Challenges of Remote Learning During COVID-19: The Case of a Rural University

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The purpose of this article was to examine the challenges of remote learning during COVID-19 at Walter Sisulu University in South Africa. The article adopted a positivist paradigm that utilises a quantitative approach where a questionnaire survey was employed as the data collection tool. The Statistical Package for Social Science was used to analyse the data which was presented in form of graphs. The findings of the article revealed that regarding remote virtual learning many students could not adequately access the online learning tools due to either lack of data or computers. The findings reflected further the limited data provided by the university was a constraint towards successfully conducting online learning. The conclusions drawn for the article indicated a gap in which Walter Sisulu University should play a pivotal role in increasing the quantity of data provided to students as well as online gadgets that include laptops to enable students to embrace the virtual learning amid COVID-19 break. Recommendations are therefore provided to the government of South Africa to prioritise education in rural institutions as COVID-19 has exposed some weaknesses regarding virtual learning due to inadequate resources in institutions of higher learning.

Key words: *Challenges, Remote Learning, Virtual learning environments, COVID-19*

Introduction

This paper examines the challenges of remote learning and assess students access to virtual learning environment (VLE) including the level of support they receive from Walter Sisulu University (WSU) during COVID-19 break. A rural university situated in the Eastern Cape province of South Africa. COVID-19 is the novel coronavirus that goes with the name severe respiratory syndrome coronavirus-2 (SARS-COV-2) (Sansa, 2020). The virus was first

identified in China in Wuhan City at the end of 2019 and is associated by scientists with a disease referred to as COVID-19 (Sansa, 2020). Researchers at Imperial College in London estimated the global impact of the COVID-19 virus to range between 20 million deaths in 2020, with effective non-pharmaceutical interventions in place and 40 million deaths, without such interventions[2.] (Walker, Whittaker & Watson, 2020).

Before the outbreak of the COVID-19 pandemic, the world was dealing with the learning crisis, evidenced by high levels of learning poverty (The World Bank Education Global Practice, 2020). Therefore, the world was already facing formidable challenges in fulfilling the promise of education as a basic human right (UN Policy Brief: Education during COVID-19 and beyond, 2020).

The first quarter of 2020 was a hard time for the global community with the outbreak of the COVID-19 virus which forced the World Health Organisation (WHO) to declare it a pandemic (Adu, Mpu & Adu, 2020; Demuyakor, 2020). As a phenomenon that was unprecedented in history the outbreak of the COVID-19 pandemic saw the largest disruption in history by causing worldwide disruption in literally all spheres of life including in all levels of education (Azoulay, 2020; Yong, 2020; Behari-leak & Ganas, 2020; Demuyakor, 2020). These affected billions of students worldwide and resulted in social and physical distancing practices among citizens which made staying at home compulsory (Cakir & Savas, 2020; Mhlanga & Moloi, 2020). It is the researcher's opinion that the COVID-19 pandemic impacts negatively on achieving Goal 4 of the Sustainable Development Goals.

The new world order necessitated a shift in perspective and thinking in different ways and, in an attempt to contain the spread of COVID-19, Higher Education Institutions (HEIs) around the world cancelled in-person instruction and moved to remote learning and teaching from March 2020 (Abdulamir & Hafidh, 2020; Di Pietro, Biagi, Costa, Karpiński & Mazza, 2020; Raheem & Khan, 2020). By the end of April 2020, educational institutions shut down in most countries, affecting huge percentages of enrolled learners on the planet (Bawa, 2020; Demuyakor, 2020; Di Pietro, Biagi, Costa, Karpiński & Mazza, 2020). Due to the demand to provide quality education amid the COVID-19 pandemic, HEIs in many countries embarked on online teaching and learning. WSU, a rural-based university in the rural province of the Eastern Cape, was forced to re-strategise its efforts towards teaching and learning to cater for its students, especially the first-year students, who were still being introduced to online modes of learning. In administering this remote type of learning, challenges experienced by the first-year students included failing to be interactive with modern digital platforms such as Blackboard. Since many of the first years were still in their homes, they could not adequately have enough knowledge on how online learning works. Some faced problems of data and failure to access the internet due to their poor geographical locations. Other student did not have laptops and smartphones to support online learning. These challenges were raised with the WSU, which tried to provide laptops to a few students in their homes, although the process was slower. Lecturers as well faced the challenges of suddenly migrating to online learning

due to lack of some of technical skills. Drawing from this background, this study examines the challenges of remote learning in a rural university, with WSU as the selected case study. WSU was chosen due to its location in a remote rural area where internet connectivity challenges are often experienced. This paper is guided by the following objectives:

Objectives of the paper

- To assess whether first-year students at WSU used VLEs or not during COVID-19 break.
- To assess whether first-year students at WSU received institutional support with remote learning equipment or not during the COVID-19 lockdown break.
- To examine the availability of virtual support systems to first year students of WSU during COVID-19 break.

After the objectives, the following section focuses on the methodology followed by the theoretical and empirical exploration of the study. The third section provides a discussion of challenges of remote learning among first-year students during the COVID-19 lockdown, followed a discussion of online teaching methods used at WSU during COVID-19. The firth section offers a discussion of the study results, and the last section concludes and offers recommendations for the study.

Methodology

This section focuses on the research approach and design, population and sampling, methods and tools of data collection, and data analysis.

Research approach and design

Generally, research studies assume either qualitative, quantitative or mixed method approaches (Johnson & Christensen, 2020; Kumar, 2019; Sefotho, 2021). This study adopted a quantitative approach, which falls within the positivist paradigm. This research approach uses large number of samples to generate numerical data, to statistically provide evidence of particular problem or phenomenon (Fouche, 2021; Fouche & Roestenburg, 2021; Leedy & Ormond, 2021). Quantitative research approach usually utilizes the surveys design to describe, explain or explore phenomenon (Creswell & Plano Clark, 2018; De Vos, Strydom, Fouché & Delport, 2018). With these qualities, the researcher deemed it right to adopt this approach to investigate the challenges of remote learning during the Covid-19 pandemic using a rural university in South Africa.

An explorative design was to investigate the challenges of remote learning under COVID-19 lockdown regulations in South Africa among first-year students at the rural university. The explorative nature of this study emanated from the fact that remote learning and Covi-19-related dynamics were new in the study settings. Literature on research methodology indicates

that new research problems are first explored to generate insights for further testing (Creswell & Plano Clark, 2018; De Vos, Strydom, Fouché & Delport, 2018; Delport & Fouché, 2018). Therefore, using a structured questionnaire survey, this approach was suitable for this study because it sought to generate insights rather than testing relationship between variables (Bless, Higson-Smith & Sithole, 2020; Leedy & Ormrod, 2021). Quantitative research studies with large samples are appropriate for making generalization of findings (Creswell & Plano Clark, 2018), but in this particular study, the findings are limited to the case due to different personal skills and institutional resources to support remote learning in institutions of higher learning. Nonetheless, the findings are useful in informing the trajectory of the remote learning in rural and pre-urban areas of South Africa.

Population and Sampling techniques

This study was conducted in a rural-based university in South Africa. Before the outbreak of Covid-19 pandemic, the institution assumed a traditional classroom method of teaching and learning. However, technology enhanced learning systems such as Blackboard were blended way before the pandemic. The shift to remote teaching and learning during the Covid-19 pandemic attracted the attention of the researcher to investigate the challenges of the new model, especially focusing on the 'vulnerable' group of students, that is, first-year students. The target population was further narrowed to first-year students enrolled for the Public Resource Management (PRM1) module for academic year 2020.

A census sampling technique (Pattern & Newhart, 2018; Quinlan, Babin, Carr, Griffin & Zikmund, 2019) was utilised so that all the first-year students in the PRM class could be selected to participate in the survey. This sampling technique was used as the population of the students was manageable, and they met the all the conditions to participate. These conditions included being a first-year student in 2020, or a repeater, residing either on or off campus, and aged between eighteen years and thirty-five years. The total number of registered students was ninety (90), which compromise the sample size for this study.

Methods of data collection

Survey studies enjoy the flexibility of administering questionnaires (Dane, 2018; Dewis, 2018). This study was conducted during a lockdown related to Covid-19 regulations in South Africa. This means that person-to-person interactions were limited, hence administering questionnaires in person was impossible. Therefore, within the paradigm of technology enhanced research, the researcher used emails to send and receive the questionnaires. This method proved useful as the response rate was high.

Instruments of data collection

Questionnaires were used to facilitate the collection of mass information within a short time, and little costs (Li, Lipping & Khan, 2018; McNabb, 2018). The Covid-19 pandemic and remote teaching and learning being new phenomena in many settings of the world, South Africa notwithstanding, a self-constructed questionnaire was developed to gather data in this study. The questionnaire adopted a more explorative approach to unearth a number of issues around teaching and learning during the Covid-19 pandemic in HEIs in South Africa.

The questionnaire had five sections that endeavoured to measure different categories of variables. The questionnaire adopted a Likert scale of five point, measuring the degree of agreement or disagreement with predetermined statements; or indicating the frequency of an activity identified by the researcher. Section A of the questionnaire focused on the biographical data of the respondents, which included gender, age, and the status of the respondents' registration. Section B had thirteen items that sought to gather data on respondents' background in terms of where they lived, the conditions of learning environment and support from family members. Section C had seven items to explore what type of learners were the respondents as well as the method of instruction preferred. Section D has twenty-seven items assessing the new model of Remoting Learning through Virtual Learning Environments (VELs). Categorically, the items focused on usage and accessibility to technology enhanced learning platforms such Blackboard, accessibly and available of computer equipment, accessibly and availability of internet and internet gadgets, and family and institutional support in remote learning. Lastly, section E focused on the stress, emotional well-being, and motivation of the respondents during the new shift to remote learning. This section has fourteen items focusing on adjustment to transition, interactions, and stress.

Based on the above description, the questionnaire captured a wide-range of data on remote learning during the era of Covid-19 pandemic. However, it is beyond the capability of this paper to present all this information.

Data analysis

To make sense of the data gathered in this study, simple descriptive statistics such as summary of frequencies and percentages of categorical data was used. It is worth noting that in the context of this paper, the study did not endeavour to test any relationships between variables. Therefore, the need to inferential statistics and testing of hypothesis was unnecessary. To generate the frequencies and percentages, a Statistical Package for Social Sciences (SPSS) version 26 was used. The results are presented graphically and accompanied by narratives to create meaning. The findings generated in this study provide important insights in informing further studies in testing the relationship between the variables identified in this study.

Theoretical and Empirical Exploration

This study draws from the Social Constructivist Theory which explains the construction of knowledge by interacting with others, to assess and analyse the prospect and challenges of the paradigm shift to remote learning. Social constructivist learning theory (SCLT) states that learning results from the engagement of learners in social activities like the lecturer-student relationships within the VLE (Vygotsky, 1896-1934). Social constructivist theory approaches can include mutual teaching, providing support by mentors to their mentees, assessment of problems, and all sorts of methods involving learning with and/or from other individuals (Segoe & Dreyer, 2015). The socio-constructivist theory also affirms that knowledge being the individual construction usually results from social contexts, since learning activities are bound socially and contextually. Through social interaction, the teacher and student share their learning experiences using online devices. Vygotsky based this theory on various aspects such as language, culture and knowledge. Vygotsky (1934) emphasised the role of language and culture in cognitive development and perception of the world we live in. For Vygotsky, language and culture claim to provide frameworks for understanding, experience, and communication about the reality around us.

Vygotsky believed it is evidence of internalized language that guides our thinking and actions. This vitality of language was demonstrated in learning through the way an infant communicates as a required condition for their understanding of concepts and language. During this pandemic, the choice of language is important to facilitate effective teaching and learning. Language of communication is important during virtual learning as it cognitively develops a human being and acts as a potent and efficacious tool for humans to adapt intellectually (Segoe & Dreyer, 2015)

Another aspect recognised by Vygotsky is culture, which is regarded as the principal determinant of cognitive progress. School culture is no doubt a fundamental practice targeted at transforming the school's modus operandi and improving educational outcomes. Regarding online teaching, there is a need for the lecturer and student to imbibe new culture as being different from the traditional school setting culture. Therefore, culture may affect VLE, and digital culture is crucial at this stage (Segoe & Dreyer, 2015).

Knowledge as Vygotsky's theory assumes, is not a simple thing to construct as individuals learn from one another. The learning process as Vygotsky holds must be engaging for the learner through collaboration and cooperation, thus contributing to the social aspect of the theory. Therefore, acquiring knowledge through electronic devices promote cognitive skill. Hence students need to ensure close interactions with peers and lecturers to make virtual learning a success.

The Zone of Proximal Development (ZPD) **is one aspect assumed by Vygotsky.**

He believes that learning occurs within the zone of proximal development). In other words, through the assistance of others in their different homes or senior colleagues, students can learn all they need to understand. However, there are two developmental levels involved in this model: a) The level of actual development – the student will show that they have acquired certain knowledge and they can solve problems independently. One of the skills for virtual learning is problem-solving and independent skills when students have this, learning outcome can be achieved. b) The level of the potential development – this level is important because it depicts the students' potentials and creative ability. The level of knowledge they can reach will be known when working together with their peers and lecturers. To ensure effective virtual learning the ZDP assumes three factors that are: **Intersubjectivity** – the process of creating a common ground or arriving on the same understanding of a concept from an individual subjective approach to a task.   **Scaffolding** – the process of simplifying the task given to a child due to his or her level of understanding to enhance better assimilation of the subject matter for better performance. This is being done through the academic interaction that exists between the teacher and the learner. **Guided participation** – This is broader than the scaffolding characteristic which is the shared enterprise between experts and fewer expert participants. The assessment discussions between a lecturer and a student during virtual learning facilitate the students' learning, the construction, and building of knowledge, and the testing of this knowledge will be like a real classroom situation. contended that socio- constructivists emphasize that students are always confronted with complex teaching situations; hence, they need many opportunities to engage in meaningful, problem-solving activities with their teachers (Creswell, 2013). This theory is as important for this study as it helps explains the need for supporting virtual learning especially during the COVID-19 pandemic in South Africa.

Challenges of remote learning among first-year students during the COVID-19 lockdown

Remote schooling plays a key role in helping students continue with their learning following the disruption of educational processes caused by the closure of universities (Di Pietro et al., 2020). In South Africa, remote learning during COVID-19 has been through the use of VLEs, combined with other e-Learning methods. This has had its fair share of challenges, but it has worked in most HEIs. Way back during the Spring season in 2003, China suffered an outbreak of the Severe Acute Respiratory Syndrome (SARS), leading to the suspension of classes. However, many professors were able to deliver teaching online (Leung & Keing, 2003). Although most professors were already familiar with online teaching platforms before the SARS crisis, this situation encouraged them to discover how to use more complex functions (Di Pietro et al., 2020; Maruli, 2014).

The limited knowledge lecturers in rural universities possess on the use VLEs can be a challenge to reinforce learning via VLEs, yet the use of VLEs in supporting the continuity of education during short-term closure of HEIs is important (Baytiyeh, 2018). Access to internet

connectivity in South African rural and peri-urban areas discourage remote learning although huge technological advancements are in place in South Africa (Pade-Khene & Sewry, 2011; Xiong & Qureshi, 2015). The inability of some students and teachers to use online methods such as MOODLE is one of the noticeable barriers in the development of e-learning education in previously disadvantaged HEIs in South Africa. This skills shortage may have been triggered by the lack of an online learning environment, accessibility of data/Wi-Fi/internet and their usage, lack of connectivity, devices, workspace to engage on-line learning, network problem, personality traits/attitude towards the use of smartphones, laptop, iPad, etc. Therefore, Babaie (2010) perceives a possible hindrance to online teaching and learning as both student and learners are getting used to the 'new normal.

Africa in general suffers from a digital divide which exposes some technological gaps and inaccessibility to digital technologies to drive the concept of remote learning (Ndung'u & Signe, 2020). Despite the proliferation of digital technologies in the Fourth Industrial Revolution (Shava & Hofisi, 2017), internet penetration, quality and affordability are very low compared to the rest of the world. This is seen in a comparative fact that internet penetration in 2019 averaged 39.6 percent in Africa compared to 62.7 percent in the rest of the world, though there is immense variation among countries, ranging from 89.8 percent in Kenya to 5.3 percent in Burundi. Further revelations by Shava and Hofisi (2017) are that in 2017, Africa used only 1 percent of the world's total international internet bandwidth. The median mobile broadband download speed in Africa is 2.7 megabits per second (Mbits/s), roughly half the global median of 5.2 Mbits/s and the monthly cost of a fixed broadband connection is 36.6 percent of gross national income, compared with 14.5 percent globally. African countries spend about 1.1 percent of GDP on digital investment, while advanced economies spend an average of 3.2 percent. These statics in many African countries have shown that using the business-as-usual is not an option, as it will continue to widen the digital divide and drive further marginalisation of Africa (Ndung'u & Signe, 2020). Instituting remote learning using technology in many African countries can be a far-fetched dream although changes triggered by COVID-19 force many institutions of higher to either 'adapt' or 'die.

Although the COVID-19 pandemic presented numerous challenges to many HEIs in Africa, it triggers various innovative capacities by institutions to keep teaching and learning alive (Di Pietro et al., 2020). A study by Ndung'u and Signe (2020) indicates a bright side to the African continent as evidenced by the region's readiness to embrace modern digital technologies to drive various sectors of their economies that include health and education. Evidence from this study has shown that Africa has seen the highest rate of increase in internet use and connectivity in the world over the last two decades and is home to a young and dynamic population. Over the same period, the number of internet users in Africa has increased more than 116-fold, from 4.5 million to 523 million, while that in the rest of the world did not even double. Young Africans in particular are capitalizing on new technologies to find solutions to the continent's problems (Ndung'u & Signe, 2020). Therefore, it can be argued that when young people of

school-going age become more interactive with these evolving digital technologies, it makes teaching and learning using online platforms easier. Generation Y as they are often called can help avert obstacles triggered by COVID-19 with regards to teaching and learning in South Africa.

Types of Virtual Learning Methods

As a result of COVID-19 globally universities have adopted the use of online learning platforms. Some of the methods will be discussed in the following sections:

3D Virtual Learning Environment

Blight (2000) reinforces that lecturing is still the most common method of delivery in higher education despite advances in new technologies. This paper does not advocate radical changes to our current modus operandi of delivery on these courses. However, it supports the enhancement of the traditional face-to-face approach through collaborative project-based learning. This collaborative project blends project collaboration with technologies. The use of digital technologies and other devices are relatively new despite the publicity and societal dynamism (Clarke, 2002). A 3D VLE has been a paradigm shift for many institutions. Schools have begun looking for another safe and controlled learning environment apart from the classroom where teaching and learning can effectively take place which mostly termed "second life" it helps to navigate around the 3D world. Most designated distance education uses 3D VLE to make their learners feel as if they are in a real classroom.

Blended Learning

Blended learning involves online teaching and learning activities that are added to the traditional face-to-face teaching modules. It is the combination of traditional learning with digital online web approaches. According to Powell, Rabbit and Kennedy (2014), blended learning has a lot of influence on designing online modules/courses. Not only that, but it also helps teachers to adequately achieve their day-to-day teaching activities and enable the student to reach the very highest levels of educational mastery.

The enhancement and reshaping of traditional face-to-face classroom activities and making e-learning more acceptable is known as blended learning. Cope and Kalantzis (2016) characterise e-learning environments as being either 'new institutional' or 'traditional sites of learning. Seen as one of the web-based teaching methods of training where the material is available on a computer via either the university's internet or intranet, e-learning is the use of the Internet or an organisational intranet to conduct training online (Warnich, Carrell, Elbert & Hatfield, 2018). The challenge of doing things differently makes blended learning be approached with flexible designing possibilities. The impact of COVID-19 resulted from the prohibition of head-on teaching and learning. The government took steps to prevent the spread of COVID-19

to local communities including the "no crowd" policy, calling off several international conferences, closure of land borders and airports, and imposing a "stay at home" order. All these government responses have in one way or the other affected the students and the teachers (lecturers) leaving them with the only alternative of virtual teaching and learning approach. Recently, the constructivist view on effective teaching and learning adheres to the emergence of 4IR. Blended learning bridges the gap between online and face-to-face teaching in the aspect of content delivery and pedagogical knowledge for effective practices. This will enhance academic performance to become better.

Flipped classrooms approach

Several researchers have canvassed for the student-centred approach while conducting teaching and learning activities for the fact that it promotes the benefits of a high level of retention and mastery of the subject matter. One of the teaching pedagogies that promote learner-centred methods is flipped classrooms (Bishop & Verleger, 2013). Flipped classrooms being learner-centred method promotes learning activities by preparing the students through the use of audio-visual aids like videos, podcasts, posters, and physical materials (Mull, 2012). As noted by Milman (2012) believed that flipped classrooms enhance high retention of knowledge and promote group discussion and collaboration during classroom activities. Flipped classrooms assist teachers to play a passive role during teaching and learning activities and actively involved students by allowing them to use their knowledge independently (Hamdan, 2013). The COVID-19 pandemic has fuelled the need for the use of 4IR strategies earlier than expected and has seen learning face-to-face a challenge due to the need for adherence to social distancing. The flipped classroom brings about the needed changes and transformation to education training and development (Toto & Nguyen, 2009). It is a special type of blended learning and activity-based method of teaching, and it is widely accepted (Tucker, 2012). It brings more quality to the face-to-face approach to learning (Bergmann & Sams, 2014). The main aim of this new learning approach is to provide preparation of the student for the subject before the course (Bristol, 2014). It solves the problem of time-wasting especially when a teacher is about to introduce a completely new lesson or concept. The teacher will have access to different instructional materials and adequately engage the students. Let us now unpack more roles of teachers using a flipped-classroom approach.

Online teaching methods used at WSU during COVID-19

As the 'adapt or die' hypothesis became a reality, WSU went through a multi-modal approach during the five levels of lockdown imposed by the government of South Africa (Songca, Ndebele & Mbodila, 2021). During the phase 1 lockdown and level 5, WSU conducted a needs assessment for online learning, which was followed by Senate approval of the Emergency Teaching and Learning Plan. During phase 2 under lockdown level 4, pilot testing for remote learning was undertaken, asynchronous learning continues for all students was introduce, the university academic calendar was an amendment and remote learning continued. During phase

3 under lockdown level 3, laptops were distributed to students and data was loaded to all their mobile phones. Although a decision was made for students to return to campus at the beginning of September 2020, learning via VLE continued. During phase 4 under lockdown level 2, WSU was preparing for a return of 50% of the students. It was during phase 5 under lockdown level 1 that 100 percent of students returned to campus. During this phase, learning via VLE continued, with restricted F2F contact only for practical subjects. WSU handed over laptops to students who could not be reached during levels 2, 3 and 4 of the lockdown.

Despite the vast efforts implemented by WSU to encourage online learning connectivity remains one of the issues due to the various geographical locations most students came from. However, with the challenge of the connectivity, not all of them managed to get such materials on time or participate in all the synchronous classes. This challenge is because most WSU students are located in rural areas where the network connectivity is poor which caused problems for live streaming as well as downloading or uploading materials. This shows that WSU in South Africa, like universities in other developing countries, grapples with infrastructural inequalities (Subedi, Nayaju, Subedi, Shah & Shah, 2020; Williamson, Eynon & Potter, 2020). Although people may have internet access, people in city centres often enjoy faster internet compared to those living in rural areas.

As shown by Songca et al. (2021), when WSU students were asked if they were able to log in to join 'live' lectures, hear the lecturer clearly and interact with the lecturer during online lessons, they indicated that the internet connection was a challenge most of the time during synchronous classes. Hence, they had experienced challenges in joining live lectures, hearing the lecturers clearly while interacting with the rest of the class. The issue of network coverage in certain parts of South Africa, particularly in the rural areas in the Eastern Cape province, is still a significant delaying aspect in rolling out online teaching and learning at WSU. Students' home environments as shown in this case study presented obstacles for students studying from home during the lockdown. Some students live in small households with their siblings and extended family members. These experiences further militate against participation in synchronous learning for students living in these circumstances. As indicated by Williamson et al. (2020), young people who do not ordinarily have digital access in their homes are likely to have fewer digital skills and this may undermine their ability to learn effectively.

The quality of internet access presents real challenges for students in rural South African universities such as WSU as well as the University of Fort Hare, University of Limpopo, University of Venda and the University of Zululand. To address this, most lecturers used asynchronous approaches for teaching to allow students to access study materials at a convenient time, and they adopted multi-modal pathways such as video recorded mini-lessons and made use of social media and communication platforms such as WhatsApp (Songca et al., 2021; Morgan, 2020).

Results

This section presents the findings obtained from the study's questionnaire.

Remote learning through VLEs

The researcher wanted to know whether first-year students at WSU used VLEs or not. Figure.1 below shows their responses.
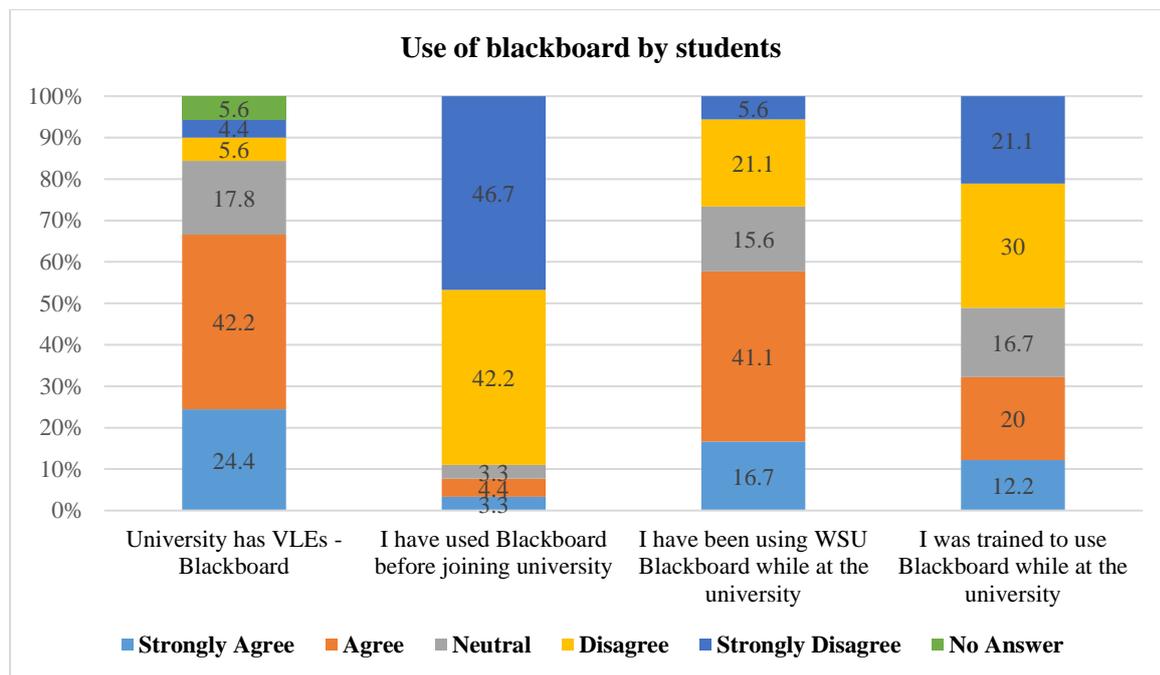

Figure 1: Use of Blackboard by students

Figure 1 above shows that 24.4% of the respondents strongly agreed that WSU has blackboard facilities while 42.2 % disagree to have used blackboard before joining the university. Furthermore, 41,1 % of the respondents agree to use blackboard while at the university and 30% disagreed to know on the blackboard hence they were trained to have adequate expertise on the use of blackboard. It can be noted from the respondents the blackboard was a common VLE method that was begin used before lockdown measures due to COVID 19 and respondents had enough knowledge on its use although few of them demanded training to familiarise themselves with this virtual learning technique.

Access to the blackboard by students

The researcher wanted to know whether first-year students at WSU had access to the blackboard or not during the COVID-19 lockdown break. Figure 2 below shows their responses.
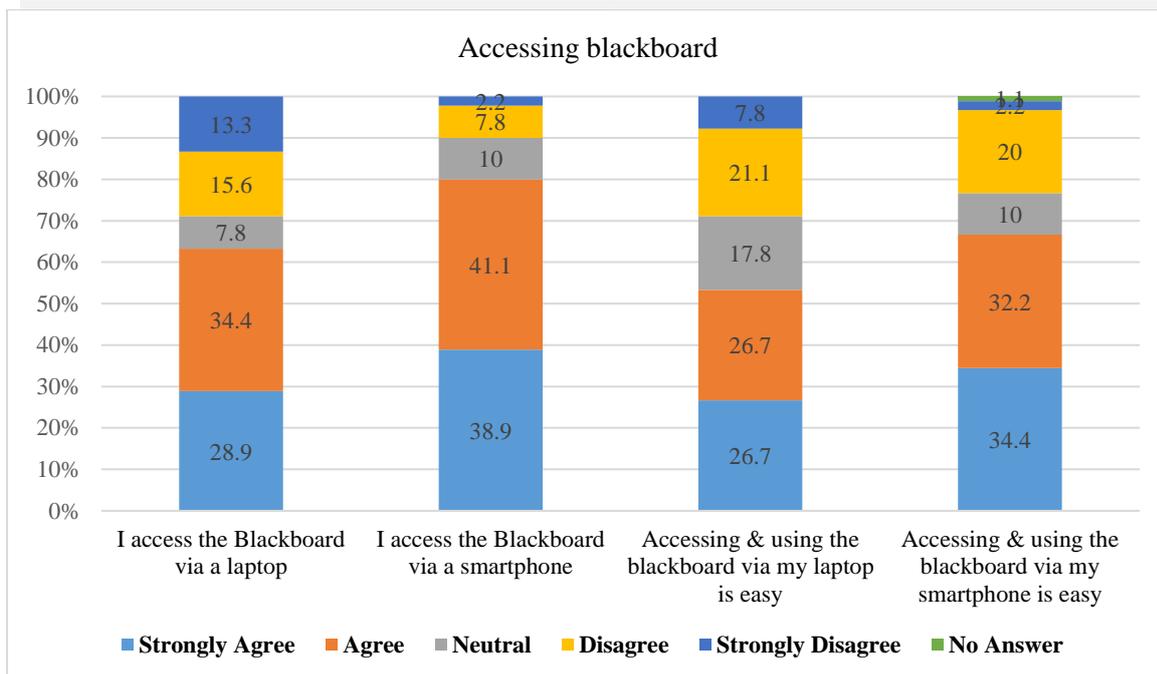
Figure 2: Access to the blackboard by students

A question was posed to respondents regarding their access to blackboard as a virtual learning method and which tools they used to access it. From the figure 2 above 28,9 % of the respondents strongly agreed to access blackboard through their laptops, 41.1% agreed to access blackboard via their phones, while 21.1% disagreed to have accessed blackboard via laptop and 1.1% could not provide an answer as to whether they accessed blackboard via the phone or laptop. These results paint a picture that, many respondents were able to access blackboard through their cell phones as many came from disadvantaged backgrounds in the rural communities where connectivity to the internet was low.

Institutional support with remote learning equipment

The researcher wanted to know whether first-year students at WSU received Institutional support with remote learning equipment or not during the COVID-19 lockdown break. Figure 3 below shows their responses.
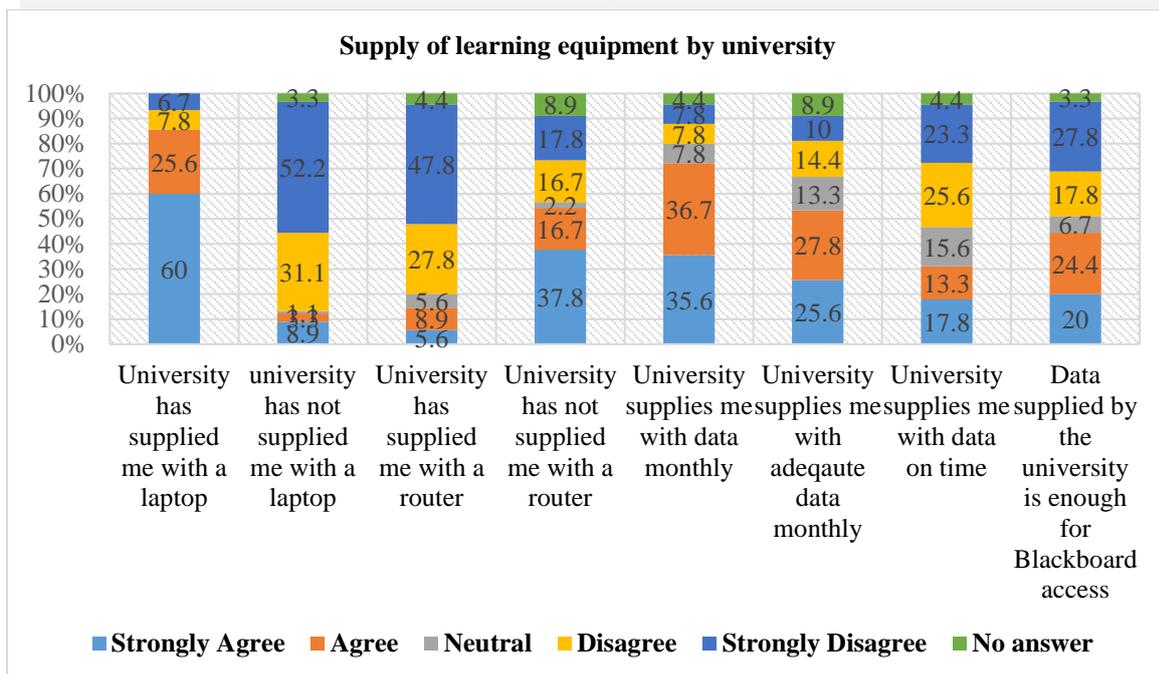
Figure 3: Institutional support with remote learning equipment

Respondents were asked regarding the level of support they received from the institution during the COVID 19 lockdown in South Africa. Figure 3 indicates that 60% of the respondents strongly agreed that the university supplied them with a laptop to use during the lockdown, 31.1% disagreed with receiving a laptop from the university while 5,6 were neutral which remains, they have received or did not receive any laptop from the university. Furthermore, 16,7% of the respondents disagreed that they did not receive any router from the university to support remote learning, 35,6 strongly disagreed that they received monthly data from the university to help with remote learning amid COVID 19 lockdown, while 3.3% complained that data provided by the university not enough to utilise blackboard as an online learning tool during COVID 19.

Students' learning equipment

The researcher wanted to know whether first-year students at WSU Students their learning equipment had to support virtual learning during the COVID-19 lockdown break. Figure 4 below shows their responses.
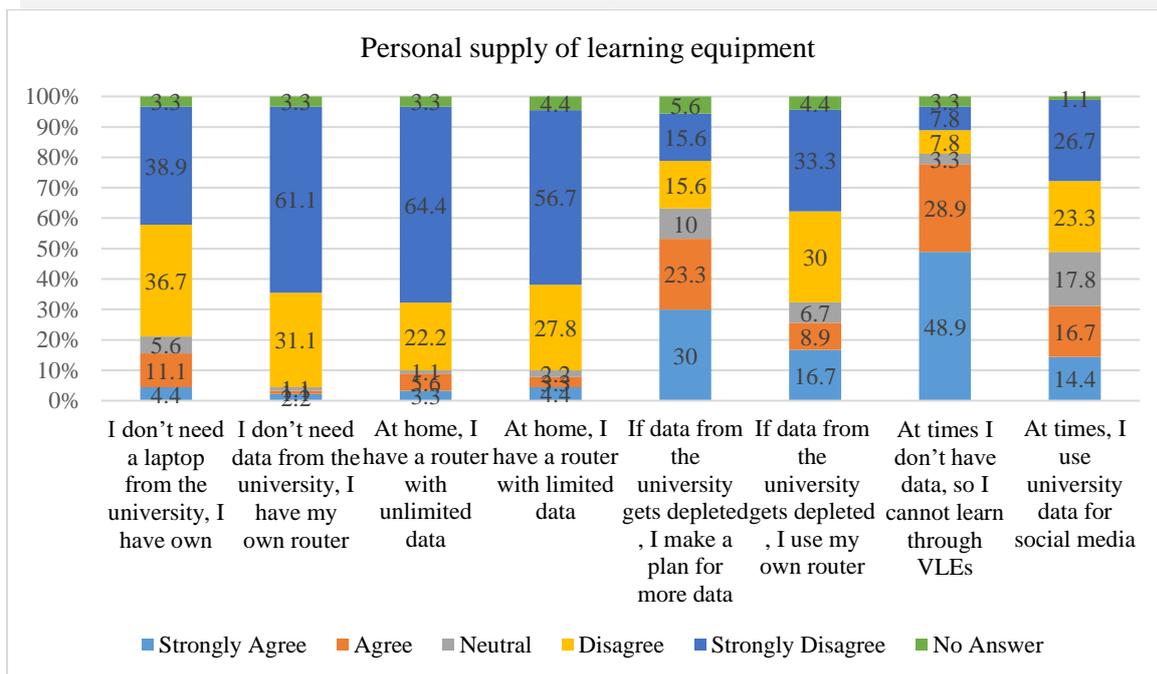
Figure 4: Students' personal learning equipment

Respondents were questioned regarding the personal supply of learning equipment during the COVID-19 break at WSU. Figure 4 above indicates that 4.4% of the respondents strongly agree that they did not require a laptop from the university as they have their own, 1.1 % confirm to owning a router hence they did not require data from the university, while 22.2 % disagreed to owning a router nor data hence they required assistance from the university. Further 30% of the respondents strongly agreed that they supplemented their data when the University one got finished whereas 4.4 % could not provide information on whether they own a router with wifi at home or not regarding learning through VLEs, 48,9% of the respondents strongly agreed to shortages of data to support online learning while 23.3 disagreed to using the data for social media. From all the questions asked regarding the personal supply of learning equipment, it was noted that few students owned laptop, data and routers in their homes which could have been detrimental to learning through VLEs. Although many students could access their internet data, it quickly gets used up only a few respondents had enough money to supplement the data to go online.

Support system with remote learning

The researcher wanted to know whether first-year students at WSU Students had a Support system with remote learning or not during the COVID-19 lockdown break. Figure 5 below shows their responses.
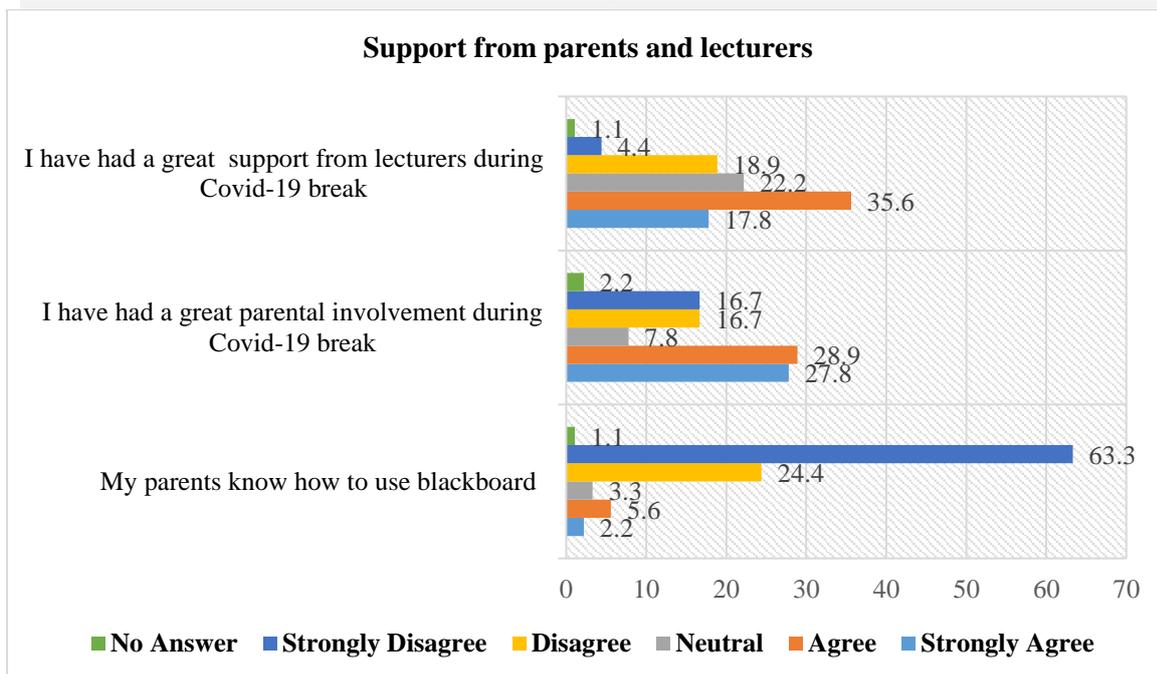
Figure 5: Support system with remote learning

Respondents were asked regarding the level of support they received from parents and lecturers during the COVID-19 break. Figure 5 above shows that 1.1% of the respondents could not confirm whether they received any form of support from parent or lecturers during COVID 19 break. Furthermore, 16.7 of the respondents strongly disagreed with receiving parental involvement in their learning during the COVID-19, while 2.2% of the respondents strongly agreed that parents were involved in the respondents use of blackboard during the COVID 19 break. These findings generally revealed the pivotal role played by the parents during COVID 19 and how it assisted learners to cope with the VLE.

Discussion

The outbreak of the COVID-19 pandemic caught many tertiary institutions globally unaware of what transformative processes are needed to ensure continued teaching and learning. WSU is one of the rural universities in South Africa was adversely affected by the COVID-19 pandemic and strategic measures were devised to adapt and ensure the teaching and learning environment continue remotely. The respondents of the study reflected greatly on their knowledge of remote learning as the only viable solution to them during the COVID-19 pandemic lockdown. As noted in the WSU Draft Strategic Plan (2020-2030) plans to utilise VLEs as adaptive online technology teaching was put in place as a way of drifting from the traditional contact model which was longer compatible with the COVID-19 induced environment. The researcher argues that VLEs become pivotal in delivering education to fist year students at WSU as contact classes were contrary to government lockdown measures to curb the spread of COVID-19.

As indicated in the findings, accessing blackboard during COVID-19 lockdown was not a major challenge for PRM1 students, as they had the knowledge and equipment to do so. Few students disagreed to have accessed blackboard probably due to limited knowledge or lack of smartphones or laptop. This shows that as an initiative to support teaching and learning, the blackboard was fundamental as students could access their lecturer notes.

Institutional support with remote learning equipment was noted in the WSU Draft Strategic Plan (2020-2030). Here, it was noted that WSU had roll out plans to support students with equipment needed to drive online teaching and learning. Songca et al. (2021), in their study, confirmed this when they supported the WSU's initiative, even though the rollout was not an easy process. COVID 19 transformed how tertiary education was being offered in South Africa. As noted in a study by Mhlanga and Moloi (2020), various virtual online techniques were adopted to support the remote learning of learners in many HEIs. Students in many universities were forced to utilise any technological gadgets available at their disposal to engage their lecturers in online teaching and learning.

Furthermore, the findings reflected that few first-year students received adequate help from WSU to support remote learning. As noted in the findings, another smaller proportion of participants disagreed that they received adequate support from their parents to support remote learning, this can be attributed to the economic status of the most parent in the rural communities who do not have the adequate means to provide all the equipment needed by their children to engage in remote learning. A study conducted by Songca et al. (2021) holds the same sentiments when it ascertains that remote learning was a challenge among WSU students on all the campuses due to the unpreparedness of the institution to embrace remote learning. To mitigate some of the gaps in remote learning, the adoption of the blended learning approach to effectively deliver lecture was introduced to support online learning (WSU Draft Strategic Plan, 2020-2030). Based on a study by Songca et al. (2021), it is evident that support systems were provided to WSU students although the roll-out at the first-year level might be delayed due to logistical and administrative factors. Therefore, this theme was achieved with its demerits as evidenced in the review of supporting literature for this study.

Conclusion

This study was premised on the Social Constructivist Approach that enabled the researcher to examine the three broad themes that underpin this paper. This include assessing whether first-year students at WSU used VLEs or not during COVID-19 break and examining whether first-year students at WSU received Institutional support with remote learning equipment as well as examining the availability of virtual support systems to first year students of WSU during COVID-19 break. The analyses of findings reveal that some first-year students experienced challenges with regards to use of VLE as they were still introduced to university life remotely and use of modern technology was an obstacle. The COVID-19 induced environment posed serious challenges to first year students which resort to WSU aiding support remote learning

in form of laptops and data to support online learning. The evidence analysed indicates that the use of Wise Up and MS Teams, which are WSU's two best accredited VLE platforms, was a hindrance to other first year students that needed more awareness and knowledge on how to utilise these virtual platforms.

Recommendations and direction for further research

The researcher has put forth several suggestions for remote learning via VLEs that can enhance teaching not only to WSU students at the Queenstown campus but to first-year students in other rural Higher Education Institutions in Africa.

A blended learning approach that integrates technology must be encouraged in WSU and other rural universities in South Africa. The Department of Higher Education and Training (DHET) is urged to develop systems that see online learning being promoted in the institution of higher learning which is crucial given the difficult times we live in where physical learning is not possible. Universities as well should provide zero-rated data to both students and lecturers to enable smooth facilitation of lectures via the VLE platforms. Since data is expensive the government of South Africa can liaise with data service providers and subsidise universities with affordable data to enable learners to access virtual platforms of learning. This study leans more on a quantitative approach to collect data; therefore, the findings of this study can only be generalised to WSU first-year students, and they may not apply to other first-year students in other rural or urban universities that might be resourceful enough to embrace online teaching and learning. Future qualitative research can be conducted to examine the extent to which online teaching and learning have been embraced in other urban and rural universities in South Africa.

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