Virtual Classroom: Prospects and Challenges of COVID 19 Pandemic in South Africa

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ABSTRACT The World Health Organisation declared coronavirus as a pandemic. The whole world is facing many challenges and this has an exponential effect on our lives, most essentially teaching and learning. Before the advent of COVID 19, there was a request in the education and other sectors within the country to embrace the use of sophisticated ICT facilities as a result of the 4th Industrial Revolution (4IR). The paper discusses the effect, prospect, and challenges of virtual classrooms during the pandemic. This paper employs a qualitative research approach of the interpretivism paradigm using a case study design. 8 students and 4 lecturers were purposively selected for this paper. Thematic data analysis was used. The paper revealed some challenges and prospects of virtual classrooms. The paper recommends that lecturers and students should face the realities and embrace the changes that this pandemic has brought to us since the world is going digital.

INTRODUCTION

Coronavirus started as pneumonia of unknown causes in Wuhan, Hubei Province of China in 2019 (Dhama et al. 2020). The World Health Organisation (WHO) announced the name of the new coronavirus 2019, COVID-19 in 2020. The outbreak of pandemic coronavirus in the world at large has become traumatising and disturbing in every respect hence it had been declared as a global health emergency (Dhama et al. 2020). COVID 19 came with a list of protocols like for instance, social distancing which made face-to-face teaching not possible, hence a move to online teaching. Before the advent of COVID 19, there was a request in the education and other sectors within the country to embrace the use of sophisticated ICT facilities as a result of the 4th Industrial Revolution (4IR). This call is still a challenge in some of the institutions, particularly in South Africa, where resources are limited. Therefore, the outbreak of COVID-19 created huge confusion in such institutions because they had no other option than stopping face-to-face teaching and focus on virtual learning (UNESCO 2020).

South Africa is still a developing country, where poverty, unemployment, and illiteracy contribute to the country's dawdling growth. Even in universities within the country, there is a visible inequality in as far as the infrastructure and learning facilities are concerned. Some institutions are still struggling with advanced technology facilities and this becomes a challenge when it comes to the application of the 4IR. However, some institutions are well to do when it comes to the application of 4IR; hence virtual learning almost operates smoothly during this COVID-19 era. The only challenge that some lecturers and students encounter is the limited network and or internet connection. The outbreak of the coronavirus has led to a worldwide drastic introduction of alternative strategies in learning and teaching, such as virtual learning (Dhama et al. 2020).

Although some universities are using both online and face-to-face methods in their institutions, it is still a challenge when it comes to the availability of facilities such as provision of laptops for the whole students enrolled in the institution (Dhama et al. 2020). For those with laptops, they lack data and are therefore compelled to stay in the campus for Wi-Fi, and the university computers for those who do not own laptops.

The major concern is the impact that this virus will have on our students and youth. These include, increase in dropout rates; losing interest in learning; the stress of staying at home all days; children missing their friends, etc. The impact of remote learning strategies is being felt mostly by parents and children in less developed countries especially when the parents are low and middle-income earning, they tend not

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to be supportive. They will not be able to provide adequately for their children at home in terms of devices and connectivity needed to study during the COVID pandemic. Unlike advanced countries, in less developed countries, many learners do not have books and learning materials needed let alone laptops, internet connectivity, computers, and smartphones. This level of inequality has caused many crises in education and have a ripple effect on poor students' learning. South Africa's education system is unequal and this had adverse effects on South African education system during COVID 19

The situation in South Africa has left us with many questions unanswered due to inadequate infrastructure and unequal distribution of learning materials. There is no enough infrastructure, there is an unequal distribution of learning materials, and many learners are living in the deep rural area where they have no access to constant electricity. The curricula cannot be moved online. Even if there are facilities like laptops, what of the ability to sustain them due to cost and internet connectivity. The current paradigm shift to digitalization and virtual learning shows that in South Africa, we do not share the same resources and we live in the same country (Dhama et al. 2020).

Another vital issue is the curricula content. Moving the curricula online means there is a need for more cordial relationships and interaction between the learners and the teacher more than what is obtainable during the face-to-face teaching because the teacher needs to ensure that course content is available and accessible. South Africa moved to level 1 now, where all grade levels are in the school without putting into consideration the new curricula contents. Teacher readiness is another crucial factor to be considered during the virtual classroom. A teacher can only give what he or she has. Teachers should be equipped as well, to interact successfully with the learners. The relationship between the learners and their teachers are very important to the success of the teaching and learning. Teachers facilitate how and why learners engage with the curricula, any problem with this relationship will disturb effective delivery during virtual classroom (VC). Substituting the dynamism of face-to-face with VC on a large scale is extraordinary in South Africa and it needs adequate preparation (Dhama et al. 2020).

A virtual classroom affords the teacher to redesigning course content to suit the online learning platform. A teacher needs to be adequately prepared, think outside the box, be technologically minded because online teaching is different from classroom face-to-face. The teacher should know what to add and remove from the course content. They must make sure that the content also aligns properly to avoid being superficial (Dhama et al. 2020).

Research Objective

The objective of this paper is to ascertain how the COVID-19 pandemic affected teaching and learning in South Africa and examine the prospects and challenges of virtual classrooms.

Theoretical Framework

This paper employs social constructivist theory. Social constructivist theory is a theory through which interaction with other knowledge is constructed and it is relevant for this paper because it will help to assess the prospect and challenges of the shift to virtual learning.

Social Constructivist Theory

Social constructivist learning theory (Vygotsky 1896-1934) states that learning occurs when learners are engaged in social activities such as a lecturer and student relationship during Virtual Learning Environment (VLE). Social constructivist theory approaches can include mutual teaching, mentor support, problem assessment, and all methods that involve learning with or from others (Segoe and Dreyer 2015). The socio-constructivist theory also claims that since learning activities are contextually and socially bound, personal construction of knowledge is bound to occur. Through social interaction, the teacher and student share their learning experiences through the use of online devices. Vygotsky based this theory on these two aspects:

1. Language, Culture, and Knowledge

Vygotsky (1934) as cited in Segoe and Dreyer (2015) stressed that experience, communication, and understanding of reality framework is

being influenced by how we perceive the world through the role of language and culture in intellectual development.

a) Language

Our thinking is being reflected in and regulated through language. Vygotsky believed it is evidence of internalized language that guides our thinking and actions. He demonstrated the importance of language in learning by demonstrating in infant's communication as a pre-requisite to the child's acquisition of concepts and language. However, he suggests that people learn with meaning and personal significance in mind, not just through attention to the facts: language and the conceptual schemes that are transmitted using language are essentially social phenomena. Social interaction for communication purposes is developed by language. The means of communicating with the outside is through language. During this pandemic, the choice of language is very important to facilitate effective teaching and learning. Many students prefer the mother tongue to get a clear understanding of the subject matter. The language of communication is very important during virtual learning (Segoe and Dreyer 2015).

Language plays two critical roles in intellectual development:
1. Transmission of information from adults to children.
2. The language itself becomes a very powerful tool of intellectual adaptation.

b) Culture

Vygotsky believed that culture is the principal determinant of cognitive progress. Culture shapes habits, relationships, attitude, the social pattern, and very dynamic to influence behaviours in the future that may become obstacles for reformation and improvement. Many institution histories are influenced by culture. How school operates and improves educational results are being guided by culture. For example, school culture has become the object of so many reform efforts and research studies. Culture plays a vital role in addressing interpersonal tension and conflict among staff members. If staff members tend to argue more than they collaborate or engage in productive professional discussions, likely, these cultural factors will significantly complicate or hinder any attempt to change how the school operates. Without a school culture that is conducive to improvement, reform becomes exponentially more difficult. Concerning 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 affects VLE and digital culture is crucial at this stage (Segoe and Dreyer 2015).

c) Knowledge

According to Vygotsky, the social constructivism theory opines that knowledge is enhanced when one learns from one another. Knowledge is co-constructed and not simply constructed. Learners must be engaged in all learning processes. The use of a learner-centred method of cooperative and group discussion during classroom activities are very expedient. As alluded to, during VC or VLE, the learners must learn from and teach each other. Learning happens with the assistance of other people as students learn from the lecturer, virtual learning promotes collaboration and cooperation, thus contributing to the social aspect of the theory. Learning through electronic devices promote cognitive skill. No one can claim an absolute monopoly of virtual learning, hence, relationship and unity among the lecturer and student is very important. Knowledge under this theory leads to further intellectual development.

2. The Zone of Proximal Development (ZPD)

Vygotsky believed that learning takes place within the Zone of Proximal Development. In this, students are not completely independent or claim a monopoly of knowledge especially during VLE. They can, with help from peers or adults at their different homes with those who are more advanced in technology, skills, and ideas that they cannot understand on their own. This model has two developmental levels:
a) Actual development level – Students will show that they have acquired certain knowledge and they can solve problems independently. One of the skills for virtu-

al 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 very 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.

◆ The ZDP is the level at which learning takes place. It includes intellectual structures that are still in the process of growing, but which can only develop under the direction of or in teamwork with others.

To ensure development in the ZDP, especially during virtual teaching, the type of help to be received by students from lecturers must have the following characteristics:

1. *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.
2. *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 been done through the academic interaction that exists between the teacher and the student.
3. *Guided Participation* – this involves a wider concept than support that refers to shared endeavours between specialists and fewer skilful participants.

Furthermore, without social and meaningful interaction with the lecturer during virtual learning, the student will always find it difficult or almost impossible to acquire a real understanding of what is being taught and how to apply them. A dialogue, for example, which may occur timeously between the lecturer-student in a socio-constructivist learning background, which is at the heart of any virtual learning activity leads to the proper construction of knowledge. This interaction allows students to play an active role in constructing knowledge, as learning is collaborative and, in this way, students learn from their lecturer.

The assessment discussions between a lecturer and a student during virtual learning facilitate the students' learning, the building of intellectual, construction, and testing of knowledge.

Creswell (2013) contended that socio- constructivists emphasize that students are always antagonized with compound teaching situations; hence, they need many chances to engage in meaningful, problem-solving activities with their teachers.

Literature Review

Virtual Classroom

Gallacher (2015) defines virtual learning as an online system that allows lecturers to share educational materials and communicate with their students via the web. Rachiva (2018) and Ferriman (2019) concur with Gallacher and augment that virtual classroom is closely related to the traditional face-to-face teaching as they are both synchronous learning. Synchronous learning is a type of learning in which everyone takes part in learning at the same time (Racheva 2018; Ferriman 2019). They only differ in the approach, as a virtual classroom is a shared online learning environment in which teachers/lecturers and students work together simultaneously. The process of virtual classroom learning commonly occurs through video conferencing, online whiteboard (for real-time collaboration), instant messaging tools, participation controls, as well as breakout rooms (Racheva 2018). It also involves among others, Moodle and Blackboard (Gallacher 2015). What is essentially imperative to this style of learning is that students are introduced to independent learning and are introduced to the 4IR practice. However, for developing countries such as South Africa, there may be challenges with the online system of learning which will be detailed in this paper.

Loureiro and Bettencourt (2014) view a Virtual Learning Environment (VLE) as a set of teaching and learning tools designed to enhance a student's learning experience by including computers and the Internet in the learning process. Worldwide the application of online teaching became an alternative option to avoid the spreading of coronavirus during the lockdown period, and all students had to have the laptops, which is a huge challenge to students from poor families. South Africa was not left behind even though not all the institutions were ready for virtual learning. A VLE involves mostly, the use

of laptops and the internet in the learning process (Loureiro and Bettencourt 2014). It is designed to develop students' learning experience in which learners are responsible for their learning outside the physical classroom.

Latif (2016) argues that e-learning is flourishing in digital age education as it facilitates a virtual learning environment for enriched interaction and engagement between teachers and their fellow students for effective learning. Through VLE, teachers share online pathways, implant videos from YouTube, share articles with students and provide platforms for student-created podcasts.

Challenges of Virtual Classrooms During COVID-19

WHO declared coronavirus 2019 a pandemic on 11 March 2020 (Mehtar et al. 2020). As from then, there was unrest within the country, which ensued drastic changes worldwide. A list of draconian measures such as total lockdown, stay at home order to save lives campaigns, as well as travel and movement restrictions were adopted worldwide. All schools including The Higher Education Institutions (HEIs) were advised to close, and students and teachers, as well as some non-teaching staff whose services are not essential, were ordered to work from home. This practice left all Higher Education and Training institutions no option either than switching to online teaching. The notion of implementing alternative methods of using online teaching and learning and other distance learning techniques was emphasized by the Association of African Universities (AAU) (Jacob et al. 2020).

The cancellation of the face-to-face contact session was experienced by other universities across America. By March 2020, the pandemic had already affected 114 countries and killed 4000 people (Jacob et al. 2020) augmented. In a survey conducted by Times Higher Education in China, the findings were that online higher education would never match the real classroom situation (Lau et al 2020). Instead, it would produce non-healthy graduates which would result in more frustration in interpersonal communication. The same view was confirmed in Australia that "face-to-face interaction will never be matched in quality by other modes of communi-

cation" (Lau et al. 2020: 2). A research conducted on online courses vs in-person courses revealed that online courses were less effective than in-person courses. The reason behind being the fact that in-person courses allow socialization with teachers and other students and that motivates the students to engage with one another (Lau et al. 2020: 2). A research study conducted in Australia among undergraduate students revealed that they preferred discussions to be conducted face-to-face, reporting that they feel more engaged, and receive more immediate feedback, than during online discussion (Kemp and Grieves 2014).

Even before the outburst of the disease COVID-19 in South Africa, the Department of Higher Education and Training (DHET) had been urging the lecturers to familiarise themselves with the constant use of sophisticated ICT facilities as a result of the 4th Industrial Revolution (4IR). Now that most of the universities in the world have adopted online learning, some are speculating if this will continue even after the pandemic. Some universities were not that affected by the shift during the COVID-19 shutdown of schools due to their readiness for the 4IR. However, students might encounter challenges when learning from home because they might not have a quiet place to study, no access to computers for schoolwork, and access to the internet. On the side of teachers, the radical shifting to compulsory online learning during the lockdown period may have caught teachers off guard in as far as sufficient time to prepare lessons integrating digital devices (Kemp and Grieves 2014).

The pandemic crisis created challenges mostly to children from low and or middle-income communities. The drastic switching from face-to-face contact classrooms to virtual classrooms in the universities and colleges did not favor everyone. The online teaching demands computer literacy from the users, internet/Wi-Fi connectivity, and network availability, workspace to engage online learning. In other words, for effective online learning, there should be a conducive environment where all the necessary online learning and teaching facilities are available. The United Nations Educational, Scientific, and Cultural Organisation (UNESCO) reported that 9.8 million African students are disrupted by the shutdown of the Higher Education

Institutions (HEIs), of which only 24 percent have access to the internet, the reason might be attributed to high data cost, internet connectivity problem as well as irregular power supply (Tamrat and Teferra 2020).

With the universities in South Africa, as indicated earlier in this paper, online teaching will never be much effective due to the socio-economic factors within the country and the condition of some universities as well. For instance, many students are from disadvantaged backgrounds therefore, they cannot afford data to access the internet unless supplied by the universities. There is a huge difference between those HEIs that have their capacities both technological and in teaching resources, and, above all, experienced teachers and those that do not (Tamrat and Tefera 2020).

The announcement by network providers, MTN, TELKOM, and CELL C to give zero-rated access to university websites and online material mentioned nothing about journal databases (Cloete 2020). Correspondingly, there is an issue of the learning styles, which differ with each student. Although some students and lecturers are still embedded in face-to-face traditional learning, it is high time that the universities move with times and update the 21st-century students with the 4IR advances.

Contrariwise, some lectures cannot be done online, especially where laboratory experiments, practical lessons, and art performances are required. At some point, justice in online assessments may not be guaranteed unless or otherwise they can be structured that it can be impossible for students to copy. Technology advancement on the side of the lecturer has to be considered in this case, to find a way of monitoring online assessments. The university should consider providing intensive mentoring to students to enable them to utilize the available technologies optimally.

Prospects of Virtual Classrooms During COVID-19

Li and Lalani (2020) advocated some benefits of teaching and learning virtually such as effective communication with their students through chat groups, video meetings, voting, and sharing documents. In the true sense, the is

one of the requests from the education sector for the introduction of ICT facilities in schools because online teaching and learning are becoming more effective in several ways in that the 21st-century students learn faster through virtual classroom ands e-learning use between 40 percent and 60 percent less time to learn than in a physical setting (Li and Lalani 2020). Students in online settings learn at their own pace, as there is no teacher/lecturer present. However, synchronous communication is preferred to asynchronous communication for effective and fundamental online teaching. Lecturers should interact actively in an online discussion forum to support their students for active teaching and learning.

Nevertheless, well trained and less independent students enjoy working on their own, in the absence of the lecturer. So, their creativity, confidence is developed in virtual environments and also, online tutorial sessions allow more attendance than physical classes. Studies suggest that online lectures motivate shy students to engage more than when in face-to-face contact sessions because there is less pressure from their counterparts as well as the lecturer standing in front (Kemp and Grieve 2014). The intensification of online learning persuades students to be more dedicated and responsible for their learning (Ituma 2011). Subsequently, it may have the potential to improve the quality of learning and encourage wider students' participation.

Predictions of Online Teaching After COVID-19

Online teaching has been the only option to be followed by the HEIs during the lockdown period due to the COVID-19 pandemic. The online teaching process came unnoticed to all the institutions and the programmes of the institutions, including planning for teaching and learning as well as assessments were affected. Kim (2020) posits that quality online programs need sufficient spacing to advance also significant investments to run. Through the tireless efforts of the lecturers to prepare for online lessons and assessments, it is then predicted that some courses will remain online courses even after the coronavirus pandemic (Mathiba 2020). The question now is, how will the students who do

not have laptops and access to the internet at home access the online information.

Although the world is busy with 4IR, there are still a few universities and colleges which have not yet started to consider the use of technology in their teaching and learning. It is high time the teachers and lecturers realise that after the lockdown, online teaching should be integrated into the content of the curriculum of different courses, in a way, they have learnt a good lesson on the rapid, unplanned institutions shut down. Therefore, online courses will be introduced and incorporated in the curricula, to be at par with other institutions in advanced countries.

METHODOLOGY

Research Paradigm

Interpretivism is the paradigm used for this paper because it adopted a qualitative approach with the use of an interview schedule. Interpretivism is associated with subjectivity and multiple realities. They tend to research issues from a personal experience perspective. Their findings are often not generalizable to entire populations but are rather specific to particular situations and circumstances. They are often associated with the collection of qualitative data that leads to multiple interpretations (Cohen et al. 2011; Creswell 2013). Just like positivists, the researcher first identifies a topic, reviews literature, designs the research, collects qualitative data, analyses the data, and further elaborates on the underlying concepts and theories and, finally, reports the findings. Interpretivism collects data through observations, analysis of documents and narratives, interviews, case studies, and audio-visual materials. They use thick descriptions to detail their findings (Cohen et al. 2011; Creswell 2014).

Research Approach

The researchers used the Qualitative Research Approach for this paper to define, recognize, and understand the human phenomenon, relationship, and discourse. To Lichtman (2013), qualitative research allows researchers to collect, consolidate, and deduce information obtained from people either through interviews

and/or observations in their ordinary or common settings. Unlike quantitative research that deals with testing of hypotheses using statistical tools, qualitative research involves exploring and understanding a social problem from an individual's point of view as it happens in the natural setting; a systematic inquiry of how the participant views, interprets, and experiences events.

Research Design

A case study design was applied. According to Creswell (2014:241), exploring the qualitative design in which the in-depth of programme, process, activity, and individuals is referred to as a case study. Cohen et al. (2011) succinctly described a case study as an in-depth examination of one example of a set phenomenon. It is designed to illustrate a general principle using a specific instance.

Sample/Sampling Techniques

The sample consisted of eight students and two lecturers. Participants were purposively selected based on being higher education lecturers and students in two of the universities in Eastern Cape Province, South Africa.

Data Collection Techniques

Interviews were used as the instrument for collecting data from the participants, and semi-structured interviews were preferred to other types of interviews. The participants were interviewed on their opinions about the challenges and prospects of virtual classrooms during the COVID-19 pandemic.

Data Trustworthiness

Trustworthiness refers to how qualitative data is stable, predictable, dependable, consistent, and reliable, thus producing the same results or outcomes in the future as they had in the past. Trustworthiness refers to findings that are worth paying attention to and the study adhered to the four characteristics of qualitative research which Creswell (2013) stated as dependability, confirmability, verification, and transferability.

Data Analysis

The interviews were analysed using themes drawn from the research questions. As already indicated that the interviews were recorded, the first step in data analysis was to transcribe the data from the recorder. This helped the authors to have a deep connection with the data. Written transcriptions were compiled and first-hand information from the participants helped the researcher to interpret the data.

RESULTS AND DISCUSSION

The interview guide was taken from the following questions
1. How does the COVID-19 pandemic affect virtual classrooms for teaching and learning in South Africa?
2. What are the challenges of virtual classrooms during and after COVID 19?
3. What are the prospects of virtual classrooms during and after COVID 19?

Coded Information about the Participants

12 samples are purposively selected comprising of 8 students and 4 lecturers respectively were interviewed in this study. S1 represents the code for student 1, S2 for student 2, etc., while L1 stands for Lecturer 1 and L2 for lecturer 2 respectively. Themes were generated from the three research questions.

Theme 1: Effect of the virtual classroom for teaching and learning in South Africa.

The following are the responses from the participant. Virtually all the students agreed that COVID 19 affects teaching and learning because of the lack of preparedness. However, three students have these to say:

S1: *Staying at home discourages me from engaging in any academic activities*,

S6: *I always read and study with my friends but the lockdown has destabilised me, I am alone at home, I am not used to this...elsh...*

S8: *all my school life, I am used to face-to-face, the sudden change to the virtual classroom will be tough, anyway, I will see how it goes.*

Similarly, the lecturers we interviewed have comparable views with the students. They have this to say.

L1: *COVID-19 pandemic affected teaching and learning in one way or another, especially our Higher Education Institutions in South Africa. I am particular with South Africa because it is still a developing country, which is inhabited by a high number of poor and unemployed inhabitants*

L2: *Okay em, first of all, everything came to stand immediately. This was a big challenge because the students had gone home and leave residences. Some do not have laptops. They live in remote areas where there is no internet connection even the network is scarce, or no connectivity whatsoever. Others do not have data to access information. So, even if we can prepare work for those learners, they are not able to access information*

L3: *The pandemic affected teaching and learning because it came unnoticed. For instance, in our institution, we were still busy finalising registration process of some students. Lectures were just started, and lecturers were not all prepared for online teaching. We were not all trained for online teachings, like me. Some of our students do not have laptops. Others come from rural areas where there is no network and it is difficult to connect to the internet. So, online teaching is not the best platform to use for teaching and learning. I mean, it is not the best for our institution because our students are from poor communities, mostly from rural areas. Even with emails, some students do not have active email addresses. Almost all students are complaining about data, and they depended on the university Wi-Fi when on campus. So, teaching and learning during the Covid-19 lockdown are disturbed.*

L4: *Schools had to be closed because schools in poor socio-economic are overcrowded and learners also travel in cramped public transport to school, which makes them vulnerable to infection by the coronavirus. Higher Education Institutions (HEIs) are also affected, especially historically disadvantaged HEIs are also overcrowded, with most lectures taking place in poorly ventilated overcrowded lecture-rooms, accommodating 100 to 300 students in a class at a time. This is a very risky situation for students and lecturers to be infected with the virus. Hence the HEIs had to be closed too.*

This is in line with Kemp and Grieves (2014) who conducted a research in Australia among undergraduate students and found out that undergraduate students preferred discussions to be conducted face-to-face, reporting that they feel more engaged, and receive more immediate feedback, than during online discussion.

Theme 2: Prospect and challenges of the virtual classroom during COVID 19

This theme can be divided into two based on the responses of the participants. These are:

Sub-Theme 2a: challenges of the virtual classroom during COVID 19

All lecturers indicated different concerns about the challenges of virtual classrooms although the students have a common challenge which is the inability of students to have access to information due to lack of data and internet connectivity. However, two lecturers have these to say.

L2: *Virtual classroom learning was a challenge to me as a lecturer first, in the sense that, I was used to face-to-face contact sessions just like my students. It was very straining to me when I started, but now I am used to it. On the side of the students, some learners learn better, when there is a teacher in front of them. They cannot push themselves. Then it becomes the waste of time to send them the learning material. Students from rural schools, especially first years, they experience more problem because they were still trying to familiarise themselves with the environment and teaching strategies. Data is always a challenge*

L4: *As the HIEs in question have not been practising virtual teaching and learning, but concentrating only on the face to face teaching and learning, they were found wanting regarding virtual learning. The different lecturers, therefore, use different methodologies of virtual teaching and learning – which result in challenges regarding commonality and consistency in virtual teaching and learning delivery.*

Sub-Theme 2b: Prospects of virtual classroom

All the respondents envisage virtual classroom learning as a programme that is here to stay, and a blessing to their institution because all lecturers and students were forced to use it. The following are what they say:

L3. *In the future virtual teaching will have to be practised as it could prove very useful when mixed with face to face or contact teaching and learning.*

L2. *Virtual classrooms have opened eyes even to lecturers who were comfortable with face-to-face contact sessions. Lecturers will continue with online teaching even after the lockdown period.*

L1. *In the future, I see virtual classrooms as a tool to help lecturers to reach more students because you can use the platform even after hours. You can organise your learners and teach them or discuss something from where you are.*

S2. *Virtual classroom and its practice would develop us as 21st-century students to adapt to another mode of teaching and learning, and at the same time prepare us for situations like the one we are faced with now – the case of the lockdown due to the coronavirus.*

The findings above corroborated what Li and Lalani (2020) advocated as benefits of teaching and learning virtually such as reaching large audience at the comfort of their home, effective communication with their students through chat groups, video meetings, voting, and sharing documents and to be at par with advanced countries. Online teaching and learning are becoming more effective in several ways in that 21st-century students learn faster.

Implications of VC for Teaching and Learning

The finding of this paper revealed that COVID 19 has brought about a paradigm shift to virtual learning and virtual classroom. The implication is that students and lecturers should think beyond the box and see teaching and learning as no longer business as usual. Now we need to have a platform to establish communication with one another through different social media, like WhatsApp, the use of technological devices like v-drive, blackboard, internet, laptops, smartphones, etc have become a necessity. We need to get used to the use of all devices that can promote effective teaching and learning as a substitute for face-to-face contact. Our homes have become classrooms and our neighbours have become our consultants in which we relate with as supported by social constructivist theory. The reality that virtual learning promotes student interaction and consolidate a sense of identification as a member of the learning communi-

ty should be registered on our daily academic activities.

CONCLUSION

This paper examines virtual classroom's prospects and challenges during and after COVID 19 pandemic in South Africa. Lecturers in the selected universities where samples were picked are still very far behind colleagues from other universities in South Africa. There's still a lot to be done especially in the two rural universities where the samples were selected for this study. These universities are inhabited by students from the remote areas which brings about inequality and disparities in allocating educational resources. There is no doubt in the fact that COVID 19 has brought many revelations about the state of things in South Africa.

RECOMMENDATIONS

The paper recommends that lecturers and students should face the realities and embrace the changes that this pandemic has brought to us. Lecturers should have been practicing online teaching before the outbreak of this pandemic, our students would have been used to it already. COVID 19 has revealed some inequalities in terms of resource distribution, and poverty level in South Africa. The government should brace up in solving the challenges of no data, connectivity, internet access, and infrastructure. Parents and other stakeholders should ally with the government since COVID 19 came suddenly. It is palpable that government alone cannot provide an immediate solution to the problems caused by this pandemic, the NGOs and other private sector need to play their part in making sure that financial assistance comes from them to assist the government. Series of workshops should be organized for lecturers and students on the use of online devices as mentioned above. They should all have the right mindset and attitude towards the ICT facilities so that they can be sustained.

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