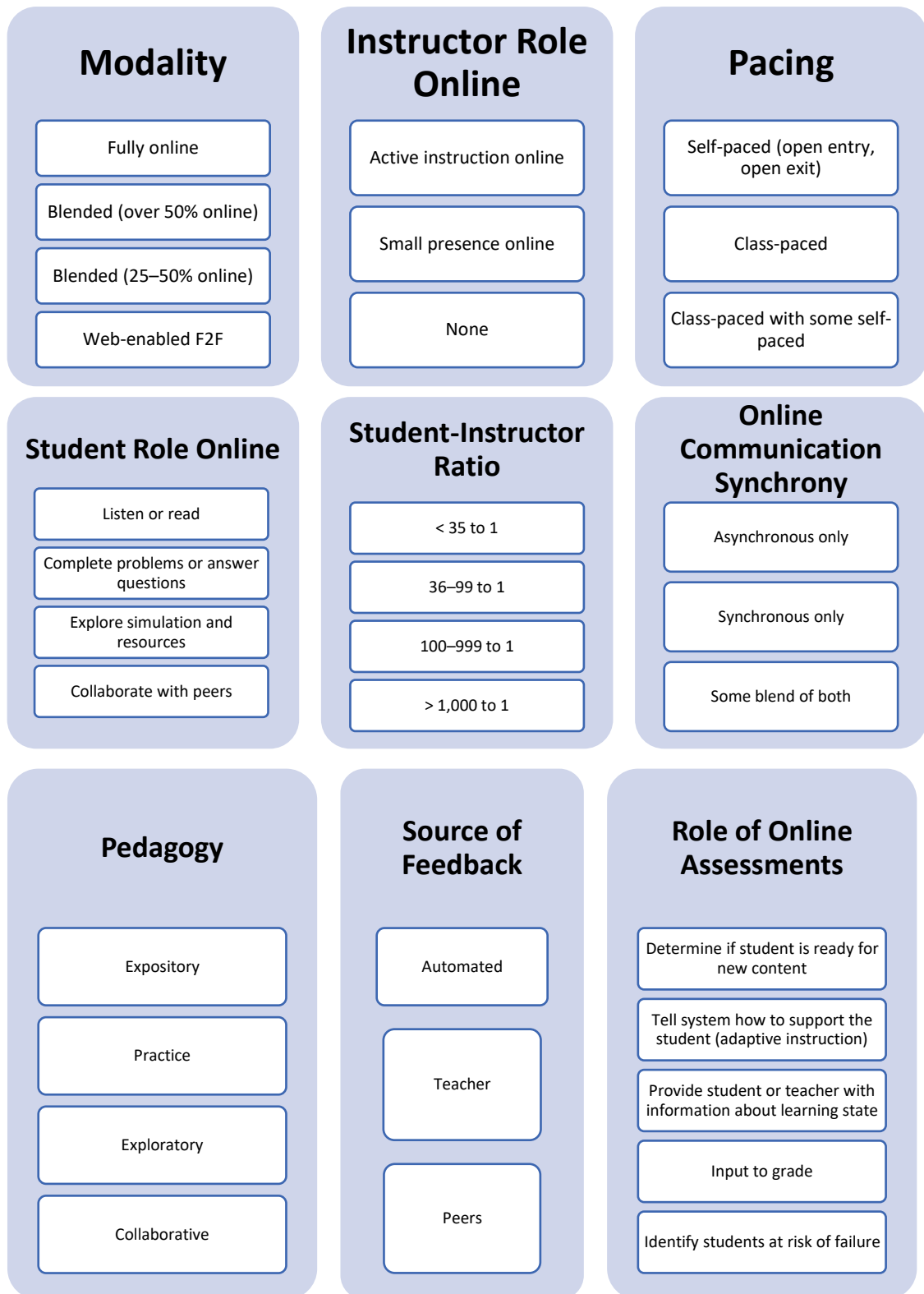


Figure 2: Online learning design options for effective online education (Hodges et.al, 2020)

ERTL is temporary, as mentioned above, it is not adequately designed or well thought out before the commencement. It also means that students may not

have much choice because it is a reaction to a crisis, i.e., COVID-19. Faculty support and access to essential resources may be crippled or under-provided depending on many factors such as the institution, occurrence of crisis, etc. This also means that to find a plausible solution to the problem mentioned, this research must use a framework that accommodates the evaluation of the student, teacher, and content dynamics within an online learning environment that is immediate, temporarily unplanned., and integrates technology. Hence the use of SAMR and Andersons Online learning model.

1.4. Conceptual Framework

1.4.1. Introduction

The research question at hand: *How do university students experience working and learning remotely during a pandemic ?* is essential for many reasons that includes the importance of remote learning aptitude in satisfying the educational needs of a student at a level that is equal or more than that of face to face or traditional learning. This means that, although a sudden pandemic would significantly impact the learning and teaching process, the alternative learning provided must satisfy and complement - to the utmost degree conceivable – the course outcomes. This question is important because the experience is determined by the academic lecturer's approach in designing the learning and the material, tools, and resources used in the designing process.

In many instances, remote learning requires a student to be connected to the internet and access a desktop or personal computer to access learning. Supplementing this requirement is necessary for adequate technological skills and confidence to carry out tasks and activities within the online learning environment. All these factors affect student experiences; student experiences, in turn, affect the image, acceptance, design, development, and continuity of remote learning. The problem defined by this research paper was: *remote learning, an alternative form of educational provision, may have profound implications and opportunities for students regarding the achievement of equal and equitable access to education.* Also, the problem partly defines the reasons mentioned above regarding why this research question is essential. In other words, this research not only looks at how remote learning could potentially implicate the educational offering from HE. It also looks at how student experiences can help enhance and transform for the better the educational offering of universities. This is achieved by understanding and providing detailed report through this research that can be implemented and integrated into the university planning and approach to learning and teaching.

What does this mean? This means to best answer the research question adequately and find a plausible solution to the problem mentioned; this research must use a framework that accommodates the evaluation of the student, teacher, and content dynamics within an online learning environment where technology is integrated into the learning experience. Hence, below, the two frameworks have been decided to be the best attempt to use regarding this research.

1.4.2. Online Learning Design Model

The theoretical underpinning for this research is a combination of two models that deal with online learning. In order to measure how ERTL performs as a form of online learning, these two models were used as they represent what an effective and meaningful online learning experience looks like from a learning design perspective. Because of this, they can be used to assess how effective, meaningful, and strategic ERTL was from the perspective of student experiences. The first model is taken from Anderson's (2004) model. Technology plays an important part in the development and practice of pedagogy and Figure 3 below shows the different agencies that are involved and the dynamic interaction that exists between them.

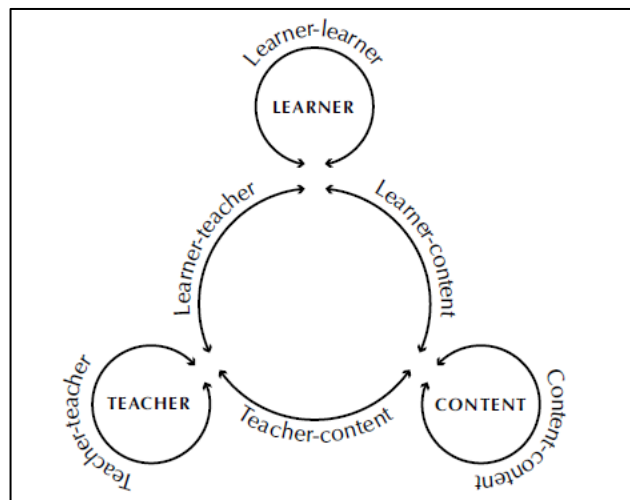


Figure 3: The different educational agencies and interactions (Anderson and Elloumi, 2004)

In their 2004 paper, Anderson and Elloumi introduce an interesting dynamic between these educational interactions: learner-content, learner-teacher, and learner-learner. Even though there are other interactions such as teacher-teacher and content-content, because this research paper is narrowed towards student perspectives, the previously mentioned three interactions are therefore priority. The research question and problem concur with using this framework because both the problem and question are concerned with student perspectives regarding remote learning. This learning model challenges students to receive and use knowledge from the teacher and the content itself

and create more content through the activities and resources empowered by technology. The educational interactions between these agencies also show the importance of feedback that happens immediately, and perhaps personalized feedback. This is quite impossible to imagine happening without manipulating the online learning environment resources, activities, and tools. Hence the significance of the teacher-content interaction. To be effective enough, this interaction must produce student-content interaction that fulfills quality learning enjoyment in an environment that encourages personalized and immediate feedback. Anderson and Elloumi (2004) consider this the best way for the online learning process to replicate the face to face environment and achieve a sense of creativity and innovation in learning and teaching.

The teaching experience or presence provided by the technological environment and academic lecturer and the cognitive network of students creates a Community of Inquiry (CoI) that enables learning and teaching – educational exchange. The student, in this case, interacts with content as well as the academic lecturer. The student, teacher, and content interaction brings about the sustainable process of creating knowledge. However, Anderson and Elloumi (2004) argue that it is enabled by these agents and the technological environment and activities carried out within that environment. Three expectations must hold in meeting the desired and intended outcomes. One, the student needs and capabilities must have been well known and accommodated. Two, the academic lecturer must be fully able to operate in the online learning environment comfortably. Finally, the resources and activities must have been assigned suitably for students to thrive and do well in the environment.

The second model, discussed below, is the Substitution, Augmentation, Modification, and Redefinition (SAMR) model, and it is used to build and strengthen this research paper's framework.

1.4.3. The SAMR Model

While the model above, by Anderson and Elloumi, provides a way of describing the interaction of different agencies, this interaction between these agencies is not without technology – technology enables the enhancement and transformation of these interactions through the SAMR model. In this context, the SAMR model provides a framework that will help gauge the activities taking place between these agents, i.e., student-content, student-lecturer, student-student, etc. (Puentedura, 2013).

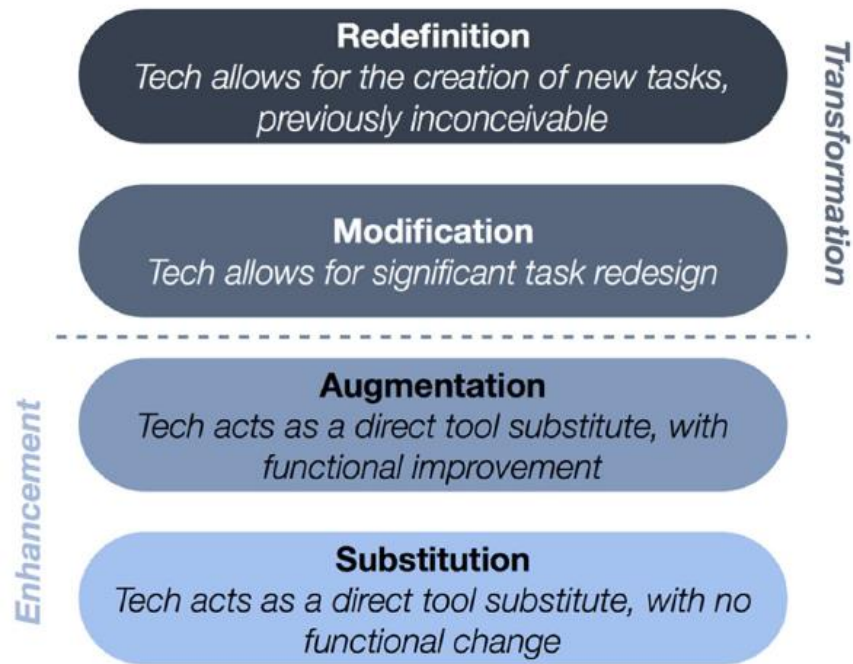


Figure 4: The SAMR Model (Puentedura, 2013).

Hence, as mentioned above, this present paper attempts to determine factors that affected the SAMR model by investigating how both academic educators and students used technological activities and resources during remote learning. The shift from enhancement to transformation means that technology is used to impact the learning and teaching processes and resources in a more complex manner as we move from enhancement to transformation. Transformation is assumed to be better in the SAMR model because of how it better influences the experience of learning and teaching, and how it both appeals and accommodates to more styles of learning, which may affect the perception that students have on the education they consume. This investigation helps understand the challenges brought by remote learning, possibly implicating access to equitable, equal, and quality education. By helping to solve this problem, the paper puts itself at a pedestal of providing meaningful and useful student experiences that will contribute to the future of remote learning and other alternative forms of education provision. The SAMR model helps categorize the different levels of technology integration, and this paper has utilised this model to categorize how students perceive the use of technology during remote learning. Survey questions were also categorized according to these different levels, and so will the coding of data to analyze student responses. This model is used in a variety of contexts. For instance, Tsybulsky and Levin (2016) used it as a framework to understand and investigate technology integration in science teaching; Romrell et al., (2014) used it also as a framework to evaluate mobile-based learning. Hamilton et al., (2016) provided a research study investigating the different contexts in which SAMR was utilized.

Of course, some limitations accompany the SAMR model, such as what many researchers have described as the model having a rigid structure that does not truly accommodate students' context, learning environments, teachers, etc. Berliner (2002), Ertmer (1999), Zhao and Frank (2003), and Ertmer et al. (2012) and many other more researchers share how the SAMR model does not accommodate the current technical expertise and knowledge of teachers and their need for support in the online learning platform. This paper will also investigate the shortcomings of these models presented above and further share recommendations.

CHAPTER 2 - LITERATURE REVIEW

2.1. Advantages and opportunities students perceive in working and learning online in comparison to traditional learning and teaching

Generally, online learning for students is typically designed and implemented over a long time for online learning purposes only (Hodges et al. 2020; Shisley 2020). In emergencies, like the COVID 19 pandemic, remote learning is only just a transient and rushed activity, and students are not fully experiencing the effective online learning that would be offered should the design and implementation be done over a long period. Because of this, lecturers also find themselves required to quickly adapt their skills and learning and teaching resources to the online learning environment (with the use of technology) to ensure that remote learning is initiated and supported over a certain period (Brooks and Grajek 2020). The literature concerning emergency remote teaching and learning (ERTLL) and how students, in particular, perceive it has been published since the pandemic, and it refers to different contexts and studies globally.

From a Chinese perspective, Shim and Lee (2020) found that many faculties in South Korean colleges applauded flexibility, timesaving, focus, and financial saving during remote learning. Other notable advantages that they cited less frequently were comfortable, educational environments, creativity, new activities, smooth interactions with other students, and efficient time utilization. Some of these facts were reverberated by researchers in other nations. For instance, Rath et al. (2019) and Luaran et al. (2014) in the United States and Malaysia respectively also observed that students were enthusiastic about flexibility as an advantage. Rath et al. (2019) found how students spoke enthusiastically about the flexibility — *“the courses can be accessed from anywhere.”* (Sentence 2, Paragraph 1 of heading 2 under Qualitative Findings) It was interesting to find that in addition to flexibility being perceived as a benefit of the asynchronous environment, the concepts of being a ‘*self-learner*’ and having ‘*success characteristics/traits*’ for the ERTL environment emerged as a fascinating finding. It is a stimulating finding that this was not the case in one faculty, i.e., only undergraduate or only humanities faculty and disciplines, but across faculty and educational level context. Amir et al., (2020) similarly carried out an investigation that reported students from Universitas Indonesia mentioning how the pandemic and remote learning allowed them to learn more efficiently, have more time to study, and better review learning material. A study in India, carried out by Kahn et al., (2020), found that students experienced the benefit of flexibility regarding time and space. In the same study, students complimented the ability to collaborate and interact with other students. In summary, the learning is one of the most important factors that can either positively or negatively contribute and affect the learning journey of the student. Simply put, the perspectives shared above show that students noted the positive influence of remote learning as it allowed them to be more

flexible, creative, and excel in their newly found home environment for learning especially when this environment is both helpful and conducive to learning.

In UAE, a paper by authors Hussein et al. (2020) shows that students perceived online advantages as cost- and time-effectiveness. Based in a UAE context, the paper confirms similar advantages as other contexts provided above and other less mentioned advantages such as increased participation and convenience. This was not the only emerging finding from this paper, but the majority of students showed that online learning improved participation and was considered safe and more convenient for students. Another finding to note as an advantage was when a total of 40 students from the research Bawa (2020) carried out commented on how remote learning afforded them more time to work on their assignments. As a linked advantage to more time and reduced procrastination, 47 of the students agreed that they were more productive and focussed when learning remotely.

As a whole, increased participation in online activities and time for assignments was found to be an advantage by students in the previously mentioned studies.

Liedholm and Brown (2002) add knowledge on how this form of online learning inspired collaboration and instant feedback that allows students to thrive in the process of learning. Karal et al. (2011) supplement these writings with the following:

“.... fostering active student participation in the process is very important for ensuring an effective education and training environment. However, these studies determined that the students were not sufficiently encouraged concerning learning during the video conference practices” (paragraph 3)

The traditional method of delivering content aids in student participation, but it still fails in many respects regarding learning outcomes. The same can be mentioned of the online learning approach that is closely related to this way of academic content delivery. Several international studies also confirmed that not all students felt a similar way about the transition, that some were much more comfortable working alone and having their family near them. As evidence of this, Aguilera-Hermida (2020) collected quantitative and qualitative data from 270 students, with 86% of them being undergraduates and the rest of them being postgraduate students. However, more than sixty of the study participants reported that they prefer online learning because of more family time. For instance, one of the studies is a study from the United States, written by Bawa (2020) collected views from 397 undergraduate students) in the US's Midwest Region. This study, unsurprisingly, showed that students appreciated more the responsibility and control that remote learning has afforded them. From the same study, a noteworthy finding is that of 148 students who found that remote learning helped them be more responsible and having more responsibility helped decrease their procrastination. Other less-mentioned advantages from the study were the ability to focus and having more time. The same study by Bawa (2020) recorded how 37 students perceived flexibility to be an advantage. Researchers ultimately found that flexibility, time, and

financial saving seem to be included in student perceptions regarding remote learning.

It was rare to find a study that had students complain about not knowing how to use the learning environment. Fewer than two studies reported students complaining about the learning environment. In sum, there is an agreement in the literature that the advantages are flexibility, time (including more family time), and financial saving. Even though there is a relationship between these advantages and others like focus, collaboration, and productivity, there was not enough literature to give enough weight to other advantages. This variance in student perceptions might suggest that researchers in different context and countries investigated students that were more likely to appreciate time and flexibility above other advantages.

Another research study, carried out by Bączek et al., (2020), found an exciting outcome from a majority of Polish students who expressed that their major advantages in remote learning were being able to study at home, having regular unlimited access to online learning resources, being able to use different learning styles and learning at their rate, as well as having a relaxed, supportive, and quiet environments. From another context-based in India, a study carried out by Sawarkar et al., (2020) revealed that students perceived opportunities associated with remote learning as being able to access and easily understand with clarity the faculty materials provided. A similar study in India, carried out by Kahn et al., (2020), found that students enjoyed the benefit of easily sharing and accessing online learning material. Two research studies, Husky et al., (2020) and Dong (2020), conducted with students in France and Bangladesh, respectively, reported that studying and accessing learning from home was an advantage, despite not being able to access the content regularly. In another context, based in Italy by De Michelle (2020), students shared an appreciation for the interaction and collaborations with teachers and fellow students as they positively affected how they perceived their learning and helped them not experience stress and fatigue. Arifiatib et al., (2020) also performed a study in Indonesia investigating the advantages students found during remote learning. The flexibility to perform academic activities at home was one of the significant benefits students mentioned, where they felt not limited by time or space. A study that found a similar result to that of Arifiatib et al., (2020) was an investigation done by Craig et al., (2020) that received feedback on students on how they perceived collaborative knowledge-building advantage during their remote learning experience. An interesting point to the research study is how the same students commented on how they enjoyed connecting with students and access with ease the available resources.

In summary, the ability to study at home in supportive environments, increased collaborations with other students, accessing and clear understanding of online learning materials were the main advantages for the studies carried out by the above researchers.

2.2. Disadvantages and barriers students perceive in working and learning remotely in comparison to traditional learning and teaching?

It is essential to take note of the challenges that students experience regarding ERTL. Although there are numerous amounts of advantages of remote learning, as mentioned in previous writing, it is also important to note students' teething problems internationally. As mentioned above, research concerning how students perceived ERTL was done globally in developed and undeveloped countries. Countries such as Pakistan were researched by Adnan and Anwar (2020). The study investigated 126 students, 64 being undergraduates, and 62 postgraduates. The research mentioned how the lack of student-lecturer interaction, response time, and absence of student-student interaction ordinarily present in a traditional classroom was among challenging issues highlighted by the students. In general, barriers, challenges, and disadvantages that students faced were divided into practical and emotional. These two types were further divided into others sets and they are further discussed below.

2.2.1. Practical Barriers

2.2.1.1. Skills essential for remote learning success

Remote learning has enabled the fast-tracking of the support for faculties and students that may have disadvantages during ERTL by providing resources and information to those that may have challenges with the transition Bawa (, 2020). Most of the notable disadvantages that they cited more frequently were the skills essential for remote learning success. Some of the barriers experienced by students were related to the switch to emergency remote teaching. For instance, one of the studies is a study from the United States, written by Bawa (2020). Consequently, the study showed that more than 150 of the participants experienced a challenge from the transition. It was not surprising to see the same from the study Zhang (2020) did with students. Zhang (2020) speaks on how students get frustrated easily with online learning when they feel like it requires them to develop new learning characteristics in the online environment. Because the transition to remote learning is immediate, it does tend to make students feel like they need to have a certain kind of '*brilliance*' to succeed in it, and this brilliance must take place overnight.

Additionally, in their study, Du Toit and Pool (2020) also mentioned that when the content and use of learning activities in the online learning environment increases, it may need students to have a certain calibre of characteristics to survive and thrive. Like in the advantages above, where some students mentioned how remote learning enables them to be more responsible and in control, some students are at the opposite end of the spectrum. In Du Toit and Pool (2020), the study found that students felt the responsibility was too heavy to carry as they felt it shifted from lecturers to them. Du Toit and Pool (2020)

reiterated that for students to take responsibility and initiative for their learning, they must have specific characteristics such as time management, self-discipline, computer-literacy, etc., to succeed in their learning processes. In some instances, these are characteristics gained in learning online, as some students in the study done by Du Toit and Pool (2020) confirmed that certain student characteristics that determine success could be again induced by being part of online learning. Gao (2020) adds to the theme of student characteristics for student success in online learning by mentioning how a majority of students from the research indicated satisfaction with the implementation of remote learning. Students mentions that it required them to have traits that some of their peers did not have based on the lack of access to resources and training as they face technological and physical constraints and shortage of time. Gao (2020) found that these traits include but are not limited to self-discipline and time management abilities. From another context-based in India, a study carried out by Sawarkar et al., (2020) revealed that students perceived their challenges with remote learning being the lack of skills to operate and benefit in the remote learning environment. As a whole, students complained about the need to have essential skills in order to be successful in remote learning. These skills are important as they enable better performance and transition into remote learning.

2.2.1.2. Internet Connectivity and Technical Challenges

From a literature perspective, some of the distractions and challenges students experienced were with reads to the lack of internet access. Some of this was due to what Khlaif and Salha (2020) called another case of '*digital inequity*'. Lack of access to computers, internet connection, technical support, and personal expertise is what sums up to inequity as Tienken (2020) calls it. Tienken (2020) mentions that providing access to resources does not deal with inequity, but that this must accompanied with support for the students in all domains of their life. Rahiem (2020) connected inequality to technological challenges such as device issues, internet connectivity, lack of technology skills, etc. Rahiem (2020) achieved this by showing how students who come from disadvantaged backgrounds in Indonesia are the ones who suffer the most regarding these challenges. The literature concerning emergency remote teaching and learning (ERTLERTLL) found that students experienced this disadvantage and barrier in great numbers, which is still in different contexts and studies globally. For example, in a more developed country like Canada, Petillion and McNeil (2020) found that internet connectivity was one of the key issues for the learners. McMurtrie (2020) followed this earlier research by asking critical and vital questions about student not having access to sufficient bandwidth. In a UAE context, a paper by authors Hussein et al. (2020) shows that most students perceived remote teaching disadvantages of online learning as technology-related and internet connectivity problems. This links to a different perspective provided in a Saudi Arabian context by Alqurshi (2020) investigated 18 different higher education institutions. This comprised of 363 and 340 undergraduate and postgraduate students, respectively. The paper, just like other papers above, had a majority (over 60%) of students mention how they struggle with attending remote learning classes due to internet

connection problems, limited interactions with teachers causing problems in doing well with the lecture materials; and being easily distracted; anxiety, stress, and fear-induced by COVID 19. In Bangladesh, Smita and Duta (2020), tertiary students were affected through frequent disruptions in students' education because of inaccessibility of computer devices, limited access to internet provision, and associated high-cost low speed. In the same country, findings of a study conducted by Ramij and Sultana (2020) concluded that most of the students raised lack of technical infrastructure, unbearable cost of the internet with associated low speed of internet as chief deterrents for their remote learning experience. Amir et al., (2020) similarly carried out an investigation that reported students from Universitas Indonesia mentioning how the pandemic and remote learning led to a negative experience of bad internet connectivity, which ultimately resulted in them carrying a financial burden internet quota. For these students from Universitas Indonesia, remote learning became a bad experience as they found it difficult to focus because of not being able to access the learning material as much as they needed.

Demuyakor (2020) performed a research study that showed results like other previous studies; it showed that students outside China, due to the COVID-19, were required to purchase internet data for online learning. The study discovered that internet connectivity was very slow for students living within various universities in China. To accommodate students, the university staff carried out the education using the following platforms to accommodate student access: namely Zoom, Google Classroom, WhatsApp, Google Meet, WebEx, Screen and Voice PowerPoint slides, Google Drive, Screen share recording, and lastly Telegram. Another research study carried out by Bączek et al., (2020) found an interesting outcome from a majority of Polish students who expressed that their major disadvantages with remote learning were lack of interactions with their patients as they were medical students. Another one was the technical problems they experienced due to the computer and software equipment they were using. Xhelili et al., (2020) also found that Albanian University Students perceived the lack of internet connectivity and the absence of technology resources as a negative. The Albanian University students reflected how this was also because they are not used to technology-based education as they prefer and are accustomed to face-to-face learning and teaching. A research study that intended to find a connection between internet connecting poverty, carried out by Stelitano et al., (2020), found that high-poverty academic institutions, communities, and households had a high probability of reporting students that lacked internet access at home and in their communities. The study also found that students who faced technical challenges with their computers or resources were more likely to not communicate well with other students and lecturers, or even have meaningful interactions and relationships with family at home.

In sum, students perceive that internet connection is a challenge for completing work during remote learning and the studies above show the relationship between this disadvantage and lack of readiness associated with ERTL. This is not only a problem in countries that may be considered poor or

developing, but everywhere in the world as seen in the studies mentioned above.

2.2.2. Emotional barriers

2.2.2.1. Home distractions

An exciting research study finding was that of Petillion and McNeil's (2020) research and multiple other research papers that showed how distractions related to family and learning spaces led to stress and anxiety (mentioned in the next sections) for many students. Regarding this matter, Petillion and McNeil (2020) reported that 67% of the 64 respondents in their study indicated some level of agreement that peripheral stressors not directly related to their coursework (e.g., house chores, personal routines associated with being home, health, family members were an adverse influence).

The same paper referenced above by authors Hussein et al. (2020), shows that most students perceived remote teaching disadvantages of online learning as a distraction, workload, and technology-related problems. The students investigated came from two general English courses at a university campus in Abu Dhabi in the United Arab Emirates. Other notable disadvantages that they cited less frequently were problems with the internet and inadequate provision of academic and social support from instructors, colleagues, and other students. Tienken (2020) also mentions the issue of inequity that many students face in their home environments because of not obtaining access to resources that goes along with support. Some of the support the students' needs is from their parents and siblings and if they do not receive this support, they struggle to focus and perform well academically.

As a whole, home distractions became a highlight for many of the students and this goes together with the lack of support at home from family members.

2.2.2.2. Mental health and well-being

The literature concerning students' mental health aspect during ERTL has been published globally from different context and studies around the globe. Cao et al., (2020) performed an interesting study with 707 students from Changzhi medical college in China regarding their mental health state during the pandemic. The study shows how students perceived living conditions, economic effects, daily living, and academic activities during ERTL were directly related to anxiety. Ultimately, anxiety was associated with the mental health deterioration of the majority of students involved in the study. The paper concludes with a request for the prioritization and monitoring of students' mental health during epidemics.

Interestingly, by authors Hussein et al. (2020), the paper above mentions the same request when mentioning that institutions should implement a pedagogy

of care and rank human well-being above other priorities. Husky et al., (2020), in a study conducted with students in France, reported that Two-thirds of students experienced an increase in emotional and psychological anxiety during their learning and teaching confined in their homes. The study reported that having students confined in their homes led to them experiencing an increase in social inequality and a sharp upsurge in stress. Islam et al., (2020) also reported the same when carrying out a research study investigating depression and anxiety amongst university students in Bangladesh. The majority of the study participants reported that they struggled and faced severe levels of anxiety, depression, and stress during remote learning. It was interesting to find in another study by Marelli et al., (2020) that lack of sleep during remote learning in COVID-19 led to heightened levels of insomnia for students, and this contributed to them not doing well academically because of the associated emotional and psychological effects of insomnia, i.e., mood swings, depression. It was interesting to find that the lack of sleep affected students negatively and another study done by Tang et al., (2020). The students in Tang et al., (2020) investigated a sense of fear of the pandemic that led to them not getting enough sleep, which ultimately resulted in them experiencing PTSD, anxiety, and other mental health problems. Hebebebi et al., (2020) received feedback from students during their research and noted how students perceived constrained interaction with their peers, lack of equipment, and technical problems as challenges that contributed to their emotional and psychological strain.

Some of these facts were stated by researchers in other countries. So, Trung et al. (2020), conducted a study with 395 students from the Universities in Vietnam, intending to find out how students in the university perceived and were affected by the shift to ERTLE during the COVID-19 pandemic. Although the research finding that students in the university expressed good response academically and cognitively to the pandemic and the academic shift, it also reports that several students experienced subjective expressions of excessive anxiety and negative emotions. Petillion and McNeil (2020) also acknowledged that the switch was a source of stress for some, and for others, it affected their interest, learning, understanding, and interaction with their course. This is not a surprise, as Jeffery and Bauer (2020) from the University of Hampshire surveyed a total of 124 undergraduate students in nine chemistry courses at all levels of study. The study reported similar findings when they described that their '*modal rate of 100 exchanges per day dropped to less than 10 per day once online*' (pg.16). The utilization of learning resources deteriorated by an average of numerous hours per week and interacting with peers was most frequently one of those hours lost. As if this was not enough, Jeffery and Bauer (2020) reported that 80% of the participants in their research study described the transition from face to face to remote learning damage and a problematic trial. Some of the students were angry and expressed sadness, hopelessness about whether they would be able to learn effectively and constructively as they would in the traditional environment. In Bangladesh, findings of a study conducted by Ramij and Sultana (2020) concluded that many students raised lack of financial calamity of the family and mental pressure as chief deterrents for their remote learning experience. Another interesting study was carried by Yang et al., (2020) on the opinions of university students from Wuhan during

the pandemic. The investigation reported students' opinions that expressed prevalent and heightened psychological and emotional stress.

An interesting paper, written about a Saudi Arabian context, by Alqurshi (2020). The, paper, just like other papers above, had a majority (over 60%) of students mention how they struggle with being easily distracted; anxiety, stress, and fear induced by COVID 19. To provide a perspective of Arts Education students, researcher, Simamora (2020), reported that the participants in the study reported high levels of anxiety that psychology affected their progress with remote learning.

On the whole, there is an agreement in the literature to date that the disadvantages and barriers were distractions, internet connectivity, lack of social interaction, lack of academic and technological aid, and negative emotions resulting from stress and lack of motivation.

2.3. Perceptions of the full scope of technology integration that Emergency Remote Teaching manifest (SAMR model)

The introduction of technology in a class environment can, directly and indirectly, help the students improve their digital savviness, affinity, and competency. This helps them improve their online learning experience as competence during ERTL hinges on their digital skills. Swiger (2020) used the SAMR model as a lens in examining the perceptions of both students and lecturers regarding their online experience and integration of technology in the different facets of learning and teaching. Swiger (2020) mentioned how students doubt the commitment of lecturers towards their lecture content and activities. Teaching presence forms part of the Col, and Taylor (2016) defined it as the *“design of the course before students get access and the instructor's involvement in facilitating the course throughout the semester.”* (pg.19)

New factors and dynamics in learning are introduced by integrating ICT in the learning context or environment. The SAMR model is introduced to help lecturers introduce technology in their class at the students' digital competency to maximize the quality of learning in a complicated time of changing and developing technology. The levels of technology integration are provided from literature to expand how they can be used in teaching and learning.

2.3.1. Substitution

The literature concerning the substitution element of SAMR during emergency remote teaching and learning (ERTL) and how students, in particular, perceive the integration of technology in the learning and teaching environment, since the pandemic, refers to different contexts and studies globally. Some of the literature is a study by Wahyuni et al. (2020). Substitution level refers to the technology used to substitute other learning activities without functional change. The teachers' activities could be seen, for example, online checking

attendance instead of the paper-based attendance list. The context for technology integration was an English class of 54 students in Central Java, Indonesia. Their application of the SAMR model included roll call, file sharing, reading, and assessments, all being substituted with a cell phone, PowerPoint slides, email/WhatsApp, Instagram, Edmodo.

2.3.2. Augmentation

Augmentation refers to the technology used to replace other learning activities but with additional functions. The infusion of technology into teaching and learning activities performed by the teachers has undergone this augmentation level. For example, the teacher's embedded media such as pictures, graphs, audio, and videos into the presentation to gain students' attention and enhance their learning. Use of Google Docs and Google Slides to facilitate students' collaborative work of designing a biography. The teachers also used Edmodo, Google Classroom, Google Drive, Google Docs, and Google Slides to share files, information, tasks, assignments, quizzes, formative tests, and final tests with time restrictions. The students also used their cell phone camera to photograph and record their speaking activity of transactional conversations. After the recording activity, they might do some editing by using Kine Master video editor before they finally posted it on Google Classroom. This task aimed to enhance students' confidence and creativity. This is in line with the previous researcher showing that creating such videos using cell phone cameras could enhance English learners' confidence and conversing speed.

2.3.3. Modification

Wahyuni et al. (2020) defined modification as the technology being used to reshape learning activities. This can be seen in the teachers' adoption of the learning management system such as Google Classroom and Edmodo for posting questions and discussions. This activity allows teachers and students not only to interact but also to solve problems. Another learning activity of using technology to enhance learning, which fell into modification level, was that students worked collaboratively completing a biography text. The biography could be in the form of books, comics, documentaries, and movies. To complete the tasks, the students needed technology tools such as cell phone camera to take pictures and record the interview process. This included laptops to process the data; Google Docs to collaboratively write a text, and Google Slides to collaboratively design the presentation as well as an LCD projector to present the project work. They also utilized another application, such as Kine Master, to edit their movies. This is complementary to the previous study applying eMASE (Mobile Assisted Social e-Learning) for a conversation class.

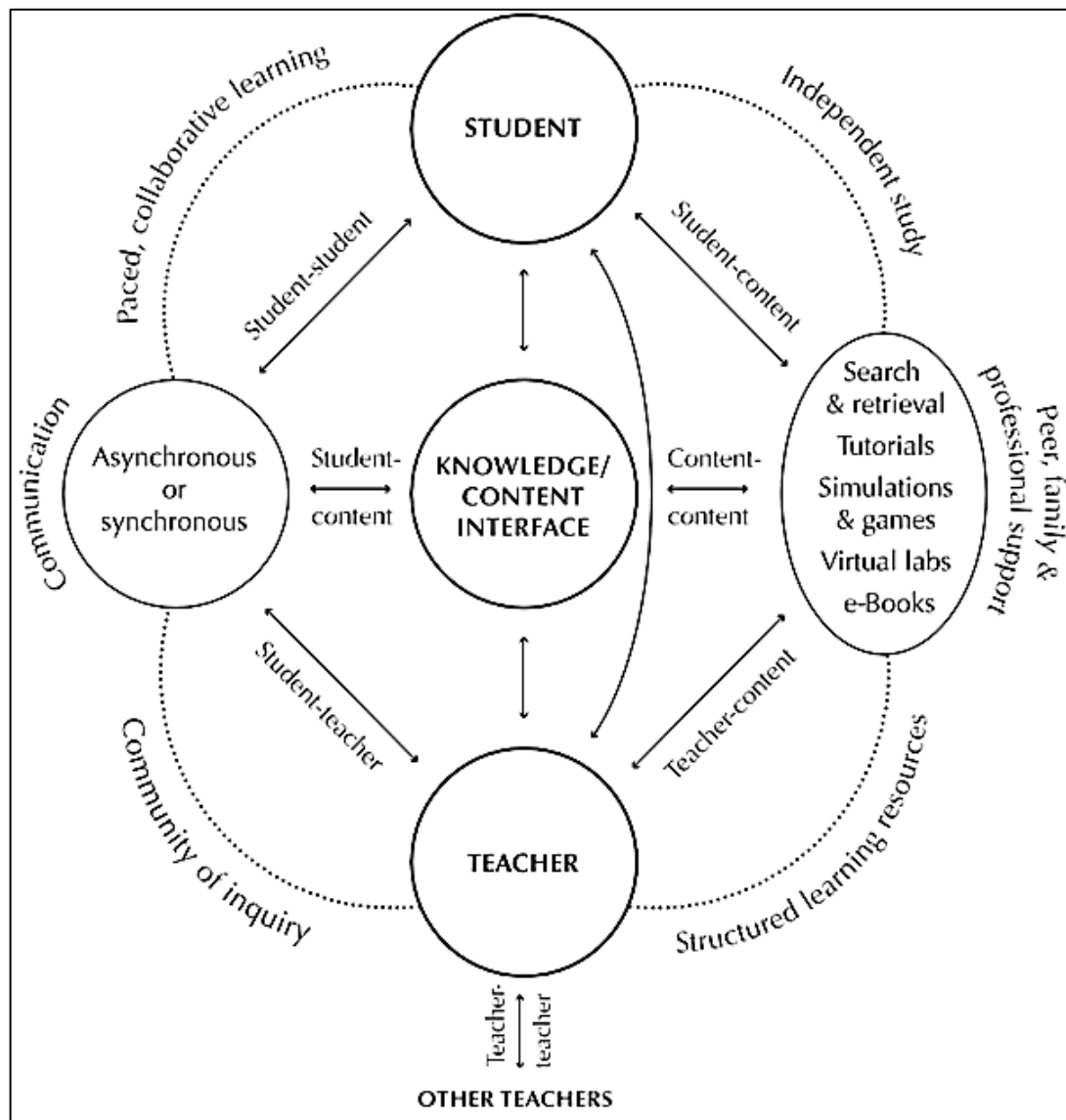
2.3.4. Redefinition

Wahyuni et al. (2020) demarcated Redefinition as the technology being used for the creation of tasks. Other tools cannot replace the integration of technology as the class activities are modified. Classroom activities

undergoing the use of technology, which fell into redefinition level, are speaking and writing. The students completed the project work by making a video of the transactional conversation, designing a biography text in the form of movies, and posting them on Google Classroom and Edmodo. Without these learning platforms, the students would not be able to demonstrate their creation and creativity. Besides, the teachers and students used various Google applications, including Google Docs and Google Slides, to create various multimedia elements to demonstrate learning. It also allows peers to comment on their friends' work, and this encourages critical thinking. Google applications also enable students to create, collaborate on project work, and share it with their teachers and friends for feedback and comment.

2.4. Students perceptions of educational interactions in working and learning remotely (Anderson's model)

Some of the literature included was researched before COVID 19 from



universities that carried out remote learning. These are useful in this research as they support matters raised during findings and current research. They highlight the need to have this kind of study and ultimately act as a reference point to affirm this study's findings and other studies in different locations. This part of the literature concerns emergency remote teaching and learning (ERTL) and how students perceive interaction with other students, content, and academic lecturers or teaching assistants. Figure 5 below shows the full scope of the three educational interactions that will be further explained below.

Figure 5: A model of online learning (Anderson and Elloumi, 2004)

2.4.1. Student-to-student Interaction

To shed light on the part of the social presence of the CoI, Brownsell (2016) noted in the paper the impact of online learning on student-student interactions. The study states and underpins the importance of student-student interaction in educational philosophy, and if this element is missing, it may impact students learning experience. Since the pandemic, different contexts and studies globally have reported on the perceptions of students, and one of the studies is a study from the United States written by Bawa (2020). The study collected views from 397 undergraduate students in the Midwest Region of the US.

Most students found that student-student interaction was complicated because of the different time zones from the study above. This is not surprising, as the majority of students did not have a challenge of time zones. As mentioned earlier, student-student interaction is important for a sense of community as it allows students not to feel like they are alone and allows them to share, discuss and enable a similar environment they would have in a traditional educational setting. This was not so different from what Demuyakor (2020) found when performing a research study that includes a total of 71 undergraduates and 198 postgraduate students. The research shows that most students felt that online learning did not impart a sense of community with other students as a traditional environment would. The researcher identified this to be caused by the difference in time zone. This is not surprising as this was the same reason that led students to not feel a sense of community with the research above by Bawa (2020).

A paper from the University of Peshawar in Pakistan, investigated by Butt et al., (2019), showed that there are circumstances where student-student interaction is evident, and students and the social presence is positive. Butt et al. (2019) showed how students mainly perceived the student-student interaction on a theoretical basis where they needed academic support. Most of the students mentioned, *"Most of the research participants mentioned that they liked to interact with their friend circles only. Their respective circles of friends seem to give them a comfort zone for interactions."* (p.10, paragraph 3) In another research study, Du Toit and Pool (2020) used comparison and thematic analysis to clarify the student expectations regarding a blended learning approach. The study used six broad categories to investigate student experience and expectations, including other students' support. This touches on the mentioned online learning model by Anderson and Elloumi (2004), showing student-student interaction, emphasizing how students are reservoirs of knowledge and learning for each other in the learning environment. This also means the student-content and student-teacher interaction plays a role in the student-student interaction.

Another study that shares a similar sentiment on this issue is by Jeffery and Bauer (2020). A paper titled: Students' Responses to Emergency Remote Online Teaching Reveal Critical Factors for All Teaching, investigates and explores the experience of 40 students at an Australian university. The study is a mono-method that collected quantitative and qualitative data through a survey. It is based on learnings about students' perceptions in learning

chemistry lab experiments online. Regarding student-student interaction, Jeffery and Bauer (2020) mentioned the following:

“As mentioned previously, students’ struggles due to the lack of interaction with their peers and instructors, particularly the inability to get real-time clarification in-the-moment, remained a dominant pattern. Students mentioned that the lab felt ‘completely detached from other humans’ (General) and that ‘there is no one to help’ (General). Students often mentioned the importance of being able to ask questions or have discussions with their TA in order to understand what was happening.” (pg. 2482, paragraph 9)

This touches on the mentioned online learning model showing student-student interaction, emphasizing how students are reservoirs of knowledge and learning for each other in the learning environment Du Toit and Pool (2020). Jeffery and Bauer (2020) on the above extract shows how learning designed and focuses for students is important and must fulfil collaborative learning.

In sum, the students from different contexts and countries perceive the real importance of human interaction and teachers' presentness in the learning environment and how this relates to students' success and their positive experiences and perceptions about the learning environment other entities involved. The study done by Jeffery and Bauer (2020) emphasizes the matter, even more when the students investigated mention that they had difficulty focussing, unlike other students in the previous studies above who mentioned focus as an advantage resulting from remote learning. Without a doubt, students miss the hands-on experience provided by the face-to-face learning and teaching experience as they feel this makes them miss the understanding of their academics (Jeffery and Bauer, 2020).

2.4.2. Student-to-lecturer Interaction

The presence, accountability, and commitment of the lecturer impact the students' perception regarding their online learning experience. Taylor (2016) reflected on this notion and brought about a fair comparison to how students experience it face-to-face and how this experience informs their online learning expectations. Taylor (2016) gives an interesting perspective to the importance of connecting between the lecturer and students when mentioning how important teacher-presence is to the student. Taylor (2016) also mentions how the interaction between students and instructor needs to be purposeful and without a long delay in the online course. Students need to know that their instructor is present virtually in the course. It is one thing that separates the fully engaged online course from correspondence or self-paced course. This emphasizes the working together of lecturers and students to build networks amongst subject matter to make integrated learning possible. Content isolation or meaningfulness for students is directly impacted by this relationship (Ertmer, 1999). This is why Taylor (2016) recorded the student participants and their perceptions regarding student-to-student interaction, and student-to-instructor exchanges and how they directly increase student satisfaction in online courses.

An interesting paper, written from the Saudi Arabian context by Alqurshi (2020) investigated 18 different higher education institutions. This comprised of 363 and 340 undergraduate and postgraduate students, respectively. The paper, just like other papers above, had a majority (over 60%) of students mention how they struggle with attending remote learning classes due to internet connection problems, limited interactions with teachers causing problems in doing well with the lecture materials; and being easily distracted; anxiety, stress, and fear-induced by COVID 19. Countries like Pakistan carried out research named: Online learning amid the COVID-19 pandemic: Students' perspectives, by Adnan and Anwar (2020). The study investigated 126 students, 64 being undergraduates, and 62 postgraduates. From this study, 42.9% of students reported that they experience problems while doing group projects or assignments through remote teaching and learning, while 34.1% of students feel that group projects and assignments can be completed digitally.

Regarding face to face interaction with the lecturer, 78.6% of students reported that face-to-face contact with an instructor is pivotal for remote learning and teaching. Student-lecturer interaction feeds into student-student interaction, and part of this begins from how the lecturer-content relationship was structured. This relationship sets up the tools, resources, activities, etc., in the online learning environment that lead or impact student-student and student-lecturer interactions. Krishnamurthi (2005) mentioned this when stating that: *"These essential components of student-teacher interactions should also be incorporated in internet-based (online) courses to enhance student learning and capture the positive aspects of face to face courses."* (Paragraph 2). From research done by Bawa (2020), 31 students mentioned how the lack of teaching and learning momentum in a classroom is directly affected by the lack of interaction with the lecturer. These students found it hard to enjoy and adapt to remote learning because of the reduced student-lecturer interaction. It was not surprising that most students thought of the lecturer as easy to communicate with and approach. The student mentioned that the lecturers ensured to send them due dates via emails.

In summary, Gao (2020), investigates the perceptions of 40 students at an Australian university. The study is a mixed method that collected quantitative and qualitative data through online questionnaires and interviews. It is based on considerations about students' difficulty and strategies to learn Chinese Characters in remote delivery. On this issue, Gao (2020) places importance on the importance of a lecturer for the academic, social, and emotional support and success of the student. If instructors lack experience or understanding of the online learning environment and the tools that are integrated into the system to enable student interaction and task completion, the studies above shows that this will reflect on the confidence of students to complete these tasks and engage with lecturer, content, and other students. Students need support and someone to consult with immediately should they struggle with remote learning (Schultz and DeMers, 2020). This is important in helping students concentrate on learning, feeling self-assured that their queries will be answered appropriately to obtain an uninterrupted learning experience.

2.4.3. Student-to-content Interaction

Thompson et al. (2017) added to this body of knowledge student-content and how it is essential to use it as a lens in selecting and allocating technological tools that will help students interact better with content, and this to ultimately and positively impact the social presence of the learning and teaching environment. A research study that engages this subject matter is Du Toit and Pool (2020) that emphasizes student-content and student-teacher interaction playing a role in student-student interaction. Some of the literature included was researched before COVID 19 from universities that carried out remote learning. These are useful in this research as they support matters raised during findings and current research. They highlight the need to have this kind of study and ultimately act as a reference point to affirm this study's findings and other studies in different locations. Bawa (2020), in the investigation of student perceptions regarding remote learning, found that students perceived it hard to watch online videos or lectures as they were not able to fulfil the activity of asking a question in real-time. The Student also reports that the amount of content they were given was excessive as they had to do three weekly assignments, and this had the lecturer communicate with them about assignments that are due. It was interesting to find that students were content with doing work with other students but experiencing significant challenges regarding the amount of content in group projects.

Countries such as Pakistan carried out research that investigated undergraduates, and postgraduates. From this study, 42.9% of students reported that they experience problems while doing group projects or assignments through remote teaching and learning, while 34.1% of students feel that group projects and assignments can be completed digitally. To provide a context of international students in the same challenge, Demuyakor (2020) performed a research study involving a total of 71 undergraduates and 198 postgraduate students. The research shows that students felt that their interaction with academic texts, software, videos, and some other forms of materials recommended by the teacher was good enough to help a student meet the required expectations of learning.

In summary, and as mentioned in the other studies above, should there be any issues, barriers, or challenges with lecturer-content interaction, this can cause issues, barriers, or challenges with student-content (Swiger, 2020). The more students are satisfied with academic content teaching and learning, the better and more positive learning experience they will obtain with their interaction (Scagnoli et al., 2017).

Scholarly research on student experiences of learning during the COVID-19 pandemic is being published at a great rate as can be seen by this overview from more than 10 countries. It is clear that flexibility, convenience, family time, and ability to manage own working schedule were found to be priority advantages from student perspectives. While, internet connection, emotional health issues, lack of collaboration and interaction, and distractions were amongst the priority disadvantages students mentioned.

CHAPTER 3 - RESEARCH METHODOLOGY AND DESIGN

3.1. Selected Methodology

Saunders et al. (2009) have added value to research with the introduction of the '*research onion*', as seen in Figure 6, which represents different layers of research methodology. These layers are included here to explain how the research study arrived at the selection of the layers shown in Figure 7 below.

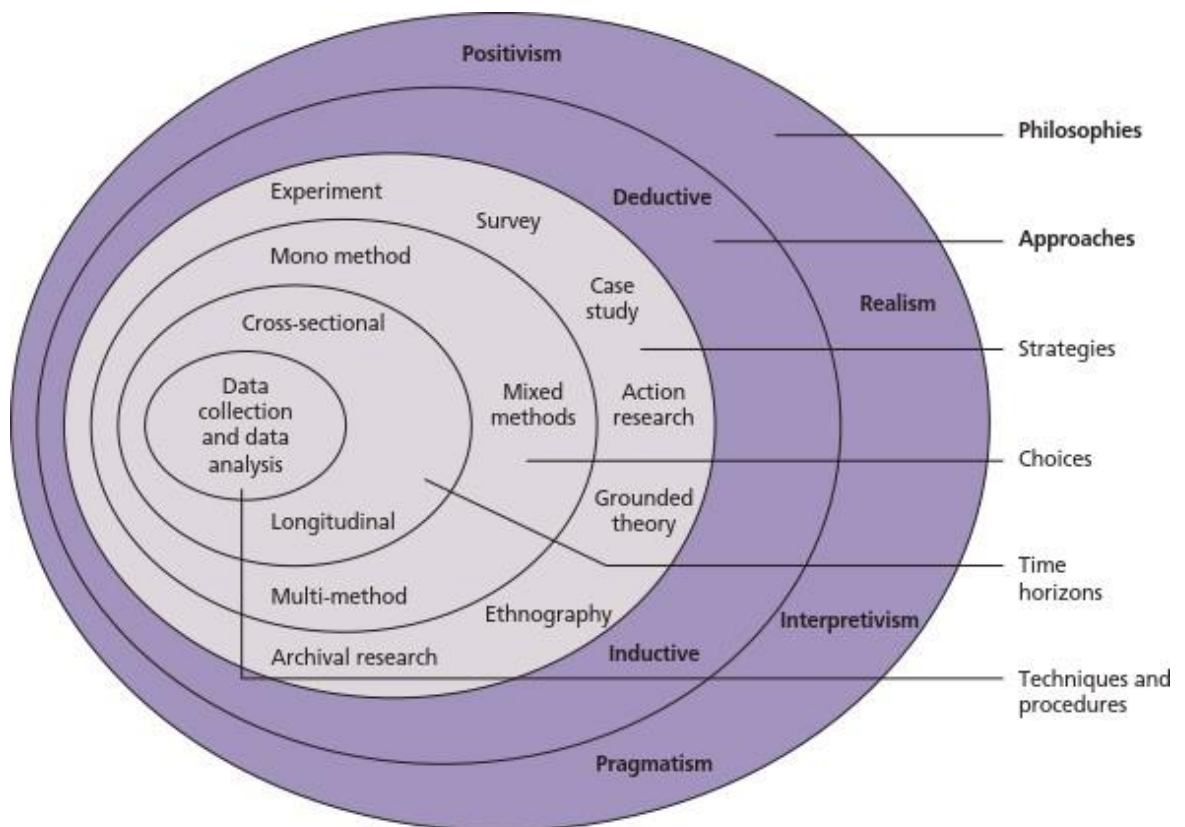


Figure 6: The Research Onion (*Saunders et al., 2009*)

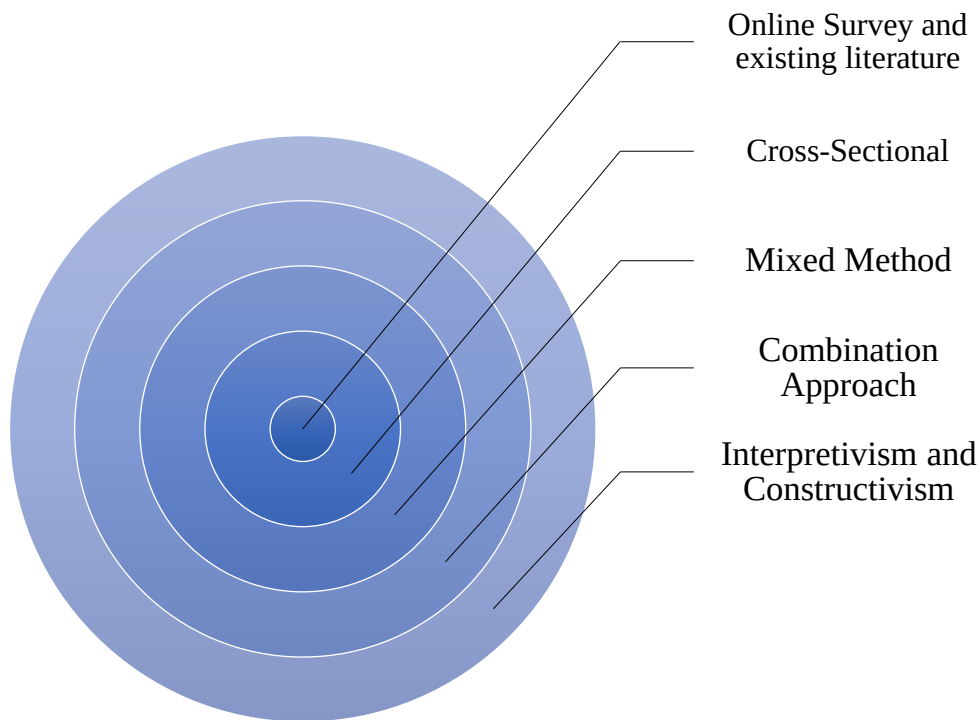


Figure 7: Selected research methodology (adopted from *Saunders et al., 2009*)

This research's epistemological stance is firmly an interpretivism philosophy as the research looks more into institutional and cultural experiences and practices of subjects, as mentioned by Hammond and Wellington (2013). Saunders et al. (2012) expresses the same sentiments saying: *"Researchers need to make sense of the subjective and socially constructed meanings expressed about the phenomenon being studied"* (Paragraph 3). The ontological angle is determined using definitions, meanings, and assumptions about the research topic's nature based on what subjects share from their experiences and practices. Constructivism as the angle of this research appreciates that in the university context, the subjects have a mental interaction with the processes, activities, institutions, values, and staff of the institution through ERTLL. These mental experiences of participants will be captured from the subjects of this research as seen from the research question and sub-questions. The research will have a combination of deductive and inductive approaches to address (test) already existing questions from the research topic and attempt to deal with the multiple outlooks that will result from theory and subject interaction (generation of new data). Saunders et al. (2007) mention the differences between longitudinal and cross-sectional time horizons and the two approaches regardless of the research methodology. This study's nature has a limited timeframe (COVID-19 pandemic) and hence

requires that a cross-sectional approach be taken regarding the time horizon. The mixed-method was selected as the research choice as qualitative and quantitative data analysis, and collection will be performed while doing the cross-sectional analysis.

3.2. Defining Mixed Methods

The complexity of the research study's main and sub-questions required that a mixed-method study be carried out. As defined by Creswell et al. (2003), a mixed method study involves the concurrent collection and analysis of qualitative and quantitative data for a research study. This complexity involves many factors, which include the need for legitimate data, the background/context of the study, and the need for more differentiated evidence to support the outcomes of the research.

The study combines both elements of the two approaches, which involves using qualitative and quantitative viewpoints, the collection and analysis of data, and later on, in the study, the conclusion will be drawn out using these two approaches. Because of the controversies surrounding this method, the researcher is tasked with accepting and expecting the research to bring out two different viewpoints from either qualitative or quantitative, and the challenge is to bring about a healthy and well-founded reconciliation of both approaches. This methodology will, as seen from this research, will affect the direction of the collection and analysis of the data with a specific focus to bring out results that provide a better and more practical understanding and interpretation of the research problem than if only one approach (qualitative or quantitative) was used.

3.3. Legitimation, Reliability, and Quality of the Research

Legitimation, reliability, and quality indicators are used for quantitative and qualitative research. The indicators used are credibility, transferability, consistency, and verifiability. The paper adds to existing and future research because it speaks to the daily experiences of ERTLER by students and will also be able to provide quality data, that when coded, would produce verifiable consistent, and credible data. The research method used sample integration to ensure legitimation, reliability, and quality, which is discussed in the section below.

As mentioned above, this research is of mixed-method nature, and because of this, indicators that show the value of truth, applicability, uniformity, neutrality, and verifiability of the paper are considered to necessitate acceptability and credibility. To ensure that trustworthiness is gained for this research, rigorous methods such as objective participation of participants, use of multiple data sources for credibility, and an ensured that students give and confirm confidentiality of their participation. The variability of participant characteristics is ensured, and the lack of generalizability from the extraction of comments.

Using Teddlie and Tashakkori (2009) approach for legitimization in the mixed study, this research study also found that the design quality of research is strengthened by three factors. These are namely suitability of its questions, consistency that will be derived in both approaches to solidify outcomes of research, and the distinct, plausible, and credible interpretations of data collected from participants as well as the conclusion.

The research is about student perceptions; ensuring variability of participant characteristics, background, and academic year of study will aid in credibility and verifiability. Unlike in quantitative research, which only works with reliability and legitimization as indicators, this research used three researchers who have finished their Masters to clear any obvious and unnoticeable bias from data collected by the writer through coding and the inclusion of raw data and quotations. This is done to ensure the consistency of the paper. The research's supervision assisted in ensuring the consistency, originality, legitimacy, reliability, and quality of the research is maintained. Verifiability is not always easy to implement. Because this research looks to ensure that the best approach to verifying the data from participants is correct, a few participants, each representing a faculty, were approached and asked about the faculty students' practical experiences in the findings section. The analysis of data, findings, conclusions, and the raw data was checked consistently and thoroughly to ensure verifiability, and other researchers were asked to aid in this activity and correct and comment on any finding that will verify the research data outcomes. These methods, approaches, and techniques are adopted to ensure the research's quality is up to standard.

3.4. Working Assumptions

This research must draw clarity on the assumptions made, primarily through the research question and sub-questions. The general assumptions associated with this paper are the possibility of arriving at conclusions that generalize on ERTL and perspectives of a student body by considering students originating from the same institution, exposed to a certain quality and quantity of online learning material and human capital expertise. Perhaps another assumption that is common within research papers is that of participants' truthfulness and that the matters discussed are assumed to be engaging and non-mundane enough to produce complete truthfulness from the experience of remote learning. Another general assumption the paper may hold is the variation of participants' characteristics and how these contribute to the conclusion of the paper.

With this mentioned, the paper will attempt to represent the best of what comes from the student and encompassing research and will either reject or accept assumptions made during the different stages of the research.

3.5. Sampling and Data Collection

3.5.1. Sampling

The study participants were desired to involve students from different racial, social, economic, faculty and department, and geographic backgrounds to aid the variability of research. Social media and student platforms such as Facebook, Twitter, LinkedIn, Instagram, WhatsApp, and Telegram were used to achieve this desire. All faculties were approached to send an email to their cohort of students to reach as many students as possible. Since the university provided computers and zero-rated internet access to students, the surveys were completed online due to the national lockdown, restricting movement, and group gathering. Another measure taken into consideration was whether a student was male or female, and the attempt for this research was to reach a balanced number of female and male participants concurrent to the University of Cape Town student population. Personal male and female contacts were contacted and asked to participate by the researcher and encouraged them to communicate with their contacts in the social media groups to participate. By using an attached link to the survey as will be explained in Chapter 3.5.2 below. Using different faculties to send an email and using social media was also to attempt to reach out to both male and female students.

The students' experience with regards to working and learning remotely is also measured in this paper using the preference and perception scales. The preference scale evaluated the degree of the students' preference for remote learning over face-to-face learning. Data concerning the Preference scale is shown in both Graphs 5 and 6. The Perception scale evaluated the degree of the students' perception of working and learning remotely. Their Perception scale (difficult or easy) showed that students perceived the current form of remote learning as difficult but still doable with others perceiving it as impossible to do. Both the Perception and Preference scale showed significant difference in the experiences and views of the students regarding remote learning. For the quantitative questions, Close-Ended Items (CEIs) were recorded using 5-point Likert scale ratings from 'strongly disagree' SD = 1 to 'strongly agree' SA = 5. This was deemed as a suitable scale to determine respondents' attitudes and perceptions by asking them to choose to place themselves on a scale regarding a given statement. The student qualitative data is coded according to Participant faculty (Law = Law, Health Science = Hea, Engineering the Built Environment = EBE, Science = Sci, Commerce = Com, Humanities = Hum, location (Rural = R, Township = T, Suburb = S), and the participant number (1 – 707).

The medium used for the online survey was the Google form. The online survey provided a necessary and viable platform to get different insights and more in-depth information in a more economical and valuable manner during COVID19. The challenge with this option would be internet access by students, and their availability as this will be during their first semester. The students who participated did not send any quarrels regarding accessing the survey,

and the assumption is that the students who did not participate were not reached, were not able to participate, or did not have the time to participate.

The data collection period was initially planned for two months and started from May 25th through July 25th, 2020. The data collection period for the questionnaire for six weeks. The response is calculated as follows:

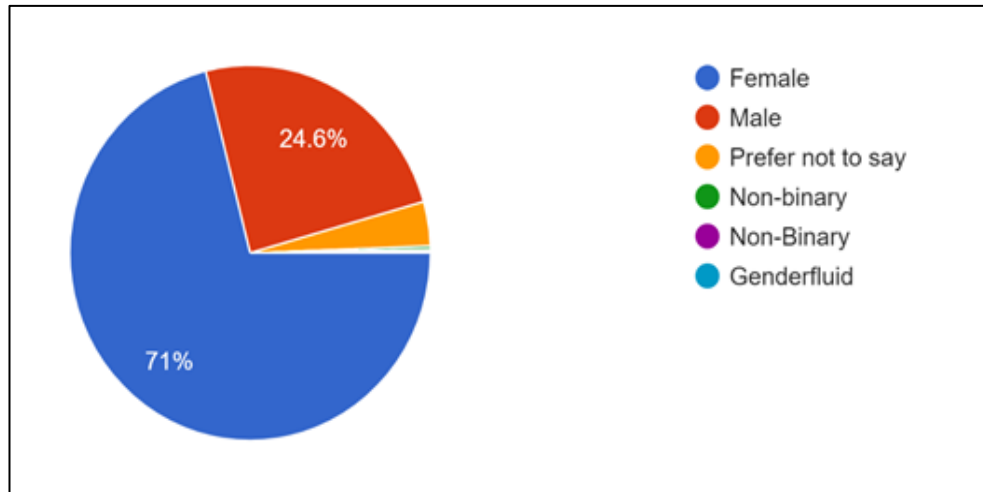
$$\frac{\text{No. of responses to questionnaire}}{\text{No. of people sent the questionnaire to}} \times 100$$

In 2018, the total number of females at UCT was 15 284, with males being 13 301. The total number of students' questionnaire was then sent to a combined 28 585. As explained above, the survey was sent through Facebook, Twitter, LinkedIn, Instagram, WhatsApp, Telegram, and email to students to reach as many students as possible. The student response rate is:

$$\frac{707}{28585} \times 100 = 2.47\%$$

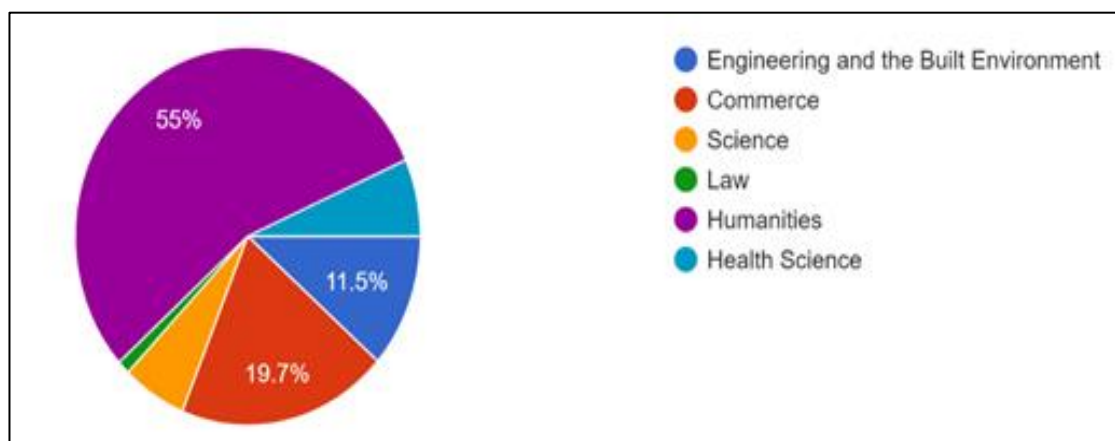
3.5.2. Data Collection

The study included 707 participants who attended emergency remote learning at the University of Cape Town. To get the students to respond, social media and student platforms were targeted. The platforms were: Facebook, Twitter, LinkedIn, Instagram, WhatsApp, and Telegram. On Telegram and WhatsApp, the status option was used to show the link as well as asking fellow researchers and friends to share on their statuses. On Instagram, Facebook, and Twitter, the link was shared via a post and a video that encouraged users to share and access the link if they are UCT students. There was a special payment (R500) done to the Instagram Page: UCT Just Kidding to use their access to students to advertise the survey poster (Appendix B). The advertisement ran from 28 – 29 May 2020. The Humanities sent an email (Appendix C) to their cohort of students on the 25th May 2020 so to reach as many students as possible (Appendix B). An email (Appendix D and E) was sent to Nicky Wolmarans and Prof. Tessa Minter at the Engineering and Built Environment and Commerce Faculty respectively. They both assured to send to student but were doubtful that lecturers would allow the survey to be sent via their courses as students were overwhelmed with coursework. Despite this concern, all the faculties (Law, EBE, Humanities, Science, and Health Sciences) were represented in the study. The participants were asked fourteen and sixteen open-ended and close-ended questions, respectively. A total of 71% of female students responded, with 24.6% being males. A total of 4.4% of students preferred not to mention their gender and non-binary and gender-fluid students. The pie chart below shows this demography.



Graph 1: Gender demographics

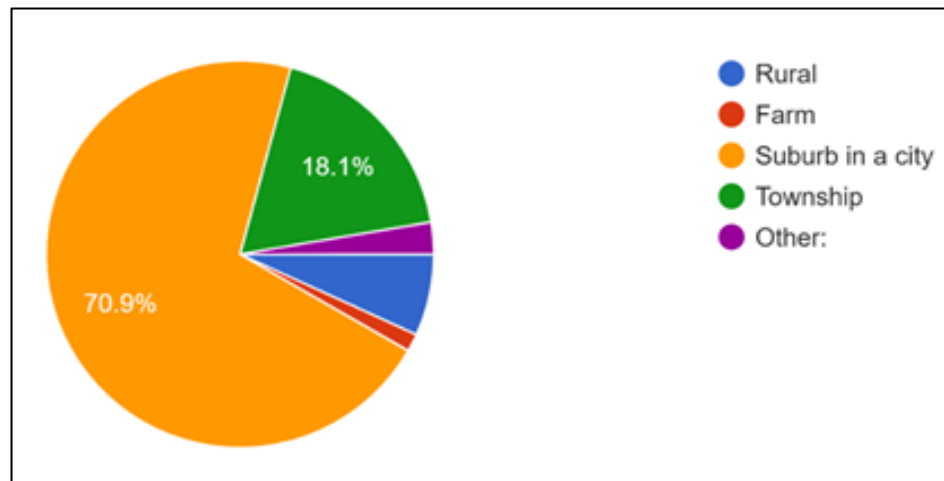
Many of the responses represented the humanities faculty, which was expected since it represents more than 50% of the university student population, followed by Commerce. From a total of 707 responses, there were 385 students from the Humanities faculty with a response rate of 55%, 138 students came from Commerce with a response rate of 19.7%. A total of 81 students came from the Engineering and the Built Environment (EBE) with a response rate of 11.5%, and the other faculties had a total of 96 students with a combined response rate of 13.8%. The percentage of respondents in each faculty group is shown in Graph 2 below. The involvement of various departments and faculties in the research study fulfils the third research sub-question: What views exist in different disciplines/professions? This ensures that the findings include student experiences and the view from different faculties.



Graph 2: Faculty demographics

A large number of the participants, from a total of 707, came from suburb (city) location, with 496 students and a response rate of 70.9%. There was a total of 127 students with a response rate of 18.1% from rural locations, and the rest of the 70.9% students from townships, farms, and other unmentioned locations

having a response rate of 11%. The percentage of respondents in each location group are shown in Graph 3.



Graph 3: Location demographics

3.6. Permission to conduct research

The University of Cape Town Department of Students Affairs is a department involved in accessing students for research purposes (data collection). The researcher had to submit the survey questions, indemnity form, DSA 100 form, supervisor support letter, and letter for research to achieve this permission.

3.7. Confidentiality and informed consent

Confidentiality and informed consent of the participant was kept as priority of the research and because the study involved human participants, the process and protocols for the application of ethics approval were done together with the supervisor's helpful guidance as per the requirements of the process irrespective of the data collection medium. The students received an accompanying letter (Appendix A) to explain the research and present the study and its foundational intentions. The role of the researcher was explained as well as that of the participants for the survey. The participants signed a form that declared their anonymity, this was done before the survey took place. The recorded data was then transcribed and analysed for recording findings, discussion, and conclusion and recommendations.

3.8. Data Analysis

In this study, analysis for the data collection took place separately for the quantitative and qualitative data. As mentioned, the qualitative data were analyzed using the MAXQDA all-in-one qualitative and mixed methods data analysis tool and Excel to carry out coding. Before the tool was utilized, the qualitative data was prepared and organized into themes using the research questions and the nature of students' data. From these themes, the selection

criteria were made explicit and later presented in a quantitative form to highlight the important trends, differences, and comparisons to indicate whether they support the research question. This is the process that led to the presentation of the collected data in this study's qualitative and quantitative findings. The coding and labels were set according to the online learning design model and SAMR model, as explained in the frameworks through excel after the relevant quotes were selected for us through the MAXQDA software. MAXQDA was also used to organize the data into groups and sets, as shown in Figure 8.

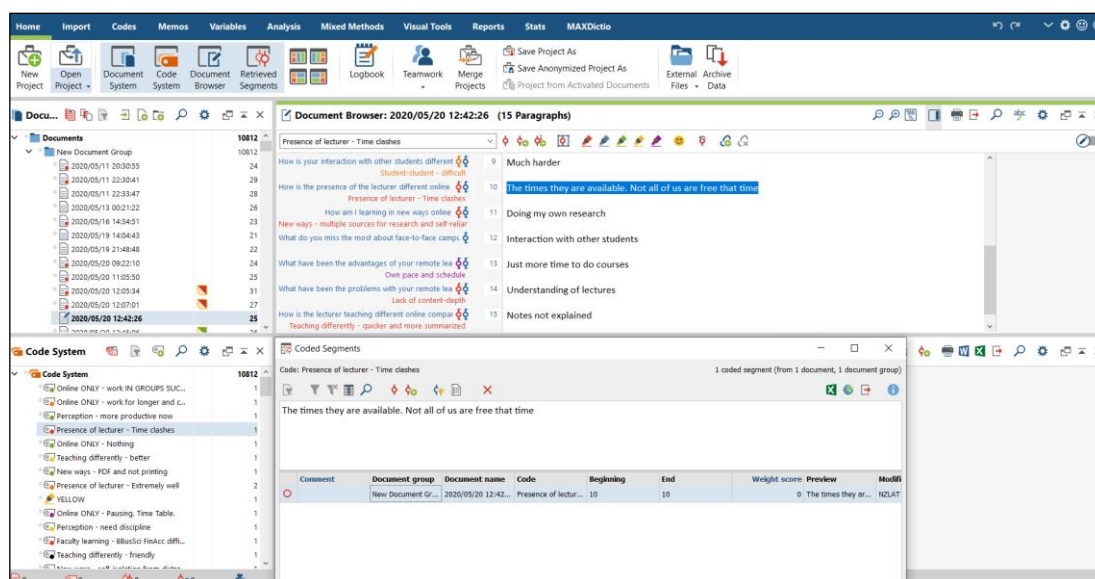


Figure 8: MAXQDA mixed-methods analysis software

3.8.1. Analysis Models – SAMR and Anderson’s online learning model

Anderson’s (2004) online learning model and the SAMR model were used to guide the research analysis. Online learning scholars and practitioners who share their current and historical perspectives on distance education, such as Onyema et al., (2019), used the model as part of its research study that investigated online discussion forums as interactive learning and communication tool. Interestingly, Lima et al., (2019) also used the model for the same purpose in their research that sought to improve online discussion forums. Another study that utilised Anderson's model was an investigation carried out by Turkan et al., (2020) that looked at online education implementation during COVID-19 from teacher candidates' opinions.

3.8.2. Analysis Models – SAMR

The SAMR model, as mentioned above, helps categorize the different levels of technology integration, and this paper will be using that aspect of the model

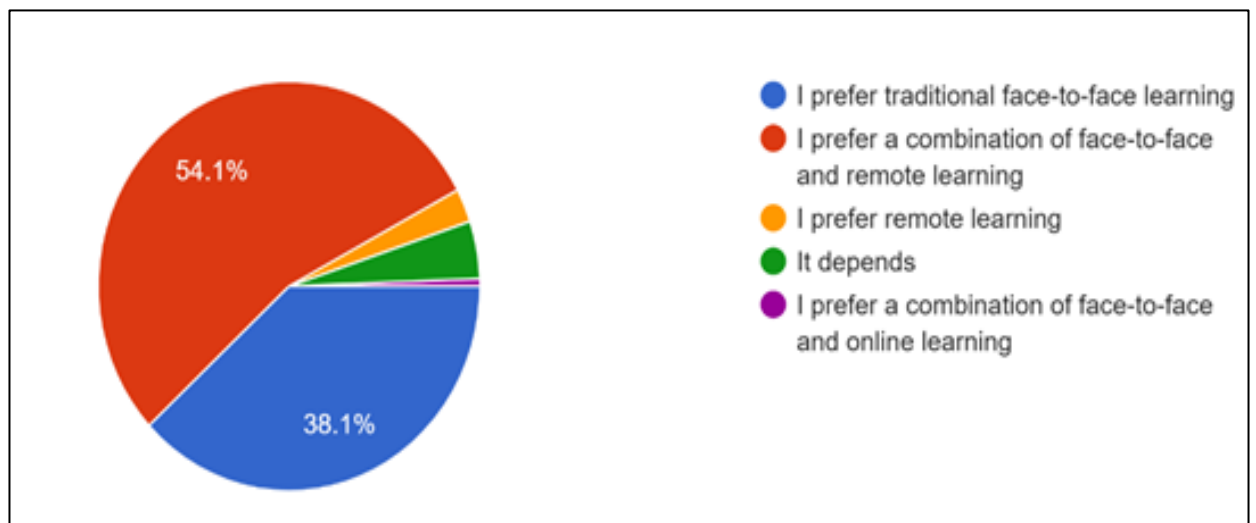
as it was used by Tsybulsky and Levin (2016). The formerly mentioned writers used it to understand and investigate technology integration in different learning and teaching spaces. Many researchers share on how they used the SAMR model to guide the analysis of the collected data from participants (Romrell et al., (2014), Hamilton et al., (2016), Berliner (2002), Ertmer (1999), Zhao and Frank (2003), and Ertmer et al. (2012)).

CHAPTER 4 - FINDINGS

4.1. Student perspectives on remote and face-to-face learning

Regarding preference over remote or face-to-face learning, most participants (over 54.1%) prefer a combination of both learning methods (blended learning), 38.1% preferred face-to-face learning, and the rest of the 7% said it depends, and some exclusively prefer remote learning. Graph 4 refers to this information shared above.

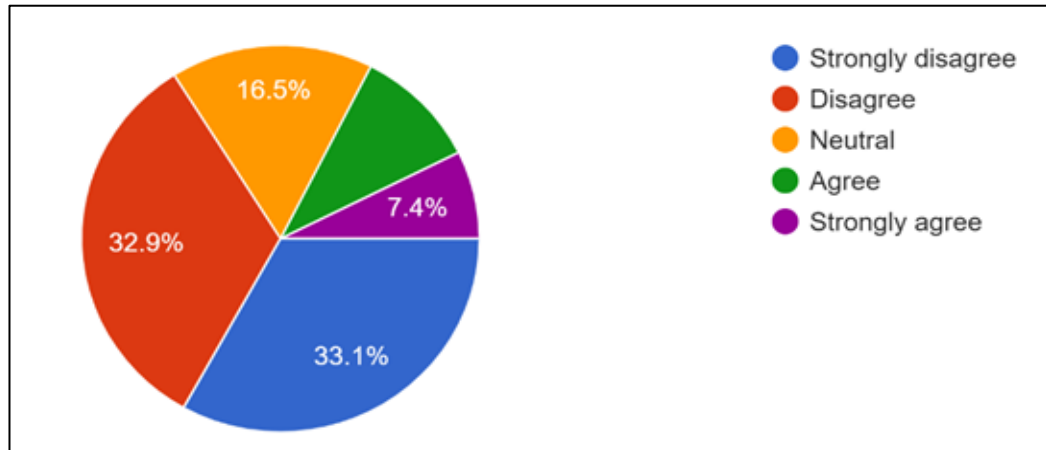
Having started remote learning with UCT, what is your preference ...



Graph 4: Student preference for remote or/and face-to-face learning.

When students were asked if they would prefer remote learning over face-to-face learning, two-thirds of the participants, as seen in Graph 5, disagreed with 33.1% of participants strongly disagreeing. Over 22% agreed, with 7.4% strongly agreeing.

I prefer remote learning over face-to-face learning.

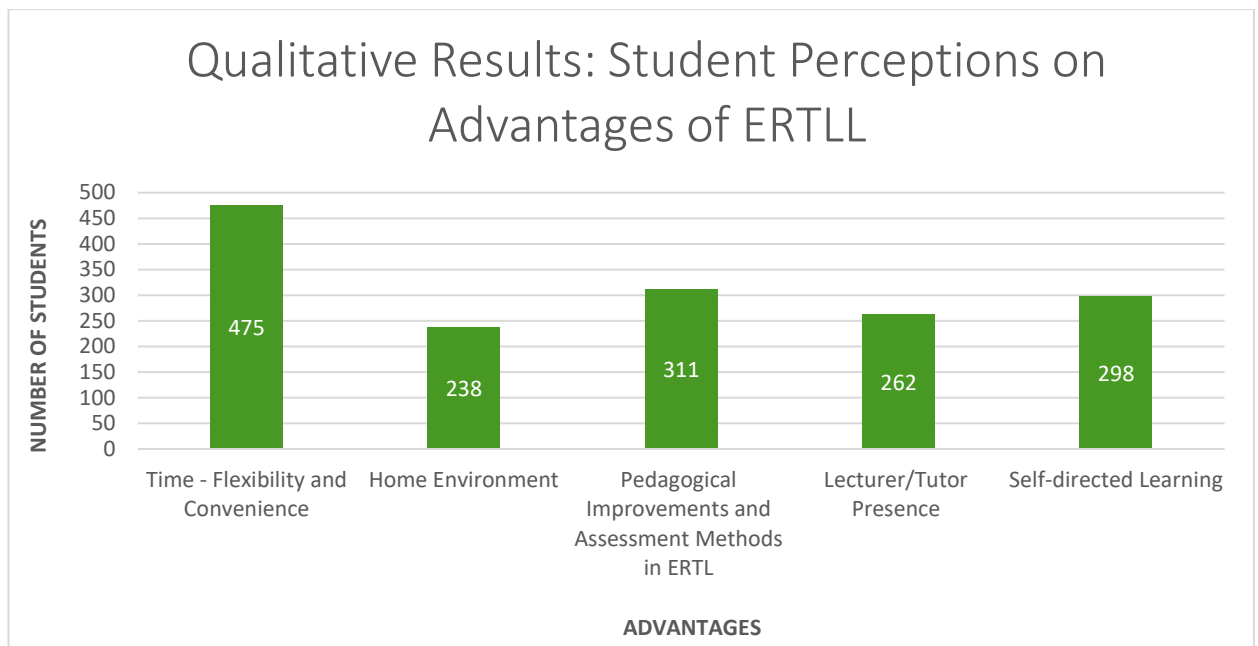


Graph 5: Student preference for remote or/and face-to-face learning.

The writer depicts how some students expressed their perceptions of online interaction with other students, lecturers, and content in their respective faculties and departments. The comments students make include how they perceived the modalities of learning during the pandemic. Some of the remote learning factors that contributed to students preferring face-to-face learning and teaching are discussed below.

4.2. Advantages and opportunities students perceive in working and learning remotely in comparison to traditional learning and teaching

The answers to the main research question and the sub-question two were obtained by collecting and analyzing students' survey responses. This section of findings resulted from data collected using open-ended qualitative and quantitative questions eleven, twelve, thirteen, and fourteen (as seen in Appendix A). The approach to analysing qualitative data involved the coding of participants perspectives and growing them according to themes. Some of the perspectives contained more than one theme and Graph 6a below is an expression of the compartmentalized advantages as per coding of the qualitative analysis.



Graph 6a: Student perspectives on advantages of ERTLL

4.2.1. Time – Flexibility and Convenience

Students' experienced several advantages with time, ranging from working at their own pace to creating and managing their schedule. A total of 475 (30,0%) students commented on the advantage of time and some of the comments are included below.

Working at my own pace and in my own time. I have more assignments rather than tests and exams which I feel is less stressful and tests us better for understanding the work through application. (Participant HumS122)

“Work at my own pace” (Participant EBET373)

“Just more time to do courses” (Participant EBES392)

Also, a variety of students from other faculties appreciated being able to do a variety of activities in their time and working for longer hours:

“Being able to sleep and work whatever time I was able to.” (Participant HumS643)

“Choosing when to do work” (Participant HumS361)

Students who have lectures early in the morning commented on the relief of not being forced to attend on the university schedule:

“No 8 am lectures, i.e. content is not synchronous.” (Participant EBES57)

Being able to fit more into my daily life due to being able to choose when to do what, and not having to commute or wait around on campus for lectures or tuts (Participant ComS190)

Some appreciated having more time to prioritize schoolwork and some of the things they do not have to spend their time on anymore:

... I am able to finish lectures and assignments quicker, because daily life activities are cut out. For example, eating lunch does not take as much time as it would on campus (there's no line to stand to wait for food), so I can return to my desk and finish an essay for example much quicker. (Participant EBET184)

"I have the time, readings and other multimedia resources to enable me to engage with the topic at a deeper level of understanding than would be the case in a contact class session" (Participant HumS19)

"More focused studying, more exercise per day, working for longer hours, better sleep schedule, less money spent on travel" (Participant SciS303)

The idea of being able to do things at your own pace and how productive this must be has completely changed. I realised that a lot of self-discipline is needed and there is no more time to do things as there are the same 24 hours in a day. You still need to keep a schedule and stick to it. Online learning is now an easy thing as I imagined before. (Participant HeaS182)

Some student mentioned how the availability of more time meant they needed to manage that time well:

You need to be disciplined and apply good time management skills. (Participant ComS198)

Skills development (time management, flexibility, adaptability) and self-discovery (resilience and multi- tasking) (Participant ComS193)

4.2.2. Home environment

The study reported 238 (15,0%) students who commented on the advantage of being at their home environment and being able to interact with family, own space, and being comfortable. Some of the students said they experienced better working at home with family due to ERTL and some commented on building their relationship with those they reside with:

Spending more time with family and being grateful of the academic spaces made available by UCT (Participant EBET327)

Spending time with the family. Feeling like I'm on holiday for many months. Not having to be independent and budget on things. It is cheaper. (Participant HumT345)

I hardly have any advantages except for getting closer with my family in terms of them understanding what I study. (Participant ComR91)

I suppose the advantage is being at home since I'm not from Cape Town (Participant LawS292)

Some commented on being able to get more rest by not traveling to campus:

I am more rested (used to leave home at 6 am and only return home after 8 pm) - Participant EBES24

4.2.3. Pedagogical improvements and assessment methods in ERTL

A total of 311 (19,6%) students commented on the advantage of pedagogical improvements and assessment methods in ERTL. Some of the students said they experienced improvements in the method of teaching and learning, and this included how assessments were carried out in ERTL:

I have more assignments rather than tests and exams which I feel is less stressful and tests us better for understanding the work through application. (Participant HumS122)

"I'm becoming better at learning from PDFs and not printing out everything 24/7." (Participant HumS321)

In cases where some were displeased with not receiving enough practical experience and personal interaction, they noticed new things and came easy with because of ERTL:

Lots of content but practical experience also essential Yes, online learning isn't as personal, but it is easier to pace online learning (Participant SciS23)

"I have lecture recordings/videos/notes that are available to use given to us by the lecturer. I wouldn't have these if it was face to face learning." (Participant HeaR542)

4.2.4. Lecturer Presence

A total of 262 (16,5%) students commented on the advantage of having lecturers present and attending to their academic needs. Some students said their experiences with lecturer presence showed how lecturers put effort to support them in the midst of some who did not put as much effort:

"They try to be friendly as far as possible." (Participant HumS15)

“UCT has done well. Some lecturers have put in more effort than others and that should be commended. Some lecturers have taken a fend for oneself approach and it is not helpful.” (Participant ComT534)

They also compared lecturer presence in the traditional classroom as well as during remote learning:

“The Lecturers are doing extremely well; they are very involved in the teachings and explain beautifully. Even better than if we were to have class.” (Participant HumS157)

Lecturers in person have a tendency to go off track. Here it is better (Participant EBET482)

4.2.5. Self-directed learning

One of the advantages participants commented on was the ability to direct and manage their own learning. A total of 298 (18,8%) students commented on the advantage of self-directed learning. Some of the students said they experienced more self-directed learning, which enhanced their confidence in using multiple external sources of data and learning and teaching:

“I use multiple sources such as YouTube to explain things I don't understand.” (Participant SciS589)

“Taking better notes, watching lecture, & YouTube videos” (Participant HumT65)

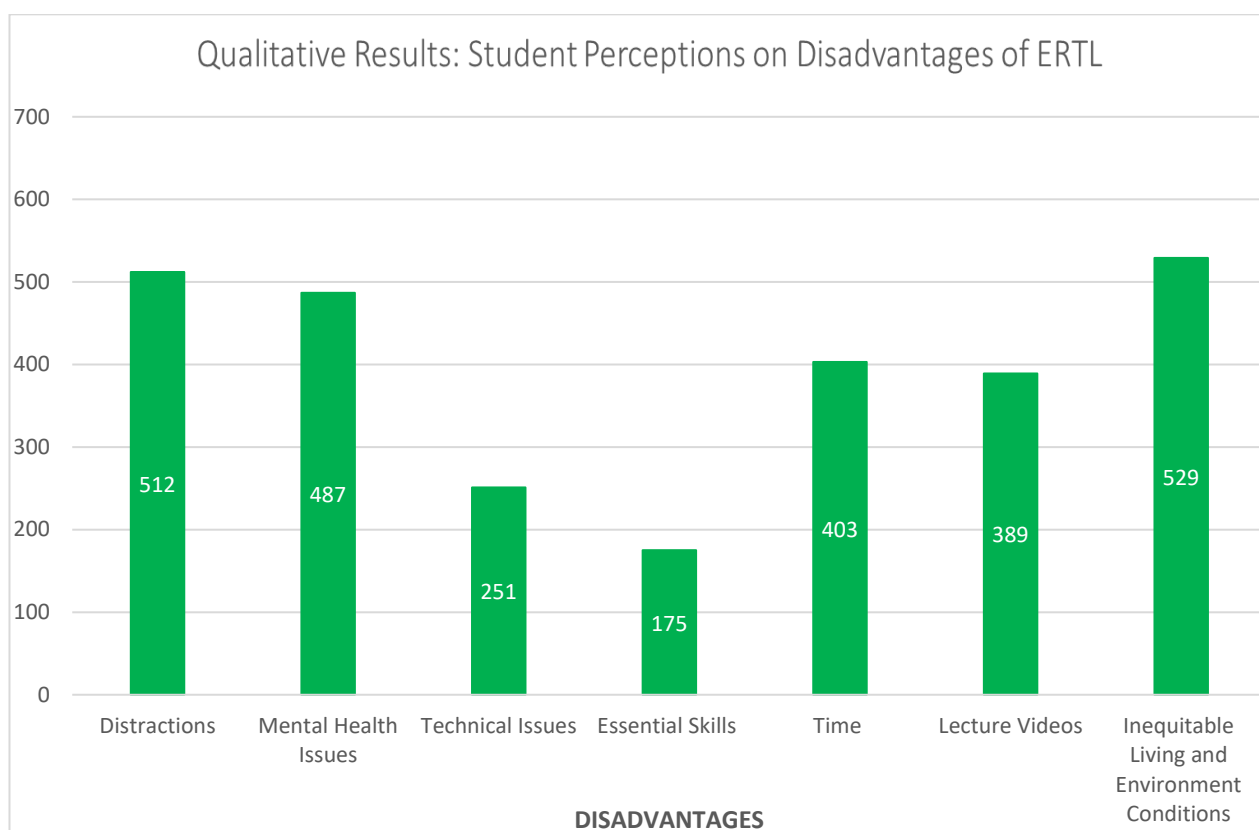
“I have the time, readings and other multimedia resources to enable me to engage with the topic at a deeper level of understanding than would be the case in a contact class session” (Participant HumS19)

In sum, students showed more interest in blended learning and teaching, and their second option was a face-to-face learning and teaching environment, and they shared their views on why they currently appreciate learning remotely. The results, shown below, also indicate that students are experiencing challenges with remote learning.

4.3. Disadvantages and barriers students perceive in working and learning remotely in comparison to traditional learning and teaching?

When participants were asked whether they agree that remote learning has more distractions than face to face learning, 707 students answered. The scale used is 1-5, where 1 indicates students who strongly disagree, and five students strongly agree with the given statement. A total of 389 students

(57.2%) indicated that learning online has more distractions than face-to-face learning, with only 31 (4.6%) of the students strongly disagreeing with the statement. Graph 6b below depicts the qualitative analysis of the student perspectives on the disadvantages they experienced.

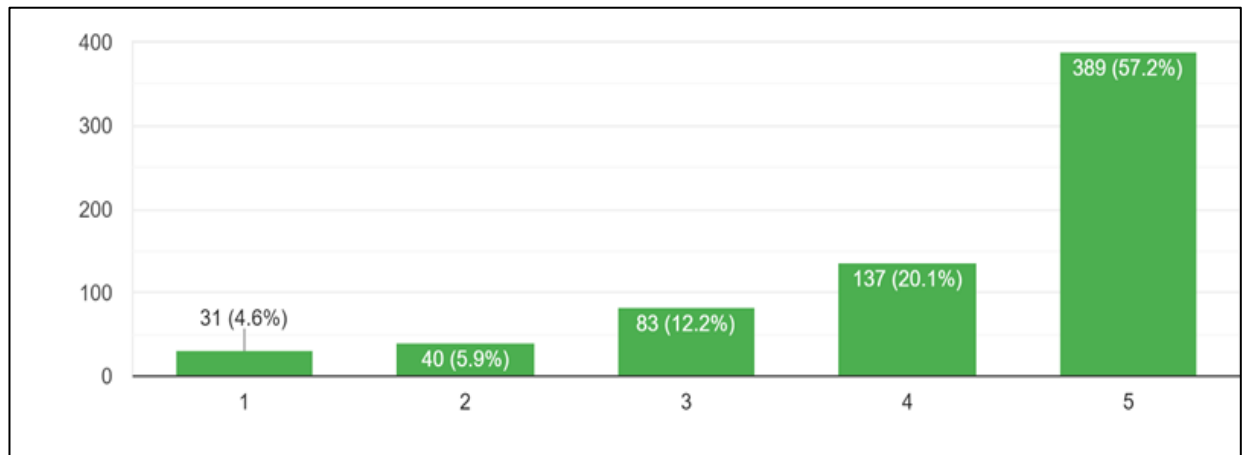


Graph 6b: Student perspectives on disadvantages of ERTL

4.3.1. Distractions

For many students, as seen in Graph 7 and 6b, distractions were perceived to be more during remote learning than face-to-face learning and teaching. Students still encounter environmental, social, and cognitive distractions when learning in a traditional face-to-face environment. As seen below, the research also found that many students suffer from being distracted during ERTL.

Learning online has more distractions than learning face-to-face



Graph 7: Students' perception of the distractions between face to face and remote learning.

A great deal of students commented on the disadvantage of distractions they experienced at home. It was a total of 512 commented (18,6% - second highest total) and below, they share external and internal distractions:

At home there are many distractions. It is a depressing time for everyone. (Participant EBER231)

...distraction from family members (do not understand the work demands from school) – (Participant EBER231)

Some commented on the lack of support from the family:

“Distraction, exhaustion, stress, anxiety, too much to do, lack of support, too high expectations etc” (Participant HumR10)

Family distractions, discipline, retaining information, motivation, lack of human interaction, less support (Participant HumS157)

Some appreciated how traditional campus learning gave them better self-control to not self-distract:

With an actual person in front of me, I pay attention. At home, I am always on my phone or browsing the internet. (Participant HumS56)

Distractions at home and also no one keeping me accountable (I.e. how a tutor would in tutorials). (Participant Law S59)

While keeping up with competing expectations from home, they also mentioned how it is hard to get rest and managing time:

I don't work in the same way. Home environment while living with your family also has challenges when you need to help with household responsibilities or other distractions. Also - there's now no difference between work and

relaxation. So, you can feel guilty for taking breaks. Even though it's necessary. (Participant HumT276)

I generally have low concentration span but now it's worse. I don't have a study room or a formal place to study I have to cook or do something in the house which may take a lot of time. (Participant ComR234)

4.3.2. Mental Health Issues

The research also found that some students experienced remote learning pressure beyond their cognitive and emotional abilities. A total of 487 (17,7%) students commented on the mental health problems they experienced. The mental health challenges ranged from distress to anxiety and depression.

"Face to face we can communicate, distress and gain support from other students when complaining about the workload and that seems to have a psychological benefit to many students. However online. It is difficult to communicate and interact. It's very difficult to explain to your colleague when they have a problem or vice versa as you are not able to fully illustrate." (Participant HumR124)

...my anxiety levels are high, and my insomnia is worse so that doesn't help (Participant ComR234)

Some of the depression experienced is induced from home:

"... living in emotionally abusive households, depression creeping in." (Participant HumT464)

4.3.3. Technical Issues

Students had several technical issues ranging from their devices to the quality of their connectivity access. A total of 251 (9,1%) students commented on the disadvantage of having technical difficulties in their academic activities.

Some students commented on a complete lack of access where even data bundles could not work:

No network in the villages (Participant HumR464)

Some commented on the lack of technical support:

"MTN being not zero rated and getting little to no support from ICTS and lecturers about this. The worst part is the 4 weeks of going back and forth with UCT support structure and no assistance." (Participant HumT4)

Even in the cases where there was connectivity and data bundles were provided, it was not enough:

*“Online it is challenging, especially once the provides data bundles deplete.
“(Participant HumR238)*

*“Data struggles, once the provided data depletes, one is subject to 6 hours of
night data of which can barely keep awake.” (Participant HumT187)*

*Many students don’t have data/Wi-Fi, so you aren’t able to effectively
communicate with them until they manage to get more data or access to the
internet. It makes it extremely difficult. To engage with other students
(Participant HeaS84)*

Where there is connectivity, it may be of poor quality

Connectivity, WIFI is slow (Participant LawS537)

The network sometimes sucks (Participant ComR234)

The network sometimes sucks, (Participant ComR234)

*I do not have access to Wi-Fi. The data UCT provides helped but the network
coverage is sometimes very badly. (Participant EBER231)*

Furthermore, there are different problems for those who had to go home to a country outside South Africa:

*Given that I live in a different country it seems harder to connect with my
course - material and WI-FI availability is a big factor (Participant HumS85)*
It is not only about connectivity but about the devices themselves:

“Laptop crashing and becoming slow “(Participant EBER197)

“No audio-visual help such as lecture videos” (Participant HeaR142)

*Not having an environment that is conducive to learning, my laptop dying on
me during the first week of online learning. (Participant HumT304)*

*“I cannot concentrate, there is a lack of audios from some lecturers and it is
difficult looking at a screen for hours as it is bad for your eyes and can results
in migraines.” (Participant ComT199)*

*“It’s detached and there is a lack of audios from some lecturers.” (Participant
HumR153)*

4.3.4. Essential Skills

Students felt they needed specific skills to succeed in the ERTL environment. A total of 175 (6,4%) students commented on this perceived expectation as a challenge for them.

Some students commented on their lack of computer proficiency:

“Not being computer literate” (Participant HumR659)

“I am learning to work the computer” (Participant HumR14)

4.3.5. Time

The ability to work anytime, which provides flexibility and convenience for other students, posed a challenge for some students. A total of 403 (14,7%) students commented on the challenge of time they experienced. The challenge ranged from struggling to complete all their work and not asking questions during the lecture because there is not enough time.

Trying to complete everything give in a day (Participant LawT113)

Other students mentioned their challenging experience of spending too much time on certain activities:

I can't sit down with my group members for a few hours and iron out all the details of our project. We have to spend a few minutes every day on Skype or zoom or WhatsApp doing work that could've been done in 20 minutes face to face. I also interact with my other classmates less. (Participant HumS569)

Some complained about the lack of time to ask questions during a lecture:

Lecturers can be slow to reply to questions in emails whereas face to face you can ask a question during a lecture and get an answer immediately (Participant HumS25)

4.3.6. Lecture Videos

Some of the students experienced a challenge with video media delivery, among other problems. A total of 389 students commented on the disadvantage of availability, quality, and quantity of lecture videos. The challenges they experienced ranged from the lecture resources used to some lecturers lacking videos.

Some students commented on the quantity and quality of the information shared through lecture videos:

Lecture videos are less interactive and attentive and less emphasis on important information that would have been explained in class (Participant HumT615)

Their lectures are briefer as well as their voice recordings shorter than a 45min lecture - I feel I might be missing out on potential information I could have learnt from a full lecture (Participant ComT162)

“Some are nice, with detailed concept videos and encouragement, while others like FTX2024 don't post videos, just long pdfs we have to read through every day” (Participant ComS27)

“The lack of lecture videos and actually teaching makes online learning feel like a self-study course.” (*Participant EBER353*)

“Lecture teaching has been inadequate with few lecture videos and lots of content post for students to go through by themselves.” (*Participant ComS103*)

Despite there being videos in some lectures, students complained about not getting enough breaks in-between lecture videos:

“The lecture videos are a lot longer winded and seem sometimes not to consider the fact that someone is sitting on the other side of the lecture. Don't give breaks.” (*Participant HumS250*)

4.3.7. Inequitable Living and Environment Conditions

Students' living and environment conditions contributed to their perception of ERTL, which is related to what distracts students during ERTL. Some of the students experienced a challenge with video media delivery, among other problems. A total of 529 (19,3% - highest total) students commented on the disadvantage of inequitable living and environmental conditions. The challenges they experienced ranged from the lecture resources used to some lecturers lacking videos.

Some students commented on the complex environments they lived in:

“I am learning how to adapt to working in a difficult environment.” (*Participant SciT23*)

“Living in a cramped and poverty-stricken home environment” (*Participant SciR21*)

“I live with a family of 23 people in a 4-bedroom house. I do not have space to study. It always noisy and the people in the house are not considerate at all. I have a 4-year-old kid that I have to take care of and do the house chores. I only get one proper meal a day and always tired.” (*Participant SciR219*)

It's not a comment on online learning but at this point I honestly need to go back to res to continue with online learning because I actually prefer it. My environment isn't just working out for me, I feel like I'd do better if I had a healthy environment (*Participant HumR404*)

None really because day to day activities that come with the responsibility you end up taking on when being home and having to reason with people who don't understand what being a student entails end sup interfering with any sort of schedule you set for yourself. (*Participant HumR228*)

Spontaneous activities at home. Family noises, kids playing, no electricity at times, babysitting, errands, chores (*Participant ComT55*)

No personal space (Participant EBER231)

Lack of space at home led some students to experience mental health challenges:

Making time in the circumstance I live in and also requiring working space when I have none at home ... I've never been stressed in my life; I am having a hellish time (Participant HumT241)

"No network in the villages, living in emotionally abusive households, depression creeping in." (Participant HumT464)

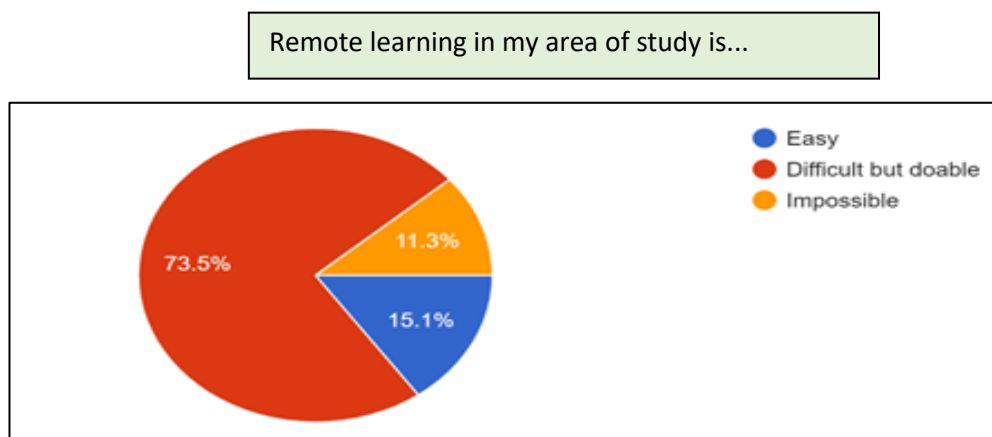
I generally have low concentration span but now it's worse. I don't have a study room or a formal place to study I have to cook or do something in the house which may take a lot of time. The network sometimes sucks, my anxiety levels are high, and my insomnia is worse so that doesn't help (Participant ComR234)

At home there are many distractions. It is a depressing time for everyone. Getting up to date with my workload has been one of the biggest problems I have come to deal with. (Participant EBER231)

Before the corona virus kills us most of us would have died from the stress that comes from being expected to learn in the type of environments we come from. (Participant HumR102)

4.4. Student perceptions of disciplinary and professional differences of ERTL

From the total participants, 73.5% of the students perceived remote learning as difficult but doable for their academic area of study, with 11.3% saying it is impossible to work with online learning



Graph 8: Difficulty according to academic study

4.4.1. Lack of hands-on Experience

The lack of practical experience students experienced contributed to their perception of ERTL, and this included seeing the lecturer face-to-face:

It is difficult in the sense that my science courses have practical's that greatly help engage with course work and gain understanding from practical examples and visuals. I grasp things better when I hear it first and see someone talking about it (lecturing) then I go over it in my own time. Now with remote learning I am all by myself which needs me to find some efficient way of grasping new course content such as maybe YouTube. With Sociology we have class discussions that help bring different point of perspectives that help fully tackle topics but now I am limited to my own views. (Participant HumT402)

Some of the courses Medical students take rely on being physically there with patients:

I'm doing medicine and I'm 3rd year. I feel like I really needed the patient interactions to keep me motivated and right now my motivation levels are dangerous low. Interaction with other students is at bare minimum. I interact with one group because we have a project to finish but that's about it (Participant HeaT88)

Though students were satisfied with the theory in lecturers, the theory could not replace lab experiments that are vital to their understanding:

"It is okay when it comes to the theory only but the practical aspect where experiments must be conducted in labs is affected. And even though measures to record lab procedures and send them through to students are being put in place, it is not the same because lab experiments require personal interaction with the equipment, i.e. some reactions may give off a particular smell which could be key in the experiment or give off heat of which the temperature changes of the equipment can be felt, of which all the latter, among other reasons makes online learning a bit tricky." (Participant SciS563)

I am a clinical year medical student and it's impossible to teach certain procedures we are meant to learn online (Participant HeaS2)

"In engineering there is a lot of theory that we would be able to study from home, however there are problems that arise when things like practical's, tuts, and tests need to occur." (Participant EBES412)

Students' mentioned how part of hands-on experiences involved group work and interacting with other students:

Statistics is easy as you just need to watch videos on the concepts and then practice the concepts. Information systems is a little trickier as all the work is group project work and some students don't have access to Wi-Fi/internet so you continuously having to carry 3-4 other group members and do way too

much work. You feel for the students who don't have any access to resources as learning must be extremely tough but it's also difficult to try and to work meant for 4 people by yourself. (Participant ComS16)

Most will say that within the humanities facility online learning is easier, however I don't seem to agree. I personally prefer contact learning due to it being more engaging (Participant HumR4)

It is not only undergraduate students that found hands-on experience meaningful:

"Doing a PhD in medicine means I need face time with my supervisor, I need practical work to become better, so it's frustrating" (Participant HeaS317)

4.4.2. Incomplete and Difficult Degree Experience

Students also felt that their degree experiences had been compromised, especially disciplines such as Medicine, Filmmaking, Arts, etc and some of them mentioned the impossibility of fulfilling course requirements:

As a science student, it is possible to remotely learn the theory aspects. However, remote learning prevents me from engaging on the topics further with lecturers, tutors etc in a comfortable manner. Remote learning also prevents practical learning and assessments, in my case, performing experiments in labs etc which are key learned skills in my field. (Participant SciS98)

"I'm studying a BBusSci FinAcc and it is challenging in the sense this is known to be the toughest academic year and we doing it all at home. As well as it does feel like there is now way more work to do and assignments then if we would be at school which is understandable but it consumes 10 times more time than if I was going to physical face to face lectures and doing tests and tuts and OTs at Uni." (Participant ComS143)

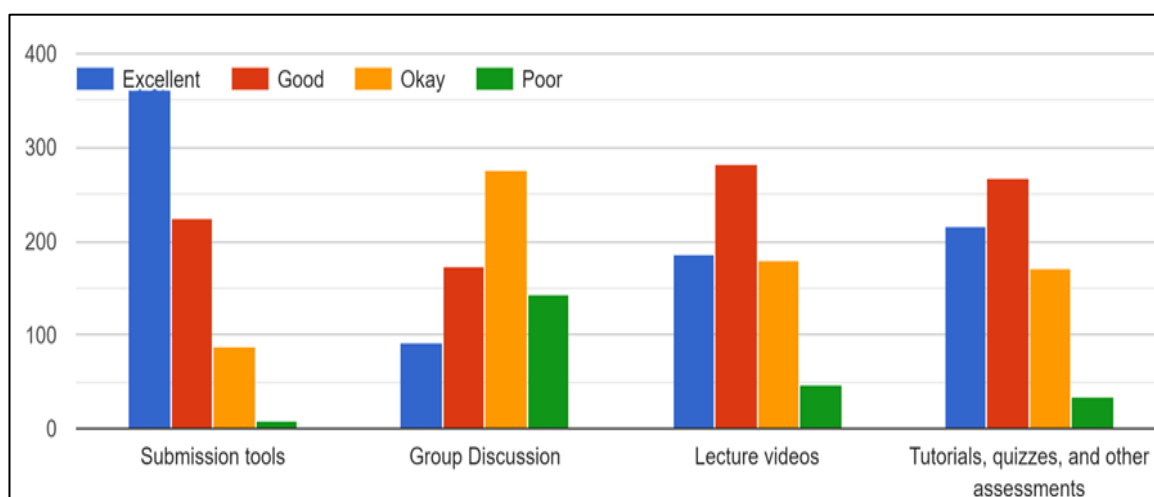
I'm studying a practical filmmaking course so fulfilling the requirements of my degree is nearly impossible (Participant HumS569)

4.5. Perceptions of the full scope of technology integration that Emergency Remote Teaching and Learning manifest

The SAMR model, as explained in the literature review, helps identify the level of technology integration in the learning environment. Technology integration also means technological tools that enable the participants to perform functions in the learning and teaching environment. For the remote learning organized by UCT, only the Substitution level of technology integration dominated the learning and teaching environment from the student perspectives. How students perceive the tools used informs research sub-

question four and helps the research achieve its intention to understanding student experiences. Many revealed below that less technology integration in the learning environment seemed to be a widely expressed view from the participants'. The answers were also wide-ranging regarding their perception of this finding and realization. The relevant extracts are as follows:

Please rate the following in terms of their importance for your learning remotely



Graph 9: Students' perception of the tools used during remote learning.

4.5.1. Substitution

Students, below, show how they perceived some of the face to face activities and resources being replaced with other activities and resources that did not fundamentally change the functional performance of a task:

"I'm becoming better at learning from PDFs and not printing out everything 24/7." (Participant HumS321)

"The lecturers are using PowerPoint lecture slides with audio, but you are unable to ask a question on the spot if a certain topic was difficult to comprehend" (Participant HumT492)

I still use the same ways e.g. note taking and watching videos that explain. Just changes in things such as working schedule (Participant HumT117)

Communication that would happen face-to-face was substituted to other platforms:

"We communicate via chats, forums, and emails" (Participant HumT158)

Through emails and chatting applications. I can chat with the tutors via WhatsApp (Participant EBER509)

"Using forums on the vula platform." (Participant HumS456)

“Well, during face to face learning we can all ask questions and understand during the lecture ... and the lecturers end up being overwhelmed by the large number of questions especially close to submission times” (Participant HumT77)

“The understanding of a lecturer now depends on their written notes & content instead of how well they deliver it in class.” (Participant HumS9)

“... And even though measures to record lab procedures and send them through to students are being put in place, it is not the same because lab experiments require personal interaction with the equipment.” (Participant SciS563)

Being able to have access to lecture information, course readings and all tools in one simple place. (Participant HumR32)

4.5.2. Augmentation

Because the use of Zoom involved integrating digital features that augment the lesson, i.e. Zoom breakout rooms, raising hand, etc., one comment from a student showed the use of Augmentation:

Currently using a lot of resources outside of UCT also using zoom for group discussions (Participant ComR312)

From the sections above, it is evident that there were almost no comments from students that provided evidence of Augmentation, Modification or Redefinition.

4.6. Students’ perceptions of educational interactions in working and learning remotely

The main research question and the sub-question five was evaluated using the open-ended qualitative question six, seven, eight, thirteen, and fourteen, as seen in Appendix A.

4.6.1. Student-student interaction

Students had several challenging issues with regards to collaborating and interacting during ERT. Some students complained about loneliness as digital communication was not enough to fill the gap of physical interaction:

Very lonely, digital communication is not the same You feel you have more attention towards face to face lectures (Participant SciT555)

"It is easier to be ignored online than it is in person where the next person's body language and availability is obvious to read" (Participant HumS37)

It's harder to ask people who you haven't seen in months for help (Participant HumT45)

Most communication between students took place via WhatsApp:

We hardly ever communicate with other students - only through required forums. What's app group got deleted because my peers thought UCT was tracking our communications (Participant SciS239)

"The interaction is limited as we mostly communicate on WhatsApp than doing physical meetings." (Participant ComT631)

"It is not the same but having WhatsApp groups helps a lot" (Participant HumR452)

Some of the students did experience interaction with their peers but mentioned how it was not adequate to their needs:

"It is limited as people are hardly available. Everyone is trying to make do on their own" (Participant HumT356)

There is less interaction (Participant HumR448)

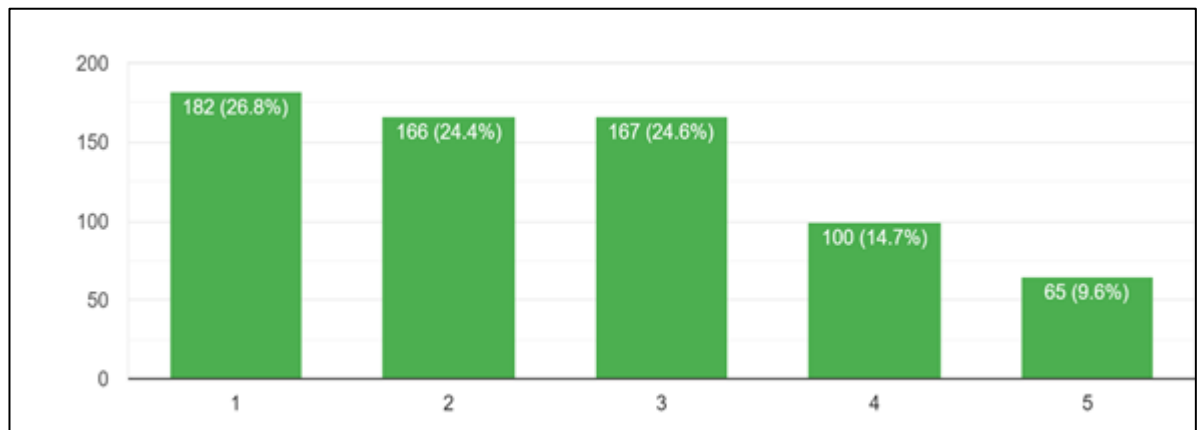
I am not able to "chat" as casually about topics and concepts. Often conversations are open to the entire course participants. (Participant HumS376)

Less interaction / discussion As it's more effort to physically contact them as opposed to seeing them every day and discussions taking place (Participant LawT311)

4.6.2. Student-lecturer interaction

When participants were asked whether they agree that the lecturer's interaction was easier online than face to face, these were the results. A total of 182 (26.8%) students from 680 participants strongly disagreed, with 166 (24.4%) disagreeing. A total of 100 (14.7%) and 65 (9.6%) students cited that they agreed and strongly agreed, respectively, regarding the lecturers' ease of interaction. The graph below is skewed to the right (positively) as a more significant number of students indicated that they disagree that online communication was easier between them and lecturers.

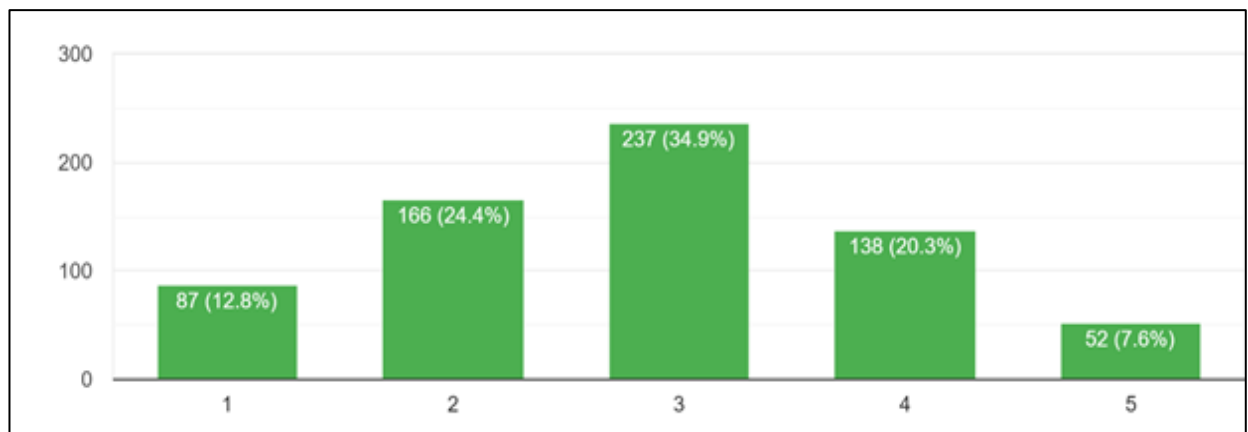
It is easier to engage with lecturers online than face to face



Graph 10: Students' perception of interaction with the lecturer

When participants were asked whether they agree that they receive quicker feedback from lecturers and tutors during ERTL, the following were the results. For feedback from lecturers, a total of 237 (34.9%) students out of 707 participants remained neutral, with more students (87 = 12.8%) strongly disagreeing than strong agreeing (52 = 7.6%). More students (166 = 24.4%) disagreed with 138 students (20.3%) agreeing.

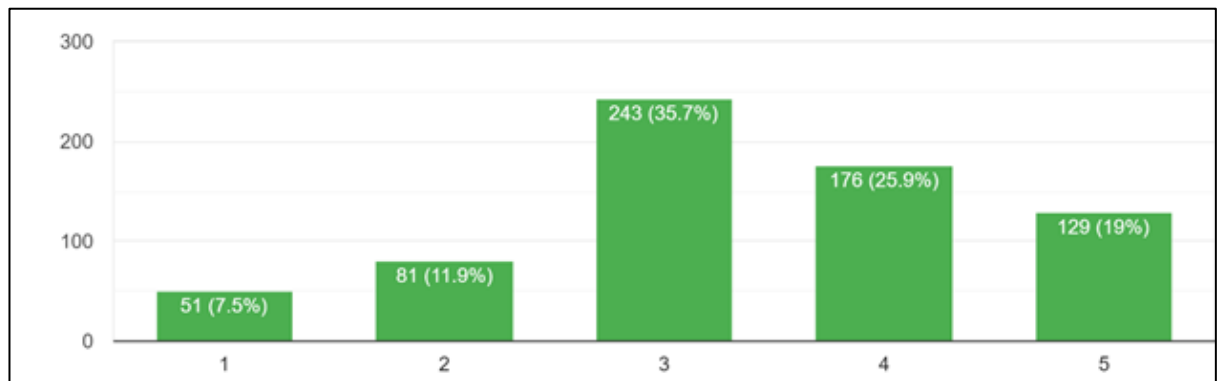
I receive quick feedback from lecturers.



Graph 11: Students' perception of the rate of receiving feedback from lecturers during remote learning.

Regarding tutors, the responses showed little difference from previous responses as 176 (25.9%), and 129 (19%) students agreed and strongly agreed respectively with this statement. A total of 81 (11.9%) and 51 (7.5%) students disagreed and strongly disagreed, respectively, with 243 (35.7%) students remaining neutral.

I receive quick feedback from tutors



Graph 12: Students' perception of the rate of receiving feedback from tutors during remote learning.

Some of the participants from the data collected commented on the availability, assistance, and commitment of lecturers and tutors during their online learning experience at UCT. The students mentioned the following:

"It's tough to gauge when you're falling behind and there is very little support for when you do fall behind. I've only had one lecturer that has been accommodating during this time. I'm quite disappointed in the rest"

(Participant EBER432)

I've had very little to no communication with any of my lecturers. (Participant LawR349)

Despite some students being displeased with lecture and tutor feedback, some provided positive feedback:

"UCT has done well. Some lecturers have put in more effort than others and that should be commended. Some lecturers have taken a fend for oneself approach and it is not helpful." (Participant ComT534)

"The Lecturers are doing extremely well; they are very involved in the teachings and explain beautifully. Even better than if we were to have class." (Participant HumS157)

Lecturers in person have a tendency to go off track. Here it is better (Participant EBET482)

"They try to be friendly as far as possible." (Participant HumS15)

"Remote learning is better because there is much more and better interaction between lecturer and student" (Participant HumS89)

Students' perceived some of the lecturers to be giving less effort to their academic development:

“The teaching online is worse, lecturers are just sending notes and using the chat room.” (Participant ComR290)

“Some (lecturers) don’t explain things as well online” (Participant HumT76)

Below are how students perceive their interaction with lecturers and tutors specifically when they were asked: *How is the lecturer’s presence different online compared to face to face?* The comments include how they preferred communicating in person:

With an actual person in front of me, I pay attention. (Participant HumS56)

Conversations seem to be misunderstood on both ends. Available or replies in their own time while things are piling up on my end. (Participant ComT434)

It’s difficult because there is no one to talk to about new concepts, academic papers etc. It’s difficult to know that you’re doing the right thing, when you aren’t constantly hearing talk of the topic in lectures, tuts, and from student discussions (Participant EBET84)

4.6.3. Student-content interaction

Many students felt that their interaction with content provided through the online learning environment was worth mentioning and how this helped them navigate their learning using other alternative educational platforms. Regarding the lecture-content, some of the views students shared in the data collected were the following:

Lecturers whose classes were built around discussion and class participation now have completely changed to mainly just dealing with examinable material (Participant HumS593)

Students were given more resources to better and deepen their understand:

We are provided more resources to work through to better understand the work (Participant Law S59)

Though provided with additional resources by lecturers, students still used additional and alternative forms of content:

“I use multiple sources such as YouTube to explain things I don’t understand.” (Participant SciS589)

“Taking better notes, watching lecture, & YouTube videos” (Participant HumT65)

“I have the time, readings and other multimedia resources to enable me to engage with the topic at a deeper level of understanding than would be the case in a contact class session” (Participant HumS19)

Some of the students complained about the heavy load of content:

"I'm studying a BBusSci FinAcc and it is challenging in the sense this is known to be the toughest academic year and we are doing it all at home. As well as it does feel like there is now way more work to do and assignments then if we would be at school which is understandable but it consumes 10 times more time than if I was going to physical face to face lectures and doing tests and tuts and OTs at Uni." (Participant ComS143)

I was initially happy about it - however the expectations of individuals in the continuous assessment is uncalled for and too rigid - horrible load and difficult to adjust to after adjusting to university work schedule (online learning is like high school on steroids i.e. having so much homework due the next day - little is left for individual study habits that have developed due to university independent learning strategy) (Participant HumS3)

CHAPTER 5 - DISCUSSION

This research study's findings provide differences between students who would enjoy and positively perceive remote learning versus students who do not have a perception or positive experience. These findings demonstrate that collaboration, internet access, mental health issues, remain barriers to remote learning and teaching. The current study results reveal that the different faculties experience mostly disadvantages during remote learning and teaching despite some positive experiences. Comfortability with using technologies and Internet-based technology was a significant challenge, and the study found that students experienced pedagogical changes during ERTLL.

5.1. Internet and network connectivity

Students and literature also revealed that internet and network connectivity were a challenge in their ERTL experience. Internet connectivity was a crucial and effective factor to students' ERTLE experiences as this determined them to access academic resources, interact with other students, and, most importantly, lecturers and tutors. In both literature and the research study, students claimed that there was no consistent internet and network connectivity, and the major contributor to this would be the areas or communities students come from. Students coming from rural farms and some townships would not have adequate network connectivity, and as some of them might not be computer literate, they might not know what to do when they face this challenge and the areas they reside. For example, in a study investigating students' perceptions of online learning during a pandemic, Polish students perceived their second major issue with online learning as technical issues and internet connections and the availability of necessary software for their computers. Saudi Arabian dental students who were also investigated on a comparable topic reflected high numbers in how ownership of essential computer skills and internet access is essential for remote learning. Internet penetration (number of internet users in the country) in South Africa currently stands at 62 percent by January 2020 (Kemp, 2020), which is not that far from Indonesia's internet penetration (53 percent by 2020). This is important to mention, as Indonesia carried out an investigation similar to this research study and found that internet connection was important for remote learning. The claim of inconsistent internet connectivity could also arise because the data provided to students was not adequate for the different tasks they had to do since students came from different faculties/departments and hence had different workloads and activities. Another reason could be that students used up the data provided for other purposes, and this could be intentional or could be that students were not aware of such leak of data by their novice level of computer knowledge and use. There are sometimes no

networks in the villages, and this pressure of being expected to deal with the workload sometimes has students being set-up for failure, and their response is the deterioration of their mental health (as stated above). The unsurprising finding was that this affected the student's motivation, completion of course activities, and time management.

Some accommodated students using Zoom, Google Classroom, WhatsApp, Google Meet, Telegram, etc. Telegram is WhatsApp's current top competitor when it comes to social messaging applications. Some of the reasons students would opt to use Telegram over WhatsApp would be because of the low data use by Telegram regarding its media compression abilities, which could mean students and lecturers can share more unlimited data and resources without much concern about data consumption more unlimited server storage. This could mean students can receive and store more multi-media documents sent to themselves and lecturers, more capacity for creating groups that could mean that larger classes can be accommodated with the ability to host Telegram on any device same time. The university did send out communication to students regarding what kind of support they would need and check students at intervals and send them data bundles. Most of the students' reality is that they may not have received or been able to respond to that communication, and there might have been some discrepancies involved in receiving the data as some claimed that they never received it. It is not an easy task to provide such resources and more to a cohort of more than 25 000 students. Hence, the university are attempting to find the loopholes and find other wide range of methods to ensure its students do not deal with challenges such as internet and network connectivity. According to its vision, UCT states how it stimulates ingenuity and inventiveness through outstanding achievements, as well as how it advances a more equitable and maintainable society within Higher Education. The university showed this when it went to great lengths to help students access learning and teaching resources during ERTL. Some would mention that this was their responsibility in the first place, and some would say they went beyond their responsibilities.

5.2. Insufficient digital skills and computer resources

Remote learning requires a consistent and dependable internet connection, essential hardware and software, and a set of skills to operate the computer's hardware and software components. Both students and lecturers need to be acquainted with the technology and equipment used, and technical assistance should be available when they need it. Students experienced various challenges, such as lack of computer proficiency/literacy and insufficient digital skills. Most undergraduate students who never had access or usage of a computer would have to do so without the assistance they would have otherwise gotten from the university. Computer breakdowns and crashes and lack of internet access were also amongst the top reasons why the research

arrived at this finding. Consequently, the students found it hard to perceive their ERTL experience as an enjoyable one, as they felt that they did not have adequate access to learning materials essential to their academic success. All these matters and others emphasized here need to be allocated a deserving amount of resources, time, and efforts to be dealt with accordingly. Perhaps if the research study was extended to do interviews in the second semester, a different outcome regarding preparation could have been achieved, and the views from students would change. This change would be so because of the experience from the first semester students would have, and the amount of time the university would have gotten to prepare further and reinforce their support to the student and lecturer community. Additionally, as Rahiem (2020) mentioned, universities would have encouraged the students to learn independently during customary or traditional learning and continue to put the support mechanisms, media, and methods of learning in place during ERTL. After some time, as some literature proposes, it is expected that many universities will review, advance the existing methods of transitioning to remote learning, and plan for better implementation and design of learning and teaching approaches. Czerniewicz et al. (2020) write about existential inequality as a form or result of social stratification within the university. This stratification shows that students' social capital can also be shown in previously advantaged and disadvantaged students' performance in ERTL. Czerniewicz et al. (2020) mention how other students may succeed in ERTL and learning because of networks, social circles, access to resources, and essential skills. This echoes what Czerniewicz et al. (2020) mention on how the role of existential inequality goes as far as showing itself through the lack of essential digital skills in students. In conclusion, Tienken (2020) also addressed the issue of manufacturing greater inequity by assuming that students obtaining access to resources cannot be muddled with the support the student needs to make efficient and meaningful use of that access. For example, Azubuike et al., (2020) investigated digital divide as a creator of inequity(s) during emergency remote learning in Nigeria. Their study revealed that the lack of support a student has while studying at home is more likely to be from the lack of education that parents have, and this lack has to do with parents experiencing historical and racial discrimination and injustice which led to lack of opportunities to progress academically. Additionally, the study found that there was a difference regarding access to resources and remote learning opportunities between government and private schools.

5.3. Self-directed learning

Another theme that emerged from this research study is the need for self-directed learning and how this leads to students needing to shift and adapt to new learning styles. For students to acquire and maintain self-learning, it requires them first to be acquainted with and sustain self-discipline, which

many other studies around the world, i.e., Asia, America, Africa, etc., found it to be previously tricky for students during face-to-face learning and teaching. In sharing their personal experiences, the students shared that the lecturer's presence and the social presence layer of the university experience were missing and caused them to be deterred from learning in their way and knowing how to approach learning and teaching confidently. ERTL involved students learning how to work interdependently, independently doing projects and readings, working and meeting in virtual groups, communicating via WhatsApp as a form of direct communication, and having lectures in the group chat, etc. Students often protested when they shared their experience about this kind of independent learning that they had never accommodated before as this needed them to have resources, environments, and skills to adjust to it. Some of the students kept on including how they were already used to the traditional teaching-learning framework that only required them to attend class, work with other students, be afforded a plethora of learning materials and support resources accessible to them when they needed them. Literature also showed that students face the challenge of essential skills necessary for remote learning success and the digital divide they experienced when learning remotely was a resulting factor of that challenge. It was not surprising to find that most of the literature indicated students feeling they had to develop new characteristics of learning in the online environment. This was because the transition to remote learning was immediate, and that other factors such as workload increase, lack of support, being unfamiliar with the technology, did not make it easy (Bawa, 2020, Zhang, 2020).

5.4. Inequitable Living and Environment Conditions

Skills essential for remote learning success, emotional and mental health challenges, including internet access and technical challenges were one of the ills linked with inequity in the research study and universal literature. It is notable that these findings confirm studies from India, Pakistan, Nigeria, etc. For example, Khlaif and Salha (2020) mentioned how some of the distractions and challenges students experienced were due to lack of internet access. A wide range of literature displayed that lack of access to computers, internet connection, technical support, and personal expertise is what sums up to inequity (Tienken (2020), Rahiem (2020), Stelitano et al., (2020)). Tienken (2020) does well to link inequity with lack of access to resources and support. Stelitano et al., (2020) does the same to connect high-poverty academic institutions, communities, and households with high probability of students that lacked internet access at home and in their communities. Some of these experiences from literature lead to students not doing well academically, emotionally, and mentally in their living environment. Hence, the living and environment conditions students experienced contributed to their perception of ERTL and this is connected to the widespread inequality in many South African households. Unequal incomes are a number one contributor to the

monetary inequality which is highly “*racialised, gendered and spatialised*” as explained by Webster (2019). Monetary inequality leads to many households having numerous family members in a single space. As mentioned above, rural, farm, and township opportunities in South Africa are the main societies that experiences severe inequalities and inequities.

From the research, students reflected about cramped spaces at home where they have all household members living in one room. Some students reporting on lack of access to internet access, study spaces, etc. is connected to the monetary inequality and for some students the effects of inequality lead to mental health problems. Living and working in a cramped and poverty-stricken home was particularly mentioned by students in the research study, but literature had very few to no students mentioning this as a challenge. The difference in household conditions could be the different locations students come from as the students in the research study originated from rural, farms, urban, and township backgrounds. In South Africa, one can expect students from most rural and township homes to have cramped homes because of some students who may be living in shacks and other indecent housing, having too many family members living in one or two-room houses. This can be for many reasons, and some of those reasons are households who are still waiting for good housing with the Department of Human Settlements experiencing a housing backlog. This does not leave the country's urban parts without this kind of challenges as there has also been an accelerated urban growth over the last few years. Literature from other parts of the world may not have this diversity in background and might not have looked at students who have housing challenges. It might also be that they could not access such students because the poverty-stricken areas in that country may not have data penetration, hence no internet access to have them share their experience.

This is a big challenge for many universities because the university campus provided an environment of financial, emotional, social, and academic support for many of the students and them being at home exacerbates their mental and emotional health some of them are exposed to inequitable living conditions. These living conditions contributed to students being distracted and not being able to do well academically. Should ERTL, as temporary adjustment of learning and teaching, become a long-term solution, that would potentially prolong the struggles that many students face. Students who are distracted at home will continue being distracted, student who do not have the skills to adjust to remote learning may will still continue to rely on themselves being excluded to the university environment that is meant to cater to their conditions.

5.5. Distractions

A prominent theme in the study is the encounter students have with experiencing challenges with environmental, social, and cognitive distractions in their working environments. Students shared both constructive and undesirable experiences of being home with family and it would be interesting

to study further which students or student grouping experienced these paradoxically varying experiences. For many students, access to campus resources, i.e., lecturers, Wi-Fi, etc., was a critical aspect of their learning. The notion, as Czerniewicz et al. (2020) mentions, of anywhere, anytime, anyplace, was critically challenged during ERTL as students in the research study complained about working at home. In many other studies, this was a paradoxical finding. Some students enjoyed working at home as they claim this gave them a sense of freedom, more time to work and focus, and more family time to build relationships. For some students, which was a majority, they struggled to work in home environments because of the environmental, social, and cognitive distractions they experienced. These distractions came from their working environments with their family space being too cramped, noise, many responsibilities or chores, etc. For many students, this tested their cognitive and organizational agility, as Wu et al. (2020) mentioned. Hodges et al. (2020) also share how universities need to plan for such distractions that students experience in order to improve their academic offering. In this research study, as explained above, students strongly agreed that remote learning has many distractions and that most students suffer from being distracted in the remote learning environment, and this same environment manages to test students' ability to manage both learning and non-learning events online.

5.6. Mental Health and Well-being

This theme was one of the dominant (third largest) themes in the analysis of quantitative and qualitative data. The research has come to grips with both literature review and the South Africa context after understanding UCT students' perceptions, and part of the result was finding that mental health and well-being is a common concern from the student perspective. The ERTL experience revealed that many students struggled and were distracted by mental health and well-being issues induced or perpetuated by their experience with remote learning. Reading through the existing literature and research findings, the mental health and well-being issues seemed to have mostly connected to living in a cramped and poverty-stricken home environment, induced family distractions, lack of discipline, lack of human interaction, and less support (Cao et al. (2020), Hussein et al. (2020), Trung et al. (2020)). While only about 220 students stated a positive ERTL mental health experience while working at home, these personal perspectives are also worth sharing.

5.7. Family Relationships

Although about 480 students complained about the challenges of mental health, there were, as mentioned, 200 more participants who shared mutual

explanations for feeling gratification with ERTL by being home and having 'the ability to build relationship with loved ones,' 'personal study space.' These students appreciated being able to learn in a personalized space. Earthman (2002) affirmed that sometimes schools or classroom spaces could be too complex or crowded for some students, which tends to create several academic and social problems for them. The research study results show that ERTL was a comfortable and convenient setting for most students, and some stated that being at home positively affected their academic progress. These students mentioned how they were more opportunities to rest at home and build relationships with their family relatives, and their family was getting to understand what they are about studying. This opportunity mentioned could be that many of the students come from different provinces and learning from home reminds some of the first years of how studying home for their high school was and how it helps them receive family support. Perhaps, student perceptions would show more appreciation for being home after the second semester of ERTL because of how comfortable they would have been studying at home. Furthermore, the literature (Hodges et al. 2020; Shisley 2020, Brooks and Grajek 2020) found that some students enjoyed ERTL at home to a point where they felt it was a one-to-one student-teacher experience. Though students were from different areas in the research study (rural, township, farms, urban, etc.), none of them mentioned this being part of their experience.

5.8. Perceptions of the full scope of technology integration that Emergency Remote Teaching manifest

It is essential to understand that, before ERTL, the learning and teaching material was not designed for ERTL or the students themselves well-prepared or trained to transition to ERTL and make the most of the situation. Lecturers did receive training and assistance from the university so to be able to build confidence in themselves and their resources so as to design and implement remote learning and teaching for their respective students. This study divulges that ERTL during the pandemic did not involve various non-conventional approaches as the dates above show that the first semester had already started. The university had to find an emergency approach to continue learning and teaching activities. This emergency approach was revealed through the integration of technology in the learning and teaching experiences of students. The SAMR model was used to determine four levels of integrating technology into learning, and these are summarized as Substitution, Augmentation, Modification, and Redefinition. Substitution level, which encourages electronic-based documents instead of regular paper, was mostly used for the ERTL academic activities based on the students' experiences. Some of the literature showed different examples of how technology was integrated into the learning and teaching environment, covering all SAMR levels from

substitutions to redefinition (Romrell et al., (2014), Hamilton et al., (2016), Berliner (2002), Ertmer (1999), Zhao and Frank (2003), and Ertmer et al. (2012), Wahyuni et al. (2020)). For this research study, most of the integration of technology only took place at the substitution level. There was little evidence of functional change when substitution was applied on the learning and teaching experiences during remote learning as this would be the case in a formally designed online course experience.

5.9. Lack of hands-on experience

Another thing to think about is the lack of practical experience for particular disciplines such as Medicine, Filmmaking, etc, which led to students perceiving ERTL as an incomplete and difficult degree experience. Students alleged that they have distress and great trouble getting to learn a subject area that depends on personal practical experience. Additionally, they claim that they must succumb and be satisfied by seeing the lecturer's practical experimentation only through video or watching it via YouTube or other websites. Many other students complained about not having enough internet connection or data (refer above), and so by this, they would not be able to learn from other sources in an attempt to make up for the gap of knowledge from hands-on experience. What was surprising was how students mightily complained about this and expressed their painful experience even in questions that did not seek to find out about this particular experience or perception. Students claimed that the knowledge they learn in their current year under ERTL would affect next year's learning understanding, and so they needed to get the practical experience this year to ensure their degree experience does not suffer. Students usually use their practicals and face-to-face learning to engage and learn. Their prerogative is that emote learning prevents them from engaging on the topics further with lecturers, which amounts to cognitive, lecturer, and student presence deficiency. The nature of most degrees, i.e., Medicine, Filmmaking, Surveying, etc., is directly dependent on students interacting with each other and interacting with their class content material to connect and make sense of learning. This facet of their experience involves online learning model agencies – student-content, which is discussed more below. This highlights an issue by Anderson (2008) when mentioning how learners with different learning styles need to be supported adequately to learn better and consume content and produce interaction with their peers and lecturers that is plausible. For example, abstract-conceptualization and active-experimentation learners acquire education better when having objects, symbols, doing practical experiments, and being engaged in group discussions and projects. Now imagine how these types of learners felt in an environment where they were subjected to learning remotely and must be content with only watching virtual experiments and being exposed to discussions that are not as entertaining as live, symbolic, and face-to-face interactions. One may argue that a lecturer asking a student to apply

learned information to a situation in their environment may equate to fulfilling these types of learning styles. Perhaps, if entertained, this can be true, except that this assumes that students have adequate environments and resources that are distraction-free and burdenless. Creating a learning and teaching environment that allows every learning style to thrive and explore learning without bounds is impossible if issues such as lack of internet and network connectivity, insufficient digital skills, computer resources, etc., remain to be inhibitions students. Miserable to say, but the majority of students in this research study have perceived that ERTLL, in its immediate and temporarily unplanned state, has not been created to offer an environment where every learning style can thrive and explore learning without bounds. The reason for is principally due to the lack of hands-on experience that makes their degree experience incomplete and problematic.

5.10. Students' perceptions of educational interactions in working and learning remotely

From the beginning of this research study and explaining the online learning model, three expectations were set out in using ensuring that the educational interactions are satisfied and well-balanced to achieve enjoyment and success of learning. Firstly, the student needs and capabilities must have been well known and accommodated. Secondly, the academic lecturer must be fully able to operate in the online learning environment comfortably. Last but not least, the resources and activities must have been assigned suitably for students to thrive and do well in the environment. What is noticeable, regarding understanding student perceptions through the online learning design model, is that students felt very lonely and detached from each other, content, and lecturer. This feeling refers specifically to the student-content, student-student, and student-teacher agencies that Anderson and Elloumi (2004) mentioned in the online learning model. As mentioned before, teaching experience or teacher presence provided by the technological environment and academic lecturer and the cognitive network of students creates a Col that enables learning and teaching – educational exchange. The interactions between the student-student and student-teacher agencies also show the importance of feedback that happens immediately, and perhaps personalized feedback. This lack of feedback, personalized learning, and attention is what most students emphasized to be missing from their ERTL experience. It is quite impossible to imagine this change happening without manipulating the online learning environment resources, activities, and tools to adapt to the needs, personal struggles, and changes of the student community. Hence the significance of the teacher-content interaction is essential as well. To be effective, the lecturer's relationship with the content must produce student-content that fulfils quality learning enjoyment in an environment that encourages personalized and immediate feedback. Anderson and Elloumi (2004) consider this the best way for the online learning process to replicate the face-to-face environment

and achieve a sense of creativity and innovation in learning and teaching. Students felt that the content was not enough to make them be encouraged to learn. They expressed how it was either a significant load to carry, too many deadlines, or that it was not enough quality and quantity such that they had to use other resources to fill the gap. The student, in the online learning model, interacts with content as well as the academic lecturer. The interaction of the student, teacher, and content agents is supposed to bring about the sustainable process of creating knowledge, and if this does not happen, it means the three agents are not well facilitated within ERTL. In addition, social interaction for students meant students being able to create and sustain relationships. Lack of social interaction, as stated by Hurst et al., (2013), can lead to mental-health challenges for many students. This is also supported by Bolatov et al., (2020) when mentioning how their study found that students who were separated from their peers and family during remote learning were disposed to mental health challenges. While, when social interaction is prioritized in online learning, students share and learn together, resulting in more critical thinking and better problem solving.

As mentioned above, the reason for this could be that other lecturers were not present for training to be fully able to operate in the online learning environment comfortably, or that the time for training was not adequate to facilitate all these three agents sustainably satisfyingly fully. It could also be that the training did not have these three agents and was never part of the training agenda. Another reason for students feeling very lonely and detached from each other, content, and lecturer could be that the student needs and capabilities themselves must not have been well known and accommodated due to some students not responding to the university's surveys. All these reasons are possibilities of why this finding surfaced from student experiences with ERTL. The reasons are also equally vital to consider ensuring the resources and activities to be assigned appropriately for students to thrive and do well in the ERTL environment. The findings also indicate how difficult the circumstances might have been for the university to manage, and the attendance of training by lecturers showed commitment, by both university and staff, to assembling an ERTL that will work well in the midst of it being rushed and hurried.

5.11. Pedagogical Changes during ERTL

The attendance of training by UCT lecturers before the start of remote learning showed that UCT lecturers did not want to be caught-up in the turmoil of transiting traditional pedagogy without considering how it can be more relevant to sustain learning and benefit the student. Though in attendance for the training, lecturers and other UCT staff were aware that full integration of technological capabilities would not be achieved because it would take more time. Hence, in some instances, some students perceived and experienced the pedagogical changes both positively and negatively. This is also exposed by the SAMR that shows there was only preliminary design through the use of

substitution, instead of augmentation, modification, and redefinition of learning and teaching as a whole because of time limitations. Students shared their perspectives on pedagogical changes during ERTLL and partly complained about increased workload ranging from assignments to notes. Paradoxically, regarding notes, some students complained that they did not have enough information because of the short videos and the inability to ask enough questions for clarity because of the limited time. Methods of assessment used, i.e., quizzes, tutorials, tests, etc., were perceived positively and negatively as some students thought of the assessment style as comfortable, while others experienced difficult and technical issues. The majority of students complained about the lack of discussions that would typically make the classes exciting, collaborative, and interactive. With less to no collaboration, the student felt that the classes were reduced only to assessments. Continuous assessment was perceived to be an added advantage by students and so this showed that as pedagogy transited, some students found the transition to be positive and encouraging.

5.12. Time – Flexibility and Convenience

Reduction of procrastination due to ERTL surfaced as an advantage for some students in literature research. For this research study, it was also mentioned by a few students who cited how ERTL enabled them to work better under circumstances where they can control their schedule. Perhaps the reason for this, for some students, is that the traditional operation and scheduling of classes make students procrastinate and experience boredom. What could also be the reason for this finding is the lack of inspiration, low self-assurance, fear of disappointment or failure, and lack of understanding from students. It is essential to ensure that students are motivated and instilled with confidence during ERTL, which directly affects their perception of ERTL. Overall, data from the literature shows that lecturers' ability to choose and implement well lecture materials for students contributes to student experiences and motivation and confidence to continue with remote learning. Schlesselman (2020) accordingly states how more pandemics that are still to come will require ERTL operation high with student motivation and confidence. Hence, it is time for universities to prepare ERTL environments where students can be motivated and inspired through participation, active communication, and peer-to-peer learning and teaching.

CHAPTER 6 - CONCLUSIONS AND RECOMMENDATIONS

Overall, student perspectives in the research study were mostly challenging experiences and barriers regarding ERTLE in the first semester at the University of Cape Town. The students regarded ERTL as unaccommodating and ineffective as a replacement for face-to-face teaching and learning. Some of the challenges and barriers students experienced range from insufficient digital skills and computer resources, internet and network connectivity, lack of hands-on experience leading to an incomplete and difficult degree experience, and finally, distractions. Paradoxically, the students perceived some of the challenges as opportunities and advantages. This study showed that students regarded ERTL as an opportunity for reduced procrastination, self-directed learning, and growing relationships with family members because of being home.

The main research question for this study was stated as: *How do university students perceive working and learning remotely during a pandemic?* The data provided in both qualitative and quantitative forms shows that most students experienced more disadvantages than advantages. This is seen from a total of 2746 recorded complaints ranging from distractions to inequitable living and working environments from qualitative data analysis. This is compared to a total of 1584 recorded advantages ranging from flexibility to self-directed learning which students perceived which in the qualitative data. Quantitative data collection also showed that students preferred face-to-face learning over ERTL. The data showed that most participants (over 54.1%) preferred a combination of both learning methods (blended learning), with 38.1% preferring face-to-face learning. Also, when students were asked if they would prefer ERTL over face-to-face learning, two-thirds of the participants disagreed with 33.1% of participants strongly disagreeing. Over 22% agreed, with 7.4% strongly agreeing.

An interesting part of the study was students detailing how the SAMR framework was not utilized or realized to its full extent as Substitution was the dominating technology integration level with limited to no Augmentation. This was a possibility due to the temporary nature of ERT and the swiftness of its implementation. This finding deals with the sub-question 5 of this research study which states: *Did students perceive that Emergency Remote Teaching manifested the full scope of technology integration?* Also, SAMR affects the types of tools and activities that students do and interact with during ERTL, hence the research asked them to rate some of those activities that included submission tools, group discussion, lecture videos, etc. in terms of their importance during ERTL. More than 400 students had a good experience working with the different tools and activities provided during ERTL and this was mentioned as an outcome due to the lack of full SAMR application for the ERTL.

Regarding these interactions, students were both satisfied and resentful with the lecturers and tutors' availability, commitment, and resourcefulness. In general, students felt that they did not have much interaction with their peers during ERTL and dearly missed the interaction they previously had with them on campus. Some students commented on the extra-mile effort by some of their tutors and lecturers and brilliant actions to ensure students appreciate and enjoy content and interact with each other. This study also exhibited perceptions of the full scope of technology integration during ERTL. It was unsatisfactory to find that most of the students' academic needs could not be satisfied due to the computer equipment and learning management system's lack of technology. This lack of technology ranged from software needed to complete the degree to the lack of methods to connect students, lecturers, and content to enable student success. It is comprehensible that the transition happened quickly due to an emergency and that the second semester would perhaps be a better academic experience for students regarding the levels of technology integration in learning and teaching. To effectively implement remote learning and teaching into the academic program at the HEI level requires a well-thought-out approach and a more robust and less rigorous strategy.

The first sub-question of this research study had stated: *How do students perceive time during remote learning?* Regarding this sub-question, 475 students experienced ERTL as an advantage over 403 students who experienced it as a disadvantage. The second sub-question stated: *What advantages (opportunities) do students perceive in working and learning remotely in comparison to traditional learning and teaching?* Regarding this, more than 450 students commented on the advantage of time, with more than 200 students commenting on the advantage of being at their home environment and being able to interact with family, own space, and being comfortable. A total of 311 students commented on the advantage of pedagogical improvements and assessment methods in ERTL with more than 250 students commenting on the advantage of having lecturers present and attending to their academic needs. Other student (298) commented on the advantage of self-directed learning. The third sub-question stated: *What disadvantages (barriers) do students perceive in working and learning remotely in comparison to traditional learning and teaching?* Showed a total of 512 students commenting on the disadvantage of distractions they experienced at home, as well as lack of hands-on experience. A total of 487 students commented on the disadvantage of mental health they experienced. More than 250 students commented on the disadvantage of having technical difficulties in their academic activities and another total of 175 student commented on this perceived expectation as a challenge for them. Inequitable living conditions were a challenge for many students as a total of 529 students commented on the disadvantage of inequitable living and environmental conditions.

Students shared their perception of student, lecturer, and content interaction. Most students (182) from 680 participants strongly disagreed that it was easy to interact with lecturers, with (166) disagreeing. The rest of the student agreed and strongly agreed to the same. When participants were asked whether they agree that they receive quicker feedback from lecturers and tutors during ERTLL, more than 350 students strongly disagreed with more than 200 disagreeing.

6.1. Limitations of the study

The study reached 707 students, and this is not a good response rate for online surveys considering that this is 2.5% of the total 28 000 population of students. According to Chenicher et al., (2013), consider response rates of 10% or more to be viable even though lower response rates are acceptable. The study needed to have a wider reach and a right balance of the university faculties. This would help investigate and uncover important insights and aspects of the dynamic relationship between the students, content, and lecturers during remote learning. Email reminders were also sent to students during the period of data collection to attract as many students as possible.

As mentioned in the findings, COVID-19 contributed to the students' mental health challenges that ranged from distress to anxiety, and depression. Hence COVID-19 was one of the limitations of the study as the result of this limited the number of students who participated in the study because of the anxiety, distress, or depression they might have faced. This also affected the way in which data was collected as there were restrictions in place. Some of the lecturers did not allow students to be involved in the data collection as they thought it would impede on the students learning and current workload.

The study was only limited to students and did not include other stakeholders within HEIs, i.e., lecturers, parents, funders, etc. Therefore, more studies that include other stakeholders other than students are essential to investigate ERTL accomplishment concerning familiarity, gain with ERTL and learning environment, student performance, lecturer attitude, and technological-related features.

The research study mostly investigated subjective results and measures that partially and selectively reproduced students' perception and satisfaction with ERTL. Other aspects and facts that can be explored include but are not limited to these critical factors for successful remote learning and teaching: availability, connectivity, and reliability of the technology utilized, the content, interface, and framework design of the learning management system, the sustainability, quality and coordination of the support structures for both students and lecturers during remote learning.

Students with disabilities were not included as part of the study as there was no question asking nor any students mentioning that they had a form of

disability. Students with disabilities tend to experience greater challenges with accessing learning and teaching and it would have been interesting to have an aspect that collect data on how they are accessing resources and being supported during remote learning.

Incentives were not utilised by this research study to encourage more student participation in the survey. The use of incentives in data collection can increase the response rate of students and hence produce more data for the research to base its finding.

There is also a generalizability that is made in the research study regarding its application to other university contexts. The study can be used by instructional designers and developers, by university management in dealing with implementing online learning programs for their institutions. Nevertheless, the context the institution will matter for the application of findings and recommendations.

6.2. Recommendations

Universities and the country can invest more in putting emergency preparedness plans and resources in place for unexpected problems before they occur. After some time, it is essential to review, develop the current practice, and plan future programs. Universities can be trained early on for conducting both traditional and remote learning and teaching classes during pandemic-free semesters.

It is the parents, universities, and country leaders' responsibility to look at and develop the students' aptitude to learn separate from the lecture halls. This could mean proficiently merging remote learning and offline self-learning. Regarding ICT and technology integration in remote learning and teaching activities, the university can further enhance its skill. University learning should inspire students to learn self-sufficiently utilizing a wide range of methods and media enabled by integrated technology. Distributing the learning content into reduced components helps the student concentrate better and adjust to different learning ways.

It is recommended that lecturers develop their relationship with teaching assistants or tutors. Academic and student assistants will be involved in engaging students and assisting where lecturers cannot continue alone. Their involvement in training is pivotal.

Government is recommended to initiate and accelerate the process of bringing internet access and devices to households during remote learning to assist universities. This includes improving internet access for disadvantaged communities.

The last but not least recommendation from the research study is to provide psychological, psychosocial, and emotional support for students.

CHAPTER 7 – REFERENCES

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APPENDIX A

1. Informed consent and letter to student
2. Eligibility
3. Survey Questions – With closed and open-ended questions

Student Experiences of Remote Learning during Covid19

Welcome to my research study and thank you for your participation. It is much appreciated.

***Required**

Skip to question 1Skip to question 1

Informed Consent

1. Informed Consent Form *

Student Researcher: Athenkosi Nzala
Supervisor: Prof Laura Czerniewicz
University Institution: University of Cape Town

Purpose: Receive informed consent to be a participant in my research study.

Research Topic: Understanding student experiences of working and learning in remote conditions during a pandemic.

Hi, my name is Athenkosi Nzala and I am currently studying a Master of Education Policy, Leadership & Change at the University of Cape Town (UCT). I am carrying out research on student experiences on working and learning in remote conditions during the current pandemic - COVID19. I would like to ask your permission to partake in this online survey. The survey will take **15-20 minutes** of your time. **During your participation there are no right or wrong answers.** It is worth mentioning that your views will impact the design of online learning in the future.

This research is currently completed by UCT students and remote learning refers to learning from home, away from the university campus and this learning taking place online.

Only the researchers involved will see your answers to this survey, meaning it is **confidential**. Your participation in this survey is also **voluntary** and no other students or people related to you will see your answer. You may withdraw permission for conducting the research at any given time. A reminder that your honesty in your participation will help build better ways of designing authentic and improve learning experiences for you and other students.

You are welcome to ask any questions regarding this research by telephone or email to me: Athenkosi Nzala (NZLATH001@myuct.ac.za) on 0810035316.

Yours sincerely,
Athenkosi Nzala

Mark only one oval.

☐ I understand the information provided in the informed consent form about participating in this questionnaire and I agree to participate in this study. *Skip to question 2*

☐ I do not agree to participate in this study *Skip to section 6 (OPTION TO EXIT SURVEY)*

Skip to question 2

Eligibility

2. In order to participate in the study, you must be a student at UCT and currently enrolled in remote learning. *

Mark only one oval.

- ☐ Yes, I am a UCT student *Skip to question 3*
☐ No, I am not a UCT student *Skip to section 6 (OPTION TO EXIT SURVEY)*

Survey Questions

3. What is your previous experience of remote or online learning? *

Mark only one oval.

- ☐ No experience
☐ Some experience
☐ A lot of experience

4. If you have experience of remote or online learning, briefly explain *

5. Having started remote learning with UCT, what is your preference ... *

Mark only one oval.

- ☐ I prefer traditional face-to-face learning
- ☐ I prefer a combination of face-to-face and remote learning
- ☐ I prefer remote learning
- ☐ It depends

6. Remote learning in my area of study is... *

Mark only one oval.

- ☐ Easy
- ☐ Difficult but doable
- ☐ Impossible

7. Comment on remote learning in your area of study *

8. I prefer remote learning over face-to-face learning. *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

9. Do you think there is a difference between remote learning and online learning?
Comment *

10. Since starting remote learning, how has your view of remote learning or online learning changed? *

11. What have you found that you can do online (for learning) that you could not do face-to-face? *

12. Please rate the following in terms of their importance for your learning remotely

*

Mark only one oval per row.

	Very important	A little bit important	Not important at all
Lecturer communication	☐	☐	☐
Lecturer support	☐	☐	☐
Lecturer availability	☐	☐	☐
Lecturer professionalism	☐	☐	☐
Tutor communication	☐	☐	☐
Tutor support	☐	☐	☐
Tutor availability	☐	☐	☐
Quality of Teaching	☐	☐	☐
Tutor professionalism	☐	☐	☐
Student interaction	☐	☐	☐
Access to content	☐	☐	☐
Orientation days	☐	☐	☐
My personal data being private	☐	☐	☐

13. 9. It is easier to engage with lecturers online than face to face *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	☐	☐	☐	☐	☐	Strongly Agree

14. How do you communicate with lecturers and tutors ? *

15. I receive quick feedback from lecturers *

Mark only one oval.

	1	2	3	4	5	
Strongly agree	☐	☐	☐	☐	☐	Strongly disagree

16. I receive quick feedback from tutors *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	☐	☐	☐	☐	☐	Strongly Agree

17. I am satisfied with how I can interact with other students during remote learning *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	☐	☐	☐	☐	☐	Strongly Agree

18. How is your interaction with other students different online compared with face to face? *

19. Learning online has more distractions than learning face-to-face *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	☐	☐	☐	☐	☐	Strongly Agree

20. How is the presence of the lecturer different online compared to face to face? *

21. I have found new ways to learn through the online experience *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	☐	☐	☐	☐	☐	Strongly Agree

22. How am I learning in new ways online *

23. What was your experience of working with the following tools? *

Mark only one oval per row.

	Excellent	Good	Okay	Poor
Submission tools	☐	☐	☐	☐
Group Discussion	☐	☐	☐	☐
Lecture videos	☐	☐	☐	☐
Tutorials, quizzes, and other assessments	☐	☐	☐	☐

24. What do you miss the most about face-to-face campus learning? (choose only one) *

Tick all that apply.

- ☐ Residence and general campus life
- ☐ Interaction with other students
- ☐ Interaction with lecturers
- ☐ Wifi

Other: ☐ _____

25. What have been the advantages of your remote learning experiences? *

26. What have been the problems with your remote learning experiences?

27. How is the lecturer teaching different online compared with face to face? *

28. Add any others comments about your experience of remote learning

29. What is your gender? *

Mark only one oval.

- ☐ Female
- ☐ Male
- ☐ Prefer not to say

30. Where do you live? *

Mark only one oval.

- ☐ Rural
- ☐ Farm
- ☐ Suburb in a city
- ☐ Township
- ☐ Other:

31. Which faculty are you registered in? *

Mark only one oval.

- ☐ Engineering and the Built Environment
- ☐ Commerce
- ☐ Science
- ☐ Law
- ☐ Humanities
- ☐ Health Science

Skip to section 5 (Finished!)

Finished!

Thank you for your response and participation in the survey. Your time is appreciated.

OPTION TO EXIT SURVEY

Thank you for taking your time to participate in the survey.

This content is neither created nor endorsed by Google.

Google Forms

APPENDIX B

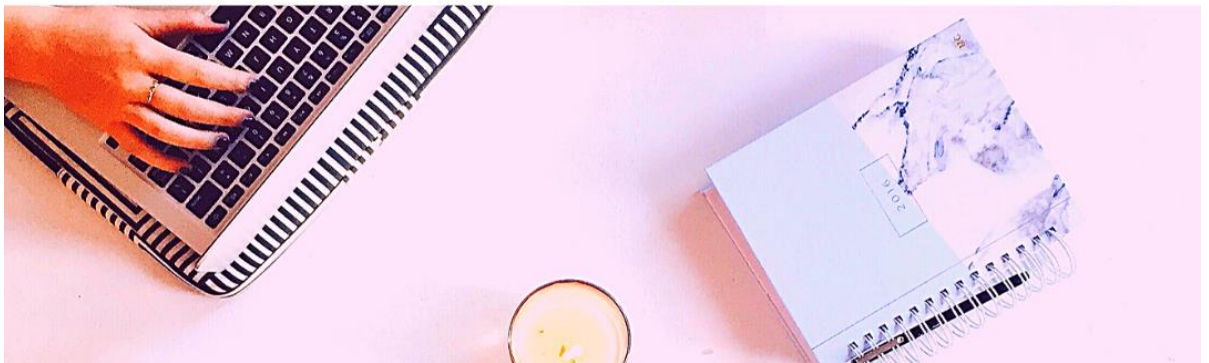
UCT MASTERS RESEARCH STUDY SURVEY



HOW IS UCT ONLINE LEARNING REALLY GOING FOR YOU?



A STUDY LIMITED TO UCT STUDENTS



APPENDIX C

Research Topic: Understanding student experiences of working and learning in remote conditions during a pandemic. [Humanities Faculty MAST]

Liz Werth <Liz.Werth@uct.ac.za>

Mon 5/25/2020 10:45 AM

To: no-reply@vula.uct.ac.za <no-reply@vula.uct.ac.za>

Student Researcher: Athenkosi Nzala

Supervisor: Prof Laura Czerniewicz

University Institution: University of Cape Town

Purpose: Receive informed consent to be a participant in my research study.

Research Topic: Understanding student experiences of working and learning in remote conditions during a pandemic.

Hi, my name is Athenkosi Nzala and I am currently studying a Master of Education Policy, Leadership & Change at the University of Cape Town (UCT). I am carrying out research on student experiences on working and learning in remote conditions during the current pandemic - COVID19. I would like to ask your permission to partake in this online survey. The survey will take 15-20 minutes of your time. During your participation there are no right or wrong answers. It is worth mentioning that your views will impact the design of online learning in the future.

This research is currently completed by UCT students and remote learning refers to learning from home, away from the university campus and this learning taking place online.

Only the researchers involved will see your answers to this survey, meaning it is **confidential**. Your participation in this survey is also **voluntary** and no other students or people related to you will see your answer. You may withdraw permission for conducting the research at any given time. A reminder that your honesty in your participation will help build better ways of designing authentic and improve learning experiences for you and other students.

The survey link is as follows: [bit.ly to https://bit.ly/studentsRL](https://bit.ly/studentsRL)

You are welcome to ask any questions regarding this research by telephone or email to me: Athenkosi Nzala (NZLATH001@myuct.ac.za) on 0810035316.

Yours sincerely, Athenkosi Nzala

This announcement was sent from the [Humanities Faculty MAST](#) Vula site.
You can modify how you receive notifications at Home > Preferences.

APPENDIX D

Nicky Wolmarans <nicky.wolmarans@uct.ac.za>

Thu 5/21/2020 11:23 AM

To: Athenkosi Nzala <NZLATH001@myuct.ac.za>

Cc: Mark Zuidgeest <mark.zuidgeest@uct.ac.za>; Pilate Moyo <pilate.moyo@uct.ac.za>

Hi Athi

I have just had a nice opening from the CIV1005W class reps I can use to introduce your survey through our Vula Site. Just need to get the timing right because they are under a lot of pressure right now. I'm sure others in our department will be happy to spread the word that way too.

I have a network of ADLs in the Faculty who I could use to extend the survey through the Faculty. My main concern is that they don't get bombarded about the same things from too many angles.

Please let me have your thoughts

Regards

Nicky

On 2020/05/21, 10:54, "Athenkosi Nzala" <NZLATH001@myuct.ac.za> wrote:

Hi Nicky,

Thank you for your timely response. I appreciate it.

Yes, me and Prof. Moyo had a chat about this topic and were scheduled to meet before the current Covid19 situation. He had explored with me the ideas around online learning for the faculty and I hope this research study may add value to the faculty. I am currently engaging with Humanities and Commerce faculty about the inclusion of the survey for their own students.

I have spoken to about 10-15 students who I know personally and have asked them to fill in the survey, either than that I have not spoken to anyone else in the faculty. I have made social media posts from yesterday and since then I have had 36 students with the hope of getting to about 3000 students in all faculties (about 500 per faculty).

I was hoping the survey could be included in a separate email that would be sent at a time when students do not have a great deal of work so it does not pose as a distraction to them and if it could get the endorsement of the faculty and how it will lead to helping the university gauge better understanding of their frustrations and enjoyments of online learning. I am open to any other suggestions that may be more useful and wiser regarding approaching students.

Below is the message I send to students:

"Hi, my name is Athenkosi Nzala and I am currently studying a Master of Education Policy, Leadership & Change at the University of Cape Town (UCT). I am carrying out research on student experiences on working and learning in remote conditions during the current pandemic - COVID19. I would like to ask your permission to partake in this online survey. The survey will take 15-20 minutes of your time. During your participation there are no right or wrong answers. It is worth mentioning that your views will impact the design of online learning in the future.

This is the link where you can participate in the survey:

<https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fbit.ly%2FstudentsRL&data=02%7C01%7CNZLATH001%40myuct.ac.za%7Cf5df21eb29844c490e6f08d7fd6893fd%7C92454335564e4ccfb0b024445b8c03f7%7C0%7C0%7C63725>

APPENDIX E

Re: Re:

Athenkosi Nzala <NZLATH001@myuct.ac.za>

Wed 6/3/2020 12:34 PM

To: Tessa Minter <tessa.minter@uct.ac.za>

Good day Prof,

I appreciate it, the effort you've put for me.
I will communicate shortly to the commerce student council.

Yours in service,

Athenkosi Godlovesu Nzala
Mandela Rhodes Scholar | 2019
AfrikaCan! Foundation President and Co-Founder | 2016
GIBBS Best Student Overall | 2017
UCT EBE Faculty and SRC Representative | 2014 - 2017
Director and Founder | Athenkosi Nzala Media Services
M: +27 (0) 81 0035316
Learn more at afrikacan.com

"Love is the greatest weapon. If you are in position of power, love and do well to those below and above you, for the future remains uncertain at all times my dear human" - Godlovesu

From: Tessa Minter <tessa.minter@uct.ac.za>

Sent: Monday, June 1, 2020 6:12 PM

To: Athenkosi Nzala

Subject: Fw: Re:

Oops sent to everyone except you!

From: Tessa Minter <tessa.minter@uct.ac.za>

Sent: Monday, 01 June 2020 18:00

To: Chair of CSC <csc.chair@myuct.ac.za>

Cc: Goolam Modack <goolam.modack@uct.ac.za>

Subject: Fw: Re:

Dear Athenkosi,

I have cc'd the Chair of the CSC. My concern is that students appear to be overworked and so the concern is the possible bias this may introduce to your answers.

I would suggest that if the Dean of CHED sent out a message of support for the value of the survey that would be the best as it would cover all students.

The Commerce students have just responded to a survey sent out by the CSC and it may be interesting to chat to them about the demographics of the respondents across years and programmes etc.

Happy to chat further.

Stay warm it is getting very chilly in the evenings.

Kindest regards