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COVID-19 and Beyond: The Ethical Challenges of Resetting Higher Education Institutions Services during and after the Pandemic

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Abstract

COVID-19 was discovered in Wuhan, China in December 2019 and since then it has spread to all parts of the world. The world almost came to a standstill in 2020 as only essential services were allowed to operate and those who could work remotely, worked from home. For the first time in modern history, newsrooms were moved to homes, classrooms moved online, and many other services were reconfigured. Online services and the internet became essential. In this context, questions like, "How do educational systems react ethically to the ongoing challenges raised by the pandemic?" and, "What ethical values should underpin the resetting of Higher Education Institutions (HEIs)?" need to be answered. In this paper, based on desktop research, an examination of some of the ethical challenges confronting those running HEIs, researchers and lecturers as they are adapting to the 'new normal' is explored. This new operating environment creates difficult ethical choices. Findings from this study has shown that all South African HEIs managed to transition to online learning. However, the transition was not uniform, given the country's background and economic divide. A number of barriers such as cost, electricity availability and internet access have been identified. Recommendations are made as to how HEIs in South Africa may protect their integrity and at the same time adapt to the new normal.

Keywords: *COVID-19; online learning; e-learning; Higher Education Institutions; ethical issues; new normal*

Introduction

The novel corona virus, which is also known as COVID-19, was discovered in December 2019, in a seafood market in Wuhan China (Huang *et al*., 2020). In 2020, clinical analysis results of the virus showed that person-to-person transmission was possible (Li *et al*., 2020). The World Health Organisation (WHO) declared the COVID-19 as a pandemic after an assessment of the rapid spread of the virus across the world (WHO, 2020). Within a few months, it had spread to all continents. As a means of curbing the virus, the WHO advised countries to implement social distancing, minimise or ban social gatherings and recommended regular hand washing (WHO, 2020). The virus caught the world unawares and the world came to a standstill for months as countries battled to contain the virus. Worldwide, a number of countries imposed restrictions on people's movement and adopted a policy of working from home. In the United States of America in early 2020, up to 35 per cent of the working population worked from home (Bick *et al*., 2020). This measure was also coupled with many health protocols such as washing of hands, wearing of masks, social distancing, and adoption of online meetings. Public gatherings and sporting activities were banned, and schools were closed (Bick *et al*., 2020).

South Africa was not spared from the impact of the pandemic. The president of South Africa, Mr Ramaphosa, imposed a level five complete lockdown for more than a month from 26 March to 30 April 2020 (RSA, 2021). This resulted in the total shutdown of the economy and only essential workers were allowed to travel (Stiegler and Bouchard, 2020). The economy was gradually opened after the strict lockdown from level five to lower levels. Areas that had high numbers of gathering such as churches and schools remained closed as they were identified as super spreaders. The pandemic brought unpredictable, disruptive situations which have changed our daily lives, economies, and political decisions. There was a growing emphasis on working from home to reduce the spread (Guangul *et. al*, 2020). Since universities were identified as likely super spreaders of the virus, they adopted virtual lessons and meetings with less interaction between staff members.

In the universities and colleges, important changes were made in areas such as face-to-face teaching, student admission processes and examination. These changes stirred discussions about the new normal and the possible post-coronavirus university landscape and its effects on the ethics (Adarkwah, 2021). Despite the ethical challenges of the new normal, universities must stick to their core values and responsibilities, giving university researchers a sense of direction and credibility through all the uncertainty and shock. Universities all over the world, as they are the pinnacle of standards, must set the trend for the societies they are in (Stückelberger, 2020). Therefore, it is important that they provide solutions to the "new normal" in terms of the trajectory that the education must now take. They must set standards on ethics. The pandemic forced all South African universities to adapt fully to online learning and teaching (Mpungose, 2020). Therefore, the aim of this study is to investigate the ethical challenges that universities face during and after the pandemic.

The Ethical Challenges of Resetting Higher Education Institutions: Perspectives from Literature

This study, being desktop researched, is based on the published literature on the online learning, digitalisation of education and COVID-19. Publications considered for this study are not limited to South Africa but are from all over the world. Discussion based on the findings, and recommendations and conclusion follow:

1. Online teaching and administration

Online learning is the use of the internet and some other important technologies to develop materials for educational purposes, instructional delivery, and management of program (Adedoyin and Soykan, 2020). Since the advent of COVID19, there has been an increase in the use of learning management systems such as Moodle and Blackboard and video conferencing platforms such as ZOOM and Microsoft Teams, not only in South Africa but also in the rest of the world (Wiyono *et al*., 2021). In European HEIs, leading learning management system leaders in 2020 were: Moodle (65%), Blackboard (12%), Ilias (4%) and Sakai (3%) (Alexei and Alexei, 2020). Khan (2021) provided an online model that can be followed that uses all forms of communication as presented in figure 1 below. In the model, there is use of both formal learning platforms such as Moodle and Blackboard and informal communication methods through social media. Discussions by students can be taken to social media platforms such as WhatsApp. Social media can also be used to share videos of lectures that were held.

Online learning has provided new opportunities on the one hand and additional costs at the other. The opportunities are that big classes have better access to the lecturer and students may repeat the lectures as many times as they wish (Wiyono *et al*., 2021). One of the disadvantages of online learning is that a student must have access to the internet and a computer to attend the lectures. This is a

challenge in previously disadvantaged universities such as the University of Zululand and the University of Venda who have a large population of their students who come from rural areas (Moses *et al*., 2017). Due to the background of many South African students, the use of technology such as Moodle learning platform is a challenge (Mpungose, 2020). This is especially so with first year students who are just coming from high school. In a study by Mpungose (2020), most of the participants pointed out that that they preferred use of social media apps such as WhatsApp to interact with their lecturers. The study concluded that effective learning was achieved by blending social media with formal learning channels. However, the use of social media informalises learning and therefore presents some ethical challenges in the HEIs.

The university administrations were forced to migrate to online with meetings and other administration work being done virtually. There are a number of paper documents that are normally approved through hard copy signatures, and this is now being done through e-signatures. Therefore, there are ethical issues that may arise due to the confidential papers falling into the wrong hands (Guangul *et al*., 2020).

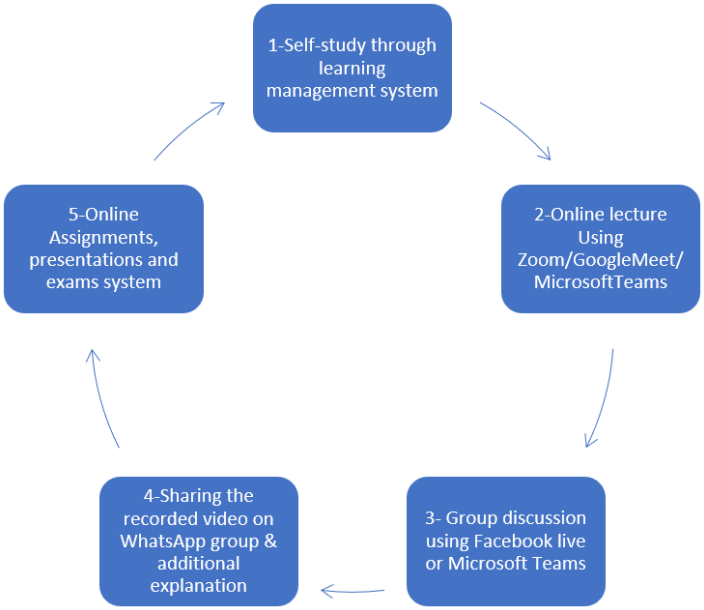

Figure 1: Online Learning Model. (Source: Adapted from Khan (2021)).

2. Challenges of digitalisation of systems

The COVID-19 pandemic has shown that education is not immune to external dangers (Bozkurt and Sharma, 2020). There are a few ethical challenges that HEIs face in resetting services during and after the pandemic. Some of the challenges are technology access, technology competence, resource availability, differences in resources, lack of close supervision of students and lack of preparedness on the part of instructors. A study which was done in Ghana (Adarkwah, 2020) revealed challenges of online learning which are also like the South African context. This qualitative study identified three themes (effectiveness of online course, barriers, and ICT integration) and several sub-themes as shown in table 1 below. The challenges of online courses or learning are a lack of internet access, ICT tools, electricity, poor social interaction, and others. These are discussed in more details in the South African context in the sub-sections below.

Table 1: Main themes on online learning

Themes	Sub-themes
Effectiveness of the Online course	◦ Social interactions ◦ Student outcomes ◦ Communication ◦ Traditional versus online approach
Barriers	◦ Cost ◦ Online platform ◦ Study materials ◦ ICT tools ◦ Prior knowledge ◦ Internet access ◦ Electricity
ICT Integration	◦ Education ◦ Provision of ICT tools ◦ Internet Bandwidth ◦ Motivation ◦ School leadership practices

Source: Adapted from Adarkwah (2020)

3. Technology access

Online learning is heavily dependent on the devices used by students and the availability of internet. Students interviewed in the study by Adarkwah (2020) were worried that poor internet connectivity would adversely affect their performance. Additionally, there was an immediate cost that they had to incur to procure gadgets to use for internet access as well as to buy data. South Africa has relatively expensive data in Africa (RAMP, 2017). According to *Research ICT Africa*, (RAMP, 2017) the country was the 6th least expensive when compared to other Southern African nations as shown in the figure 2 below. In Africa it was 27 out of 49 countries. South Africa is the most developed country in Southern Africa; therefore, it would have been expected that it would have the least expensive internet.

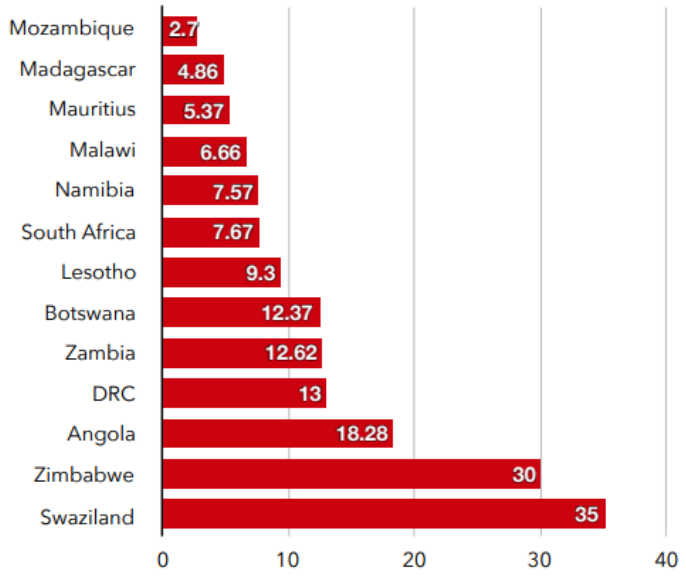

Figure 2: Comparison of prepaid 1GB mobile data across SADC countries. (Source: RAMP Index, Q2 2017)

In 2020, only 37 per cent of South African households had consistent access to the internet through cell phones or computers (Stats SA, 2020). At the provincial level, Gauteng had the highest internet access with Limpopo and Northwest having the lowest accessibility. This was a big challenge when online lessons were started in 2020 as several students did not have access to internet and/or reliable devices. After realising this challenge, the Department of Higher education, Science, and Training (DHET) provided laptops to National Student Financial Aid Scheme (NFAS) funded students (Macupe, 2021). However, the students who did not have funding were left out and had to finance themselves.

4. Socio-economic factor

South Africa is one of the most unequal societies in the world, with a very big gap between the rich and the poor (Stats SA, 2020). In 2019, it was reported that about 19 million South Africans were on grants and depended on them for their income (Kamer, 2021). This number is expected to have grown in 2020-2021 since more beneficiaries were added through the COVID-19 relief fund. As a result of inequality in the socio-economic status of students, some rely on the university computer labs and free internet in universities (Demirbilek, 2014). Since 1994 there has been a growing percentage of black students who come from poor backgrounds where they struggle to have necessities at universities. A study was conducted by Tumbo *et al.* (2009) and Mabuza *et al.* (2018) on the proportion of health science students from rural origin in nine universities in South Africa. The summary of the results is presented in table 2 below. In Limpopo almost half (47.6%) of the health science students under study came from rural origin. Large proportion of students in other universities such as Free State (39,7%), Walter Sisulu (29,8%), KwaZulu-Natal (23,5%) and Pretoria (19,5%) came from rural backgrounds. The Witwatersrand University had the lowest percentage of rural-origin students.

The demographic of South Africa showed that people who came from rural areas were less financially stable. This can be translated to their ability to fund education of their university-going children. The social divide was major driver of the "#FeesMustFall" movement which shook the university landscape (Ndlovu, 2017). The apartheid system was driven by the exclusion of the black majority from nearly anything that would benefit them financially. Unfortunately, after the end of apartheid, the government was slower in putting policies that would help black people access tertiary education. In 2015, the government increased fees by 10.5 per cent, thereby further excluding people from poor families and this triggered the Fees Must Fall movement (Griffiths, 2019).

Table 2: Rural-origin students at health science faculties of South African universities

University	No. of students evaluated	No. of rural-origin students	% Rural-origin students
Limpopo	1 374	655	47.6
Free State	605	240	39.7
Stellenbosch	321	98	30.5
Walter Sisulu	369	110	29.8
KwaZulu-Natal	753	177	23.5
Cape Town	585	135	23.1
Pretoria	1 312	256	19.5
Western Cape	601	88	14.6
Witwatersrand	1 437	154	10.7

Source: adapted from Tumbo *et al.* (2009) and Mabuza *et al.* (2018).

A study by Fishbane and Tomer (2020) revealed that students who came from low income earning families were likely to be left behind as they could not afford broadband internet. Video lessons require a lot of data which is very expensive in South Africa. Interviews were conducted by *The Daily Vox* (Duncan-Williams *et al*., 2020) to find out how students are coping with online learning. The results from the interviews showed that well-resourced institutions were in a better position to provide support to their students as compared to under-resourced institutions such as TVET colleges (Duncan-Williams *et al*., 2020). Students also highlighted that their family setup did not provide a good learning environment for them and are often easily distracted (Duncan-Williams *et al*., 2020).

5. Technology competence and security

Technology competence are skills, knowledge, and attitudes necessary when using ICT and technology devices to perform duties, such as research, online teaching and learning, information management, efficiency, and ethics (Ferrari, 2012). Students and instructors with low technological competence are most likely to lag in online learning. A study carried out in 2020 of a sample of students showed that at least 68 per cent of them had difficulty adapting to the online environment (Hanekom, 2020). This shows a general computer illiteracy amongst learners. There was no time given to the students to adapt to the new learning environment. In 2021 in most universities, first year students did not have face-to-face lectures. Due to the technological transformation of the education, there is also a need to do the same with the library and provide digital books. Students and instructors who are not technological competent might find it difficult to navigate through an e-library.

There are also cyber security issues that arise with working from home (Alexei and Alexei, 2021). In a work environment, networks are secured with advanced security system; this is less likely to be the case with home networks. Other security issues raised are phishing schemes, weak passwords, unencrypted file sharing, theft of personal data and working from personal devices home (Alexei and Alexei, 2021). This is a major issue with administrators and lecturers who will access university databases and accounts from home. University databases contain a lot of personal information of both staff members and students which may fall into wrong hands through hackers. University databases and that of researchers also contain unpublished work which is of interest to hackers. A report by Kaspersky as published in Alexei and Alexei (2021) showed an increase of distributed denial of service (DDoS) attacks on HEIs worldwide as shown in figure 3 below. A comparison of the first quarters (Q1) shows that there has been an increase of DDoS. DDoS is when cybercriminals flood a network with so much malicious traffic that it cannot operate or communicate as it normally would.

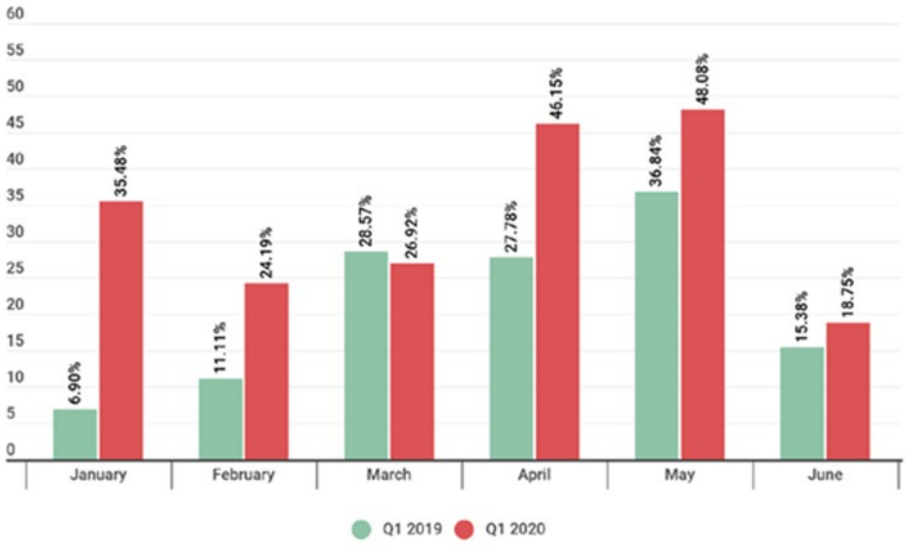

Figure 3: Percent of the total number of DDoS attacks that affected educational resources: Q1 2019 vs Q1 2020. Source: Adopted from Alexei and Alexei (2021).

Ethical issues have risen due to lack of competence and guidelines of how people are supposed to behave when attending online lectures and meetings. A compilation video done by CGTN (2020) showed several blunders by participants which led to unethical use of digital devises that can be avoided through technological competence. The video is a collection of blunders in professional environments which led to some embarrassing moments. Some of the participants left their video on without knowing that they were still live and continued to do their home chores. The new phenomenon of working from home or having lectures at home must also be accompanied by ethical training of dos and don'ts to maintain the integrity of organisations.

6. Student assessment and supervision

To determine the competence of students in their learning, the assessments need to be in the form of a quiz, test, assignment, and examination. In online learning, the assessments are also often carried out online, thereby making it difficult to regulate and control cheating (Arkorful and Abaidoo, 2015). Writing exams and assessments online have increased the chances of students of copying and hiring experts to do their work (Arkorful and Abaidoo, 2015). There is a major ethical issue as the examiners do not know whether the students attempt the questions on their own or with assistance from others. The students can attempt their assessments wherever they have access to the internet.

Unlike in the paper-based assessment where there is supervision, online platforms are hard to control, thereby compromising the ethical integrity of assessments. Flaherty (2020) suggested modification of the grading systems during the pandemic because the learning environment was different from that of face-to-face classes. In the study, suggestions were made on how not to be or to be lenient in the assessments. In a study done in Middle East on the challenges of online assessments, academic dishonesty, infrastructure, coverage of learning outcomes and commitment of students to submit assessments were identified as the major challenges (Guangul *et al*., 2020). To minimise dishonesty by students preparing different questions was noted to be the best option. Online presentation was also found to be a good option to control academic integrity violations. Guangul *et al*., (2020) further recommended combining various assessment methods, for example, assignment submission could be combined with online presentation. This would help to minimise

academic dishonesty since the examiner would have a chance to confirm whether the submitted work was the work of the student.

7. Suitability and compatibility of practical based modules

Online learning cannot be effectively and efficiently implemented in some disciplines (Muthuprasad *et al.*, 2021). Modules in areas such as engineering and sciences have practical components in them such that it may be difficult to conduct virtual lessons only (Leszczyński *et al*., 2018). This challenge was also felt with research-based degrees which required specialised laboratories. A study by Muthuprasad *et al.*, (2021) suggested use of hybrid methods and a new curriculum would need to be designed to fit such scenario. Applications and websites offer virtual laboratories that are offered through online learning but cannot fill the gap between theory and practice (Iqbal *et al*., 2015). The universities also needed to maintain the quality of degrees offered, therefore, face-to-face teaching was needed in practical modules (Muthuprasad *et al.*, 2021). Given this challenge, many universities in South Africa have given preference to the students and researchers who depend on laboratories to return to campus to conduct their studies.

8. Interventions by universities and the DHET

The migration of learning from face-to-face to online learning has not been smooth due to many challenges that have been highlighted earlier in this paper. The universities and DHET provided support to staff members and students to ensure smooth transition to online learning and teaching. DHET directed that all universities stop traditional lectures and start with "multi-modal learning" (RSA, 2020). Multi-modal learning consisted of the use of physical handouts to students and online learning. After realising the number of challenges that students were facing through lack of internet access, the universities and DHET provided data for their students (RSA, 2020). In addition, network providers zero rated websites which included Moodle (McKane, 2020). In accordance with the Disaster Management Act, the DHET approved zero-rating of more than 500 websites that did not require data to access them (Duncan-Williams *et al*., 2020). However, if the students wanted to do further research, for example, watching video lectures on You Tube, they would have to use their own data. Furthermore, a study by Duncan-Williams *et al*., (2020) highlighted issues raised by students such as poor network connection. Others pointed out that electricity load shedding affected them, resulting in late submission of assignments which might also be poorly done because of the lack of suitable research.

Discussion and Recommendations

The movement of the tertiary education from face-to-face learning to online learning and from paper-based signatures to e-signatures has raised opportunities as well as challenges. The world was caught unawares, and universities were not spared either. There is need to adopt very quickly to the new normal and to avoid unethical issues that may rise due to lack of knowledge, training, and carelessness.

Findings from this study have shown that in South Africa, there is the challenge of internet access due to its high cost and the devices needed to access it. Furthermore, digital literacy is so low in South Africa that some students had taken long or are taking long to adapt to the new normal. This is made worse by the social divide in the country. Findings from previous studies showed that lecturers were not to be spared either as some were used to the traditional way of delivering a lecture and found it difficult to make the change to online. Therefore, students and lecturers need orientation on how they can use online platforms effectively. Seminars can be held regularly to train lecturers and to help

students on how they can also adopt to the new learning environment. A higher rate of digital literacy will also mean lower ethical challenges and an increased integrity of the university systems.

Since assessments have to be done online, ethical issues on the examinations process were highlighted. Findings from this study have shown that there are chances of copying and hiring of experts to do the work on behalf of learners thus affecting the integrity of modules and degrees. Additionally, there are standards and norms in face-to-face lecturing environment such as the number of students in a class, the number of assessments and the number of modules to be taken by each lecturer. However, in the online learning environment, there are no policy and guidelines set by universities (Guangu *et al.,* 2020). The digitalisation of the education system not only provides challenges but also opportunities as well. With technology, there is an improved flexibility and interactivity of the lecturers, staff members and students. The lecturers can upload lecture videos at any time and the students attend the lectures anytime. Slower students have more time to review any lecture or concept as many times as they want. In the university operations, the staff members can submit any paperwork that needs approval anytime as they do not have to wait until it is daytime. The cost of running a university has been tremendously reduced. Several conferences are being held virtually, thereby saving universities millions of rand in travelling costs by researchers.

Digital transformation is not new in universities as this has been happening over the years (Kopp *et al*., 2019). Digital transformation in higher education institutions is a topical issue that many education stakeholders must feel interested in; the ability to apply information communication technology (ICT) in all spheres of life is increasingly high (Bond *et al,* 2018). Therefore, the universities must be ready to prepare potential professionals for its challenges and solutions (Sandkuhl and Lehmann, 2017). Digital transformation can be considered as a synchronization of all digital processes required for transformation in higher education institutions, giving higher education institutions the possibility to use digital technologies in the best possible way (Adedoyin and Soykan, 2020). A study by Kopp *et al.* (2019) identified five things that are considered to be hindrances to digital transformation of higher education institutions: (i) change, (ii) pace, (iii) technology, (iv) competences and (v) financing. Digitalization should not be called e-learning at higher education institutions because online learning is one component of the several digital transformation features of higher education institutions (Adedoyin and Soykan, 2020).

Kebritchi *et al*., (2017) provide a good summary of the three major components and related issues in an online learning environment:

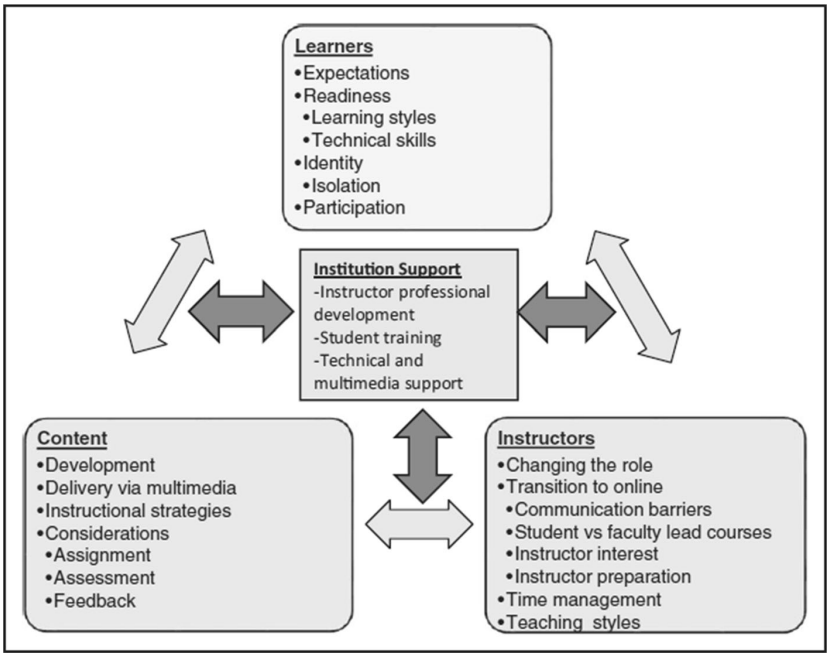

Figure 4: Major components and the related issues in an online learning environment (Kebritchi *et al.* 2017).

Improvement of internet accessibility can be done by zero-rating useful websites. On top of zero rating some websites, there is need to provide or to encourage mobile networks to provide lower data to learners. To avoid abuse, there can be a cap on the amount of data that can be used in a day or limit the websites accessible in the bundle. Developed countries and developing nations such as Mauritius have developed free WIFI for the public. South Africa has several free public WIFI hotspots; however, they are limited to malls, major bus stations and airports. It can be expanded to include most public spaces and community centres. In poorly developed areas, schools and other built-up areas, hotspots can be developed. Furthermore, to bridge the gap caused by social divide, the department of education and technology can subsidise laptops so that poor communities can afford the most basic computers.

Online learning often results in a feeling of being alone or in a vacuum (Adarkwah, 2020). Therefore, there is need for lecturers to increase their interaction with students as well as encouraging them to interact with other students. According to a study by Khan (2021), lecturers should also employ other social media platforms such as WhatsApp to increase their accessibility and reduce feeling of being lonely. However, this should be done in such a way that integrity is maintained. Therefore, assessments and lectures should be maintained on the more formal learning management platforms such as Moodle and Blackboard. Social media should be used as an add-on to formal channels, not as a stand-alone. Khan (2021) recommended the following flow chat in figure 4 below to be used in online lessons that also includes use of social media. This can help to increase visibility and inclusivity of all students. A student attending an online lecture can easily get distracted by the environment. Therefore, lectures should also include regular quizzes and encourage students to provide feedback on a regular basis.

Lecturers can provide extra security to the assessments such as limiting the time to access them and adding a random feature such that the questions being attempted by each student should be different at any given time. More advanced options such as use of webcam are not suitable for the South African environment as resources are limited. Therefore, the use of different questions for each student, series of quizzes and not depend on few assessments and online presentations are the best options.

There is lack of policy on online learning. Therefore, it is recommended that DHET or universities need to quickly come up with a new policy that specifically deals with the online learning environment. The traditional assessment methods cannot provide a good assessment of student's performance since there are a few weaknesses as I have pointed out earlier.

To counter security threats due to everything being done online, there is need to add more security measures on the paper trail for administration work. Lecturers as well as administrators can make use of Adobe PDF e-signatures that can be tracked to the person who signed it, instead of copying and pasting a signature on word document. Staff members and students should also be trained on how to change their passwords continually with more secure ones and, not to let their guard down. The universities must also take advantage of modern technologies such as cloud computing. In the case of university databases being hacked, cloud computing will provide a backup of the systems (Alexei and Alexei, 2021). The other benefits of cloud computing are organizing online classes, migrating university network infrastructure, and using the resources provided by the cloud.

Conclusion

The study has highlighted ethical issues that have arisen post COVID-19 in higher education. Most of the universities have moved from face-to-face teaching to online; this also includes assessment. With regards to online assessment, as there is minimal supervision, it is prone to unethical behaviour by students such as copying and hiring of "experts." The study discussed several ways such as setting different questions for the students to counter this challenge. The administration work of the university has also moved online, thereby presenting security issues that emanate from e-signatures and the threat of confidential documents falling into wrong hands. Due to South Africa's background, there is a large divide between those that have access to resources and those who do not. Therefore, it can be concluded that university and DHET intervention in availing of resources should be increased. The access to resources does not eliminate the ethical challenges that come with online learning. Therefore, there is a need for training of both students and university staff members to improve the security and reduce ethical challenges that come from use of online facilities. The study was limited to desktop study due to time and cost. However, it provides a stepping-stone to a more rigorous study that can include primary data collection. It can be expanded to include all the social structures of South Africa from different universities. The perspective of lecturers or educators and university administrators also need to be considered.

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