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Challenges of learning remotely: Views of pre-service accounting teachers at a South African university

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With the study reported on we explored the views of pre-service accounting teachers' challenges at a South African University during the COVID-19 pandemic. A qualitative research approach supported by the interpretive paradigm was adopted in accordance with the study focus. A case study design involving both telephonic semi-structured and WhatsApp-based focus-group interviews was used to generate data. The data contributed to the understanding of the challenges encountered by teacher participants in using online learning platforms during the pandemic. Twenty participants were purposefully selected for the study. Thematic analysis was employed to analyse the data. The findings show that pre-service teachers faced some challenges that limited their learning and subsequent grasping of concepts in accounting while learning off campus due to the COVID-19 lockdown restrictions.

Keywords: connectivity; internet-based; Moodle; online learning; WhatsApp; Zoom

Introduction

Higher education institutions throughout the world adopted online education using learning management systems (LMSs) to enable students from different geographical locations to undertake studies through interaction with other students online, in the form of asynchronous and synchronous learning (Alghamdi & Bayaga, 2016; Papadima-Sophocleous & Loizides, 2016; Simamora, 2020). The abrupt global transition to online learning during the coronavirus disease (COVID-19) required both teacher educators and pre-service teachers to adapt to new models of teaching environments. In many countries, including South Africa, the process resulted in several challenges and constraints that needed to be overcome (Carrillo & Flores, 2020). Online learning refers to a method of education that enables students from diverse backgrounds to fully participate in learning within an entirely virtual internet-based learning environment (Arkorful & Abaidoo, 2015).

The universal implementation of remote online learning is generally associated with challenges around the access and use of learning infrastructure, access to learning material and access to ideal learning environments. This is particularly true in developing countries and the least developed countries that still suffer from the scourge of insufficient and substandard online infrastructure (Amina & Lucky, 2016; Basuony, EmadEldeen, Farghaly, El-Bassiouny & Mohamed, 2021; Dhawan, 2020; Ferri, Grifoni & Guzzo, 2020; Ghazi-Saidi, Criffield, Kracl, McKelvey, Obasi & Vu, 2020; Minhas, Ahmad, Ahmed, Waheed, Alam & Gul, 2021; Mohmmed, Khidhir, Nazeer & Vijayan, 2020; Simamora, 2020; Ustunluoglu, Mumcu, Uslu & Askar, 2022). Gocotano, Jerodiaz, Banggay and Nasibog (2021) assert that higher education students failed to access online facilities in rural areas in Palestine. Churiyah, Sholikhan, Filianti and Sakdiyyah (2020) also revealed that education readiness in Indonesia to conduct distance learning during the COVID-19 pandemic was seriously exposed by students' lack of access to online technological resources. In Ghana, a study by Ogbonnaya, Awoniyi and Matabane (2020) revealed that the move to online learning in response to the COVID-19 lockdown by pre-service teachers was scuttled by accessibility and connectivity challenges. In a study in India, Dhawan (2020) found that the quality of electronic learning (e-learning) programmes was a real challenge since the government did not provide clear guidelines about e-learning programmes in their educational policies. This was worsened by a lack of standards for quality, quality control, development of electronic resources (e-resources), and electronic content (e-content) delivery. However, even in developed countries, research results reveal several technological, pedagogical and social challenges. Findings from a study by Ferri et al. (2020) in Italy reveal that the technological challenges were mainly related to the unreliability of internet connections and many students' lack of necessary electronic devices. The pedagogical challenges were principally associated with teachers' and learners' lack of digital skills and structured content despite the abundance of online resources.

In South Africa, the most common challenges regarding the use of online education included inadequate infrastructure, incessant power cuts, poor internet connectivity, inadequate bandwidth, low levels of information communication technology (ICT) skills among students, lack of lecturer readiness and lack of appropriate content (Bariham, Ondigi & Kiio, 2021; Khaing, Win & Aung, 2016). The university sampled in our study started using the modular object-oriented and dynamic learning environment (Moodle) in 2010. Moodle is a user-friendly LMS that allows students and lecturers to access education and learning without hassle, making it the most widely used and popular among learners.

The absence of a policy guiding online learning and a lack of training for lecturers ignited challenges evident in students' difficulties in using Moodle during the period (Mpungose, 2023). This was caused by the sudden and unexpected nature of the transition from face-to-face to online learning. The switch to and adoption of LMSs during the COVID-19 pandemic was quite abrupt and largely unstructured in pre-service teacher training programmes in South Africa after the announcement of the pandemic (Nel & Marais, 2020). Furthermore, there were no specific recommendations for teacher education programmes (Assunção Flores & Gago, 2020). Although technology was not the dominant method of delivering material and content to students, accounting lecturers had to integrate online with face-to-face teaching and learning methods in their course offering to ensure that students were allowed further opportunities to engage with the learning material. Students were required to do an online quiz, accessed through Moodle, before and after each lecture. Tutorials based on financial problems and solutions were uploaded to Moodle. The students were given presentations and debates that required them to search for information online. The introduction of remote online teaching and learning during the COVID-19 pandemic compelled the university to move all lectures to the online learning mode.

The purpose of this study, therefore, was to explore the views of pre-service accounting teachers on challenges at a South African university during the COVID-19 pandemic. The main research question was: What were the views of pre-service accounting teachers regarding the challenges of implementing remote learning in South Africa during the COVID-19 pandemic?

Literature Review

Through this study we attempted to understand the challenges encountered by pre-service teachers in the use of online learning by exploring the views of other scholars through a review of studies on the use of online learning by higher education students.

Use of online learning at universities

Pre-service teachers' training programmes need to adapt instructional approaches in line with the online modalities because students are expected to work in such teaching and learning environments during pandemics such as COVID-19. Hill (2021) argues that pre-service teachers need to be exposed to online learning to prepare them to deal with crises like COVID-19 in the future since this may lead to similar associated challenges. Bhalalusesa, Lukwaro and Clemence (2013) argue that since most of these systems were not developed with an African higher education student in mind, some usability problems certainly exist. For instance, they found that 54% of the interviewed Moodle users at an open university in Tanzania indicated that the system was not user-friendly, especially in uploading learning materials. Similarly, in a study at the Makerere University in Uganda, Mayoka and Kyeyune (2012) found that 84.4% of students and 79% of lecturers indicated that the LMS they were using was not user-friendly. Bhalalusesa et al. (2013) additionally point out that some students find the design of some LMSs not user-friendly, somewhat complicated, with an unintuitive layout and difficult to read from the screen. In another study, Mabila, Gelderblom and Ssemugabi (2014) found several usability problems that hindered students from using the LMS at the University of South Africa.

The disparities in terms of access to the various resources necessary to enable the participation of students in remote online learning, such as severe network challenges usually evident in rural areas, hinder online learning at universities. While educators from some technologically advanced countries may be able to reach out to their students through an online mode of lesson delivery, student in some low-income countries, like South Africa, find remote learning difficult. Learning may continue unhampered for students from high-income families with adequate learning materials but most students from low-income families struggle to learn online because of their poor home conditions and inadequate learning facilities. Students struggle to purchase data bundles since most of them come from impoverished backgrounds and cannot afford to buy data to supplement what may be provided by their institutions. Some may miss important Zoom lectures simply because they cannot afford to log on.

Challenges with online learning materials

Literature reports that students complained about the poor quality of online materials in the LMS (Bhalalusesa et al., 2013; Naveh, Tubin & Pliskin 2012). When students see that uploaded materials are of poor quality and do not meet intended educational objectives, they naturally become disappointed with the LMS (Naveh et al., 2012). For example, Bhalalusesa et al. (2013) argue that the low usage of Moodle at an open university in Tanzania was due to a lack of quality learning materials on the LMS. Universities need to develop and upload quality learning materials onto their LMS to increase usage. This can be achieved if lecturers are capacitated and equipped with the necessary skills to be able to design and develop quality learning material.

Online learning lacks physical communication compared to face-to-face learning. Critics of online learning argue that although the instructional approach attempts to mimic the social, cognitive,

and teaching aspects of face-to-face classroom environments, it cannot match the complexity of classroom environments in classroom management, arrangements, interactions and spaces, among others (Carrillo & Flores, 2020). Daniela and Visvizi (2021) contend that people need social contact and opportunities to meet in order to develop relationships. The argument is that remote relationships can affect people's psycho-emotional state, leading to depression or other mental health problems. With virtual communication, students may not receive quick responses from lecturers (Delfino & Persico, 2007). Hill (2021) further notes that although technology integration into teacher education is improving, it is still doubtful that online lessons can successfully substitute classroom practice. If students do not have access to resources that facilitate learning activities, they may not experience teaching approaches beyond theory (Hill, 2021).

A lack of computer skills leads to negative experiences among higher education students and their lecturers. Adnan and Anwar (2020) stress that relevant computer skills play a significant role in online learning. Therefore, it should be considered that most first-year students have limited computer skills and cannot work independently. These students may thus not get the best from online learning. Furthermore, research has shown that students often do not receive adequate support during online learning because most of the challenges they face can neither be fixed remotely nor immediately (El-Maghraby, 2021; Quansah & Essiam, 2021).

Technical challenges due to a lack of experience with online teaching modes by a vast majority of lecturers may also negatively affect online learning (Coman, Țîru, Meseșan-Schmitz, Stanciu & Bularca, 2020). Lecturers may have limited knowledge of the skills related to the design of online teaching and learning activities. Most university students, especially first-year students, may not be confident enough in computer skills, making it challenging for them to access learning materials on online communication platforms and to participate in online live lectures. Several studies show that most students, particularly those living in remote regions, have limited educational facilities, poor internet connectivity and access to electronic devices (Dhawan, 2020; Dube, 2020; Haes Alhelou, Hamedani-Golshan, Njenda & Siano, 2019). Unfavourable learning spaces at home, away from the university, may influence how university students are able to acquire new knowledge and translate it into deep learning. The limited amount of time available for practice to happen during live online lectures hinders the effectiveness of learning through this practice (Bender, 2023). The lack of social interaction often impedes communal learning quality during class feedback.

Conceptual Framework: Online Learning

Online learning refers to a method of education that enables students from diverse backgrounds to fully participate in learning within a virtual, internet-based learning environment (Arkorful & Abaidoo, 2015). Terms such as online learning, web-based learning, blended learning, open learning, computer-mediated learning and mobile learning (m-learning) refer to the ability to use a computer connected to a network to facilitate learning at any time, from anywhere, in any rhythm, with any means (Dhawan, 2020). Online learning was introduced in the 1990s as a result of the advances of the internet and its use in distance learning. The coronavirus outbreak in 2019 transformed online learning from an option to a necessity (Dhawan, 2020). Higher education institutions have popularised online education using LMSs to enable students from different geographical locations to undertake studies through interaction with other students online, in the form of asynchronous and synchronous learning (Alghamdi & Bayaga, 2016; Papadima-Sophocleous & Loizides, 2016; Simamora, 2020).

The negative experiences that students had while using online learning, mainly as a result of poor network connectivity, especially for students located in remote places, are well documented (Dube, 2020; Gardiner, 2017; Quansah & Essiam, 2021). Challenges in online learning have been found to centre on the access and use of learning infrastructure, as well as access to learning material and ideal learning environments (Amina & Lucky, 2016; Basuony et al., 2021; Dhawan, 2020; Ferri et al., 2020; Ghazi-Saidi et al., 2020; Minhas et al., 2021; Mohmmed et al., 2020; Simamora, 2020; Ustunluoglu et al., 2022). Online learning has been criticised for diminishing student interest in learning due to the absence of direct interaction between the teacher and the student (Batmang, Sultan, Azis & Gunawan, 2021).

Our study lent itself to online learning as an overarching conceptual framework. This framework enabled me to regard the formal education situation (a university setting) that was available to pre-service accounting teachers as an opportunity to continue learning during the COVID-19-induced lockdowns and restrictions of social distancing. Such use of online learning enabled us to observe the extent to which pre-service accounting teachers could fully utilise online learning, despite its challenges, to continue with their studies. The resultant observations allowed us to formulate opinions about the effectiveness of online learning in the teacher education programme of pre-service accounting teachers at our research site amid the COVID-19 pandemic.

Methodology

The research approach in this study was qualitative and located within the interpretive paradigm. The study was part of a larger research project in which we sought to understand how pre-service accounting teachers learn using an eclectic teaching approach at a university in South Africa.

Research Design

The case study design was used to conduct individual telephone and WhatsApp-based focus-group interviews with 20 pre-service accounting teachers at a university in South Africa to determine the challenges they encountered while using online learning during the COVID-19 lockdown. Yin (2014:16) defines a case study as "an empirical inquiry that investigates a temporary phenomenon within its real-life context." We used a case study as it helped achieve an in-depth understanding of the teachers' views by talking to them directly (Creswell, 2014). A case study is also regarded as an in-depth exploration of the complexity and uniqueness of a particular project, policy, institution, programme or system in a real-life context, viewed from various perspectives (Creswell & Creswell, 2017). The distinguishing factor of a case-study methodology is that it aims to uncover unique characteristics and interesting differences in the situation under scrutiny. The case study approach is typically used for idiographic research, which means that it focuses on atypical circumstances and distinctive outcomes as a subjective phenomenon (Yin, 2011). Another application of case studies is for nomothetic research aimed at building new theories, typically through the analysis of multiple cases and large sets of data within each case (Welch, Piekkari, Plakoyiannaki & Paavilainen-Mäntymäki, 2020). Single-case research designs are often unrepresentative and fail to implement the rigour required to depict the uniqueness of a situation or prevailing common behaviour (Creswell & Creswell, 2017). Case study research essentially focuses on a phenomenon such as a particular event, programme or activity. For example, in this study, the programme or phenomenon under investigation was the learning of pre-service accounting teachers in an eclectic approach. Another attribute of the case-study methodology is that the phenomenon under investigation is explored in its natural context, bounded by space and time.

Sampling

Twenty pre-service accounting teachers from various social and academic backgrounds and in their first year of university study were purposively sampled and divided into two groups of 10 each for conducting the focus-group interviews. Purposive sampling refers to a process of selecting participants based on their knowledge and experience (Merriam, 1998). We used purposive sampling to selectively choose the participants who were the most appropriate for the study (Creswell, 2014; Flick, 2015) since those selected were the only first-year pre-service accounting teachers studying at the university. We sought to explore participants' experiences of a contemporary phenomenon in a real-world setting. The phenomenon of interest was the pre-service accounting teachers' learning in an online education context. While a sample of 10 to 15 participants generates a volume of data that can be easily managed, a sample of more than 20 participants is likely to generate a volume of data that will be difficult to manage (Vasileiou, Barnett, Thorpe & Young, 2018).

Data Generation Procedure

Data generation for this study took 3 to 4 months. Data were generated during the COVID-19 lockdown with access to participants only possible via phone calls. Consistent with qualitative research, which requires data to be generated directly from the source, we generated data directly from individual and focus-group interviews through semi-structured interviews guided by an interview schedule. We used in-depth individual interviews to understand the experiences of pre-service accounting teachers learning in an eclectic teaching approach. According to Flick (2015), individual interviews are a way of gathering data individually from one person at a time. As Gingging (2013) argues, the one-on-one semi-structured interview is a method used to generate data based on direct interaction and the exchange of words between the interviewer and the interviewee, as a participant. This kind of interview is more personal and allows a participant to frankly table his or her feelings and experiences regarding the particular subject being researched (Anfara & Mertz, 2014; Battiste, 2016). Stratton (2021) adds that the individual interviewer should be able to stimulate some responses, be knowledgeable about the issue and be good at exploring respondents' feelings and beliefs. According to Castillo-Montoya (2016), in-depth interviews are generative since they help to create new knowledge through research. Researchers are given a chance to get detailed answers to their questions from experts on the issue they are investigating (Guest, Namey & Mitchell, 2013). After participants having given consent, the interviews were recorded. We used an interview schedule to ensure that the research questions reflected the focus of the study and that the language was understood by all participants.

Data Analysis

Thematic analysis was employed since it is one of the most recommended methods of data analysis

within qualitative research (Creswell & Creswell, 2017). Audio data from the interviews and focus-group interviews were transcribed and coded into textual data. Transcripts were read several times to identify the units of meaning to access the deeper meaning of the responses received. Open coding was employed to establish categories that were reviewed and clustered into relevant themes before being thematically analysed. The use of qualitative research was appropriate to generate deeper and more detailed data for a profound analysis, credible findings and recommendations. Creswell and Poth (2016) note that qualitative analysis allows the researcher to describe a phenomenon in depth by capturing what transpires in the study. Using this approach provided a holistic analysis of the challenges encountered by pre-service accounting teachers in the learning of accounting using online methods during the COVID-19 pandemic (Quiamco, Abocado & Toquero, 2022).

Ethical Considerations

Ethical considerations were observed as permission to conduct the research was obtained from the university through ethical clearance. The interviews were conducted based on voluntary participation since no incentives were offered to coerce the participants (Creswell & Poth, 2016). Informed consent was obtained and anonymity was ensured by using pseudonyms. Confidentiality of data was strictly observed.

Presentation of the Findings of the Study

The data from participants are presented under three themes: challenges of accessing and using learning infrastructure, challenges relating to access to learning material, and challenges relating to learning environments.

Challenges of Accessing and Using Learning Infrastructure

Learning infrastructure includes the need for the availability of computing devices, internet connectivity, electric power supply, and smartphones used by some participants. Online learning relies on the internet, which many students cannot access. In addition, many participants had limited or no access to the essential ICT tools, such as laptops and smartphones needed to participate in online learning. Furthermore, most participants faced persistent setbacks related to buying data bundles, erratic internet connectivity and electricity outages. Participants close to urban areas and cities had better access to such infrastructure, while those in relatively remote areas reported some access challenges. Thandonkosi revealed: "*Most of the time, I could not access my learning material due to power cuts and poor network connectivity*."

Although participants accessed online learning material through various learning infrastructure, not all managed to use it due to some challenges. They were required to select the proper learning infrastructure and ensure that the internet connectivity was stable and reliable. However, most rural participants encountered difficulties in accessing and using proper learning infrastructure since they did not have the required computing devices to access the learning material. Snenhlanhla indicated similar challenges to access learning material directly from the university Moodle platform: "*Some of us have not enjoyed online learning through complex platforms such as Moodle because we did not have the requisite resources to access the learning material*."

Other participants reported that there was poor and sometimes no internet connectivity in their areas of residence thereby limiting their ability to access the learning materials on time and when needed. Refilwe confirmed this as follows:

> *Off-campus learning was not easy for me because I live in a remote rural area where the network is always down, and even if there is connectivity, the connection is weak and not usable for learning. It is only connected to waste bundles but without communication going on.*

Participants had different learning experiences on the different learning platforms such as Moodle, Zoom, and WhatsApp. Most of the participants felt that accessing learning material through Moodle had significant challenges – mainly due to poor network connectivity and not knowing how to use the application since they did not have enough time to learn how to use Moodle while on campus. WhatsApp offered more flexible and cheaper ways to access accounting learning materials compared to Zoom. Portia confirmed the following: "*Together with the majority of my classmates, we had to resort to WhatsApp because we could afford it and it was easy to use and navigate. WhatsApp was our most preferred platform to access accounting learning material.*"

Participants said that WhatsApp was useful as an alternative platform to submit assessment tasks due to difficulties in uploading their tutorial tasks and assignments through Moodle. They were frustrated with the challenges that they had encountered when writing tests as they spent a lot of time struggling to upload their answers on Moodle. Most pre-service teachers lacked adequate training using the platform while others faced network challenges. Consequently, lecturers were compelled to be flexible by allowing the participants to submit their work through their personal WhatsApp accounts. Therefore, participants relied more heavily on WhatsApp than Moodle because even lecturers used it to send test questions and to receive test answers from students.

Although participants expressed positive experiences about Moodle as an archive for all learning materials, a significant number of them expressed concerns due to negative experiences

encountered while off campus. These negative experiences emanated mainly from poor network connectivity, especially from participants located in remote places. This impacted heavily on the effective learning of new knowledge in accounting. Participants raised numerous concerns regarding online tests that were conducted on Moodle. Some students could not start writing at the normal starting time owing to delayed internet access, a shortage of data and a lack of electricity. Other participants mentioned difficulty in accessing and sending tests due to technical problems and a lack of confidence in submitting assessment tasks through the Moodle platform because of insufficient training.

Challenges Relating to Access to Learning Material

Participants said that they still needed access to their learning materials off campus. They needed to access tutorials, lectures, and complete assignments in their different formats, which were PowerPoint (PP) slides, videos, audio, or text.

Due to the lack of proper digital devices, some students were forced to use smartphones to watch lessons without optimised digital content. Participants stated that their main concern while at home was the online access to the course and learning resources. The absence of physical lessons meant that the accounting learning materials were posted online. Participants, therefore, faced more challenges in accessing learning materials during remote learning as compared to the time they learnt while on campus. This is highlighted by Minenhle who reported: "*While at home and away from campus, I had more problems with access to the learning material – connectivity and electricity power challenges. I still feel that more has to be done to increase our access to the learning material.*"

Participants were of the opinion that access to the learning material had to be organised to allow them to easily navigate and locate the learning resources. Khuluse reported that he had difficulties in searching and locating the online accounting materials due to the unstructured way used to post the learning materials. He confirmed:

> *Some of the learning materials could have been more organised when posted. For instance, I think all VAT* [value added tax] *topics could be posted under clear VAT headings online. This would have made the accessibility of any related material easier and quicker.*

The different formats presented for different learning materials posted online defined the level of accessibility of the materials to the participants. One of the participants asserted that she had problems with accessing learning materials posted as videos or Adobe portable document format (PDF) files as she could not play them on her mobile phone. She had to download file converters to allow her to access the materials. Snenhlanhla claimed that she had to pay someone to install file conversion software to ensure that the PDFs and videos were in file formats that she could play on her smart tablet.

The participants lamented that some of the activities were not interactive and engaging. They also indicated that during physical lectures, their lecturer was able to monitor them and adjust the pace to accommodate those who needed more clarity and extra time. In an online learning setting, it was more difficult to ask questions during the lecture. They were concerned that the lecturers could not see that they were frustrated because they could not read their body language virtually. They explained that they used to be silent while lecturers continued to teach and this left them feeling discouraged and unsatisfied as they had not understood what was taught.

The use of Zoom to conduct live lectures during online learning was associated with insurmountable challenges. Many students revealed that they failed to attend or contribute during online discussions due to network challenges. Although lecturers did their best to make the Zoom lectures interactive by encouraging class discussions, these discussions had limited impact on the students' learning due to their inability to actively participate. The intermittent power cuts as a result of load shedding presented another challenge to student participation in class discussions on Zoom. Since many students indicated that they could not actively participate during the live Zoom lectures for various reasons discussed above, the effectiveness of class discussions as a learning strategy was compromised to a great extent.

The online classroom discussions somewhat failed to accommodate some pre-service accounting teachers who had limited computer literacy and encountered difficulties in easily accessing live Zoom classes. The participants with limited technological skills struggled to log onto live Zoom lectures and ended up missing considerable learning time. What emerged from the findings is that some students encountered challenges in using their gadgets during online lectures because they lacked the requisite skills or knowledge required to take part in Zoom lectures. For instance, one of the most common challenges was that many students failed to unmute or raise their hands when they wanted to contribute during class discussions. This dealt a heavy blow to their self-esteem and they subsequently failed to respond to the questions posed by the lecturer. Consequently, this affected the level of student participation in lectures during remote online learning.

Participants expressed that accessing tests online was an uphill task. They were not given proper orientation on how to use the online platforms, so they did not know how to access tests

online; they also did not know how to upload them after writing. In addition, they lamented that they would miss submission deadlines because of erratic power supplies as well as challenges linked to internet and network connectivity. Thuso had this to say:

> *I had a rough time. I didn't know how to use these internet tools. I didn't know how to send the completed tests to the lecturer; I didn't know where to click. As I was still trying to figure that out, boom! My tests disappeared and I had to start all over again. I actually didn't submit many tests on time because there was no electricity sometimes, sometimes no internet or network in my area.*

While off campus, participants revealed that they faced challenges related to load shedding, lack of technological resources, network and internet problems. Moreover, they mentioned that they had difficulties in searching and locating the online accounting materials due to the unstructured way in which the learning materials were posted. In addition, they narrated that they failed to open some of the information in PDF or play some of the videos due to a lack of advanced software, as simple technological devices like laptops, and smartphones were not able to accommodate some of the big files. The most concerning comment they made was that some of them were shy to ask questions so they would sit in lectures not understanding what was being taught. Furthermore, participants explained that they were sometimes discouraged from attending live sessions because of the noise the other students made with lecturers failing to control them.

Challenges Relating to Learning Environments

Effective learning requires a conducive working environment where students can interact and share information in a calm learning space. A learning environment and space that is free from constant disturbances improves focus. It emerged from the data that male participants had fewer disturbances while studying at home compared to female participants. Participants reported that learning at home included them having to balance between university and home life. Snenhlantla revealed:

> *Learning at home had its problems, especially in trying to balance home life with school life. In my case, I had a kid and a husband to look after. It had not been easy for me to create a quiet space for me to learn.*

Motivation from peers and the lecturers, which is critical in catalysing participants to concentrate and focus on their studies, was missing in online learning. Minenhle said: "*I lost the university life experience while at home. I could not feel part of my class which has been motivating me and supportive of my learning life.*"

Data gathered show a skewed pattern in which male participants had more learning space compared to their female counterparts. Female participants indicated that they were confined to rooms which they shared with their kids and spouses, while their male counterparts could afford spare rooms for studying. Portia had this to say:

> *I felt unfairness when studying at home as my spouse and children could not afford me ample space to study my accounting course. Most of the time, my spouse would demand to be present while I was studying, and this disturbed me. Even though I would have wanted a free and spare room to do my studies, my family could hardly understand me nor afford me that opportunity.*

One of the prominent problems that participants, particularly females faced while off campus, was to balance domestic duties with the need to study their accounting course. Female participants indicated that they were required to perform their usual domestic responsibilities, which included cooking for the family, doing laundry, and even attending to the emotional and social needs of their family members. One of the female participants even lamented that most of the time she had to nurse her spouse who was sick from the coronavirus. Snenhlantla confirmed as follows:

> *My study life has not been all that smooth and easy for me. My spouse fell sick with COVID-19 and I had to spend most of my time nursing him. This took most of my time to concentrate and focus on my accounting studies.*

Participants said that the off-campus learning environment did not provide them with a quiet environment in which they could concentrate on their studies. Neighbours would present challenges by playing music at high volume, noise from traffic, and even noise from social events such as funerals and weddings caused disruptions. Luthuli stated that he had attempted to caution his neighbours to keep noise levels low but this did not work:

> *Yeah, staying in high-density areas has had a negative effect on my studies. As you may be aware, our residential houses are too close to each other. Worse still, some neighbours would even just play music at the top of the volume. For some time, I had to engage my neighbours to keep the noise low, but nobody understood me. I still can feel the loss of concentration coming from such social events.*

Sizwe also reported that social friends would frequently visit him just to socialise. It emerged from the data that as the participants had to work from home, they could hardly avoid welcoming and socialising with their friends. Their friends' presence disrupted their focus on and studying their accounting course. They had to interrupt their study timetables by giving some time to their loved ones. Sizwe confirmed:

> *Studying at home is not easy. My friends would frequently visit me and I had no other option than to attend to them. Ubuntu demanded that I had to set aside my duties to study by attending to my friends' needs. This affected my concentration on accounting.*

One of the interventions adopted by the participants, especially to avert distractions from noise and other people was to go somewhere away from disruptive environments. The participants reported that they would move away from home to some quiet place, such as recreational parks, to ensure that they avoided undue disturbances from friends or surrounding noises. The participants needed to create their own learning spaces instead of depending on room spaces at their family houses in order to be able to concentrate in learning.

Thamsanqa reported that he had to travel a few kilometres to the nearest leisure garden just to create free space to conduct his accounting studies. He reported that searching for a dedicated learning space afforded him ample time to plan his studies. He could even concentrate more on his accounting research and reflect on learned materials without many disruptions.

> *One thing I have learned is that learning accounting requires a quiet and comfortable space. Such space was not readily available for me while at home. I had to travel to the park to ensure that I was away from family or neighbourhood disruptions. Creating the space away from home spurred my focus on accounting. Yeah, I managed to acquire and assimilate many accounting concepts in the shortest possible time.*

Thus, participants disclosed that they faced a number of problems while learning from home. They had problems with not having devices, challenges with technology, internet and network in their areas of residence limiting their ability to access the learning materials on time and when needed. Furthermore, participants also narrated their challenges of not having a conducive learning environment and space that was free from constant disturbances of noise, uninvited guests and household chores.

One of the recommendations made to administrators is to improve virtual teaching and learning (especially in a pandemic situation) considering students' individual differences related to their various backgrounds when learning strategies are implemented. Hurdles to learning, such as a noisy environment, domestic chores or unplanned visits by friends can be addressed by particular learning strategies. These include planning study times around other responsibilities or social obligations, finding a private, unoccupied space to study, studying in a space away from home, avoid disruptions, and studying at night, when family members are asleep.

Discussion of the Findings

Despite the benefits of online learning to pre-service accounting teachers, it also presented several challenges. Most prevalent were, among others, the problems associated with access to gadgets, connectivity, access to learning materials, and exorbitant data costs. This is in line with findings from a study by Amina and Lucky (2016) in southern Nigeria which found that poor internet connectivity, intermittent power supply, information overload, high cost of access, download delays and difficulty in accessing some websites were the challenges experienced by tertiary students learning online. The unavailability of mobile resources for use by the university students also stalled their participation in online lessons. (Basuony et al., 2021; Ghazi-Saidi et al., 2020; Minhas et al., 2021). Gocotano et al. (2021), in a Palestinian study revealed that accessibility and connectivity challenges were the main impediments for students living in rural areas since they could not access online facilities. From their study in Indonesia, Churiyah et al. (2020) reveal that the lack of access by students to online technological resources during the COVID-19 pandemic threatened their readiness to actively participate in distance learning. This was confirmed by Ogbonnaya et al. (2020) in a study on the transition to remote learning in response to the COVID-19 lockdown by pre-service teachers in Ghana. Findings from our study show that pre-service accounting teachers struggled to cope with challenges on the use of online learning also due to their poor computer skills. In a study in Pakistan, Adnan and Anwar (2020) found that appropriate and relevant computer skills play a major role in online study. The participants in our study were not confident in their computer skills and hence it was challenging to write online tests accessed on Moodle. In studies conducted in different countries throughout the world, researchers state that students often do not receive adequate support during online testing because fixing online problems encountered by students may not be done remotely (El-Maghraby, 2021; Quansah & Essiam, 2021). This is in line with the findings from a study by Naidoo and McKay (2018) who focussed on postgraduate mathematics education students' challenges and the advantages of using digital platforms for learning during the COVID-19 lockdowns.

Findings also reveal that some participants in this study were disadvantaged due to their family backgrounds which made it quite difficult for them to access the necessary computing gadgets needed to use during online learning. Adnan and Anwar (2020) also found that online learning could not produce the desired results in developing countries where a vast majority of students are unable to access the internet due to technical and monetary issues. This was also reported in local and international studies such as Dube (2020), and Mishra, Gupta and Shree (2020) who note that students struggled to attend online lectures due to poor internet connectivity and other related challenges linked to access to computing devices. Rizvi and Nabi's (2021) study in India showed that

the home environment was often not conducive for online learning by students due to loneliness and fatigue from long hours in front of the computer. Findings from a study by Dube (2020) further confirm that poverty in rural Africa inhibited remote learning during COVID-19.

This study reveals that the level of student participation in lectures during remote online learning was not the same as physical face-to-face learning on campus. Studies confirm that class discussions of tutorial solutions become ineffective when student-lecturer and student-student interaction was lacking (Dhawan, 2020; Ferri et al., 2020; Ghazi-Saidi et al., 2020; Mohmmed et al., 2020; Simamora, 2020; Ustunluoglu et al., 2022). Participants revealed that live Zoom lectures had a limited impact on their learning due to their inability to take part in discussions. This shows that asynchronous online discussions may not be used *in-lieu* of face-to-face discussions.

This study revealed that learning remotely at home was quite problematic for the participants. Neighbours would play music at high volume, noise from traffic, and even noise from social events such as funerals interfered with students' studies (Booi & Van den Berg, 2012). This was worsened by the disturbances that participants had from their peers during online lessons. Oliver, Wehby and Reschly (2011) contend that disruptive student behaviour in the classroom is a major concern in school systems today. This shows that even face-to-face lessons suffer from disruptions from students.

Conclusion

In this study we explored the views of pre-service accounting teachers on challenges at a South African University during the COVID-19 pandemic. Drawing on the qualitative case study methodology supported by the interpretivist paradigm, we provided an exploratory perspective on how 20 pre-service accounting teachers were learning off campus. The findings reveal that the challenges that participants encountered during remote learning were quite formidable. Limited digital competency among pre-service accounting teachers prevented participants from engaging in different learning strategies that they normally used while on campus. The participants struggled to log onto live Zoom lectures due to limited technological skills and ended up missing considerable learning time. Consequently, most students either missed lectures or failed to contribute during online discussions. The study has also provided insights into how lecturers and students managed to overcome the challenges. It highlighted the seriousness of the alternative response capability and readiness of higher education institutions in the event of other crises. The findings, therefore, have expanded the understanding of various challenges that pre-service accounting teachers had encountered when they abruptly changed to full online learning – particularly those from poor socio-economic conditions with limited resources and digital literacy, poor internet infrastructure, and a poor home learning environment.

We recommend that virtual teaching and learning is improved – especially in a pandemic situation, and that individual differences related to students' backgrounds need to be considered when learning strategies are implemented. For instance, due to some students' difficulties in accessing online resources, both digital and non-digital technologies could be used for teaching and learning. Obstacles to learning, such as noisy environments, domestic chores or unplanned visits by friends, can be addressed by planning study times around other responsibilities or social obligations, finding a private, unoccupied space to study, studying in a space that is away from home and studying at night, when family members are asleep. The problem of the lack of access to learning material could be addressed by providing training on internet search skills to students and lecturers, as confirmed by Anand, Muthukrishnan, Akella and Ramjee (2009) in their study on redundancy in network traffic.

Authors' Contributions

NEZ generated data and wrote the manuscript. Both authors conducted the qualitative data analysis. JCN reviewed the final draft of the manuscript.

Notes

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