UNAM
UNIVERSITY OF NAMIBIA

RESEARCH REPORT

Perspectives and experiences of students, academics and management on online learning during COVID (2020-2021) at UNAM

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Introduction

The Coronavirus disease (COVID-19), also known as severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is a novel RNA coronavirus that emerged in late 2019 in the city of Wuhan, China (Cennimo, 2021). COVID-19 was declared a global pandemic by the World Health Organisation (WHO) on the 11th of March 2020 following its outbreak driven by high infectivity of the virus. The corona virus pandemic has been increasing throughout the world, affecting 235 countries by 15 October 2020 (World Health Organization, 2020). This WHO officially declared COVID-19 to have reached a global pandemic level and has caused 2.7 million deaths (7%) and about 63 million recoveries. The most affected regions of the world include America, Europe, South-East Asia, and the Mediterranean (Committee for the Coordination of Statistical Activities, 2021). However, in Africa, the number of covid-19 cases was comparatively lower than other regions, although the trend of the disease was gradually on the increase in many countries (Committee for the Coordination of Statistical Activities, 2021). According to the African Centre of Disease Control and Prevention, there were over 1.6 million confirmed positive cases of COVID-19 recorded in Africa as of the beginning of March

2021, out of which 39 000 individuals died, while some 2 million patients recovered from the disease.

Koninckx, Fatondji and Burgos (2021) stress that beyond the death toll and illness of millions of people due to COVID-19, businesses, healthcare, culture and education have had to cope with severe disturbances. Further, they claim that higher-education institutions in Africa were more affected, especially students coming from vulnerable populations. Even though Africa as a continent had the least reported cases, the closure of higher education institutions was more widespread, and mitigation measures less effective than in other regions (Koninckx, Fatondji and Burgos, 2021). A few (29%) of African higher education institutions were able to quickly move teaching and learning online even though not prepared to move teaching online. As a result, institutions closed their campuses and had to suspend teaching. Fortunately, most institutions had started developing digital or self-study solutions. However, in the first quota of the pandemic, teaching remained completely cancelled for African higher education institutions.

Just like the rest of African countries, Namibia too came under a total economic and social shutdown, due to the worldwide COVID-19 pandemic. A national state of emergency was declared, and then Namibians joined the rest of the world in a sit and wait situation (Republic of Namibia, 2020). The global outbreak of coronavirus (COVID-19) during first semester of 2020 disrupted and challenged the education system as well. It forced institutions of higher education to shift to online teaching overnight. Swift decisions, such as declaration of the state of emergency and the enforced period of lock down by the central government affected almost every economic activity in the country. The higher education sector was also not spared from these decisions; therefore, the University of Namibia (UNAM) had to suspend face-face classes to ensure safety of its students, and all staff including academic and management staff at the institution. This was imperative as learning and teaching needed to continue in a different set-up with minimal disruption by COVID-19 pandemic. Therefore, this study seeks to investigate perceptions and experience of students, academics and management on online learning during COVID-19 (2020-2021) at UNAM.

The University of Namibia is a public university with a population of more than thirty thousand students drawn from different parts of the world. The University consist of twelve campuses across the country with eight faculties and eight schools where academic programs are offered

(University of Namibia, 2021). Like any other institutions of higher learning in Namibia, UNAM has largely remained a face-to-face institution until the global outbreak of coronavirus (COVID-19) which disrupted traditional method of teaching and learning. However, the institution did not sit back and wait for the situation to take its course but expanded its operations of teaching and learning with the use eLearning platform namely, Learning Management System (LMS).

New developments in online learning and teaching (mainly the blended mode) are however remarkable on a small scale at UNAM. Of significance is the merger between the CELIM and the Centre for External Studies (CES) in 2016, which culminated into the establishment of the Centre for Open, Distance and eLearning (CODeL). CODeL was established to champion and spearhead the developments in online learning and teaching at the institution. Among others, developments under CODeL included online submission and assessment of student activities in the Certificate and Diploma in HIV/AIDS programmes, some programmes in the faculties of Economics and Management Sciences, Education, Humanities and Law. Although partially migrating to online learning and teaching, assessment of student activities, particularly the traditional examination, has largely remained face-to-face oriented. (Kadhila and Nyambe, 2021)

Background of the study

With the global outbreak of coronavirus (COVID-19) pandemic towards the end of 2019 and the onset of 2020, many institutions of higher learning worldwide find themselves caught off guard when it comes to teaching and learning preparedness. In Namibia, the first lockdown was implemented in March 2020, when the teaching and learning at UNAM was just about to gain momentum for the first semester of 2020. In order to minimize the effect of the lockdown on the teaching and learning, the University of Namibia management had to find an alternative approach to continue with the teaching and learning. Consequently, the UNAM management had to decide in order to compel academics and students alike to efficiently make use of the online services as per the online policy of UNAM (we need to acknowledge policy date here) and transfer all the teaching and learning as well as assessments activities to online teaching and learning mode from the traditional face-to-face mode.

The management of the University of Namibia had to devise ways in a short period in order to make sure that teaching and learning continues unabated. This resonates well with what (Smart & Cappel, 2006) posit that in search of better, more cost-effective ways to deliver instruction and training, universities around the globe and corporations have expanded their use of e-learning. However, at UNAM we have an online policy since (date needed here…) but was never implemented fully and efficiently used as it is currently in use now during the pandemic as we relied on the traditional face-face mode before. Apart from COVID-19 pandemic, research indicates that, e-learning has grown tremendously over the past several years as technology has been integrated into education and training (Davies, 2011; O'Neill, Singh, & O'Donoghue, 2004). "E-learning" may be defined as teaching and learning delivered electronically through the Internet, Intranets, or multimedia platforms such as Moodle, Zoom, GOOGLE meet, CD-ROM or DVD (Csapo & Molnar, 2019; Davies, 2011; O'Neill, Singh, & O'Donoghue, 2004). Of late, a lot of end users have access to direct Internet connections; as a result, e-learning is often identified with web-based learning (Csapo & Molnar, 2019).

Many writers refer to "e-learning," "online learning," and "web-based learning" interchangeably, an approach that will be taken in this paper as well. E-learning can be achieved in a various of ways, such as using self-paced independent study units, asynchronous interactive sessions (where participants interact at different times) or synchronous interactive settings (where students meet in real time via a platform) (Ryan, 2001). Therefore, the integration of technological resources such as the University of Namibia, E-learning platform (Moodle), and other innovative instructional approaches have transformed how teaching and learning processes took place in the 2020 and continue to take place in 2021 academic year. The utilization of such an E-learning Management System (LMS) as a facilitation tool by students, academics, and management to conduct their teaching, learning, and assessment facets, as well as to guide and support student's self-directed learning played a major role during this transitional period.

For eLearning to be efficacious, many factors have to be well thought out which comprises accessibility, usage of appropriate methods, course content, and assessment criteria. E learning, like any other method of instruction, has its advantages and disadvantages for both students and academics. Online teaching and learning during the pandemic reduces the risk of transmission of the virus among staff members and students. Furthermore, it improves virtual communication and collaboration skills. It may also refine critical-thinking skills and academics and students may acquire new technical skills. On the other hand, some of the

shortfalls that may be encountered during the teaching and learning is that online learning cannot offer human interaction. Another disadvantage refers to the fact that online courses cannot cope with thousands of students that try to join discussions, for example, big blue button, or google meet. In addition, online learning can be difficult, if it is meant for disciplines that involve practice.

Although several studies suggest that online education and blended instruction (a "blend" of online and traditional approaches) can be as effective as traditional classroom models, few studies (Kaisara & Bwalya, 2021; Karipi, 2018) have focused on students', academics and management satisfaction with online instruction, particularly in the transition to online learning from traditional approaches due to COVID-19 pandemic in Namibia. These studies (Kaisara & Bwalya, 2021; Karipi, 2019), focused on undergraduate students about their experiences using e-learning technologies during the COVID-19-induced university closures.

Furthermore, other researchers elsewhere studied online students' behavioural, emotional and cognitive engagement in e-learning mostly in the developed world contexts (Csapo & Molnar, 2019; Davies, 2011; O'Neill, Smart & Cappel, 2006; Singh, & O'Donoghue, 2004). Students' perceptions in Namibia has rarely been considered. Therefore, this study tries to address a gap in the research by examining students, academics and managements' perceptions and experiences toward online teaching and learning at UNAM.

Research Objectives

Therefore, the objectives of the study are to:

1. examine the perceptions towards online learning during COVID (2020-2021) lockdown period
2. examine students' perspective in relations to the use and adaption of the E-learning platform, student satisfaction with the online support they receive, their technical proficiency in using Moodle as a Learning Management System as well as to identify the difficulties that students encountered during online learning.
3. acquire the necessary evidence on the usefulness of certain online instructional methods that academics use to deliver the courses/modules, the time they spent on designing

online course content, completion of assessment tasks and projects, and the recommendations and preferences by the academics for the best online pedagogies.

4. ascertain how management ensured that online learning occurs through decision-making methods to guarantee the continuity of education. Including, e-Learning managers as well as administrators, to classify the key challenges and best practices applied during the crises in terms of making use of E-learning as the ideal teaching and learning mode for the University.

Literature review

To be sure, the COVID-19 Pandemic is first and foremost a matter of Public Health, and mitigating its impact will depend greatly on the actions of scientists and pharmaceutical manufacturers in discovering a vaccine or other pharmaceuticals to prevent or treat COVID-19 infections, and of finding approaches to delivering such medicines on a broad scale. Absent effective pharmaceutical interventions, mitigating the impact of the Pandemic will depend on the actions of public health and government officials in slowing down the spread of infection, through measures such as social distancing.

The closure of educational institutions due to COVID-19 has caused a lot of disruption with respect to teaching and learning. The institutions of higher learning were shut down abruptly in accordance with COVID-19 restrictions and protocol. Lecturers and students were sent home at intervals depending on the advice from management and observations with respect to the spread of the virus. The state of affairs posts challenges to the university community such that the management and staff are forced to devise new strategies that could help with the continuation of teaching and learning. A number of policies were developed and existing policies revised to suit the COVID-19 situation at hand as the Teaching and Learning Process (TLP) was expected to continue with the restrictions declared. Educational institutions and students across the world have accepted and appreciated the online platform of learning. The reasons of this acceptability are ease of use, learning flexibility and controllable environment (Khan, Vivek, Nabi, Khojah, and Tahir, 2021).

UNESCO (1998) calls for Higher Education Institutions (HEIs) to adapt to the Knowledge Society through the adoption of different ways of teaching and learning considering a profound impact in terms of methodologies, practices and paradigmatic, organizational approaches, pedagogical and social aspects of each one. The purported transformative power of ICTs has

found an eager audience in the learning and teaching domain, such that the permeation of ICT in education became an inevitable development especially during the pandemic. As such the university management was compelled to develop rigorous plans to ensure the continuity of teaching and learning and provisioning of relevant digital platforms to allow timely academic activities. Lacking an intentional and effective education response, the COVID-19 Pandemic is likely to generate the greatest disruption in educational opportunity worldwide in a generation. This disruption would impact the livelihoods of staff and students and consequently the prospects of their communities. It is imperative, for this reason, that education leaders take immediate steps to develop and implement strategies which mitigate the educational impact of the pandemic. We believe that cooperation can assist education leaders in devising effective education responses, and that the first and simplest form of cooperation is to exchange knowledge about what schools, communities and what countries are currently doing to protect educational opportunities during the pandemic.

There is very little progress with respect to investments in ICT infrastructure at institutions of higher learning (Awidi and Cooper, 2015). This has affected the perceptions and experiences of both staff and students in institutions of higher learning in Africa. Kaisara and Bwalya (2020) conducted a study to establish students' experiences with the e-learning mode during the COVID-19 lockdown in Namibia. The results of the online survey of 137 undergraduate students sought experiences using e-learning technologies during the COVID-19-induced university closures. The results of the survey indicate that mobile devices remained the primary computing device used to access academic information. Five themes emerged from the results namely, e-learning system accessibility, e-learning platform layout, resources to access Internet and network, isolation and home environment that captured student challenges with online classes. In addition, the study indicated a number of challenges that needed attention such as internet accessibility, cost of internet, home environment not conducive for learning, isolation and no collaboration communities.

Tsambe and Tsambe (2020) found that students use different electronic platforms in the current scenario for teaching and learning processes including Moodle, Microsoft Teams and social media platforms. However, with the scenario of COVID-19, there was an increase of 100% in the use of electronic platforms by students in Mosambique. This increase is a consequence of the absence of appropriate modes for student-teacher interaction and, access to learning materials in the University libraries. It was also concluded that students preferred using WhatsApp above other platforms even though the costs of acquiring internet data packages seemed way too high than they could afford. The students also reported that the packages

offered by the operators were characterized by being deficient for access to the different platforms as it is of short bandwidth. In addition, the study concluded that due to this set of difficulties, the use of electronic platforms does not help in the teaching and learning process, in the organization of their studies and does not improve or facilitate their learning in this context of the COVID-19 pandemic.

In another study conducted in India on perceptions towards, e-Learning during COVID-19 Pandemic (Khan, Vivek, Nabi, Khojah, and Tahir, 2021) revealed that students were adversely affected as COVID-19 demanded containment and enforced isolation. The substitute of online teaching as opposed to the off-line teaching, exposed students to new demands.

The study necessitated the examination of students' perception and readiness about online-learning system adopted at the university level. A survey of 184 university students collected through online questionnaire revealed students' positive perception towards e-learning and thus acceptance of the learning system. The results have also informed reform of online related policies to an improved standard. Therefore, there is a need for a conceptual framework that will enhance the understanding of the operations by the university communities including management, staff and students with an aim to develop a resilience plan during COVID-19. The conceptual framework assumes that institutional leaders need to devise effective education strategies with respect to policies that guide the operations of online learning and assessment. In addition, management needs to ensure resource provisioning and effective use thereof by both staff and students. On the other hand, teaching staff should use most appropriate teaching and assessment strategies to enhance learning while students are expected to make good use of learning platforms and other opportunities provided to them by the institutions. The purpose of this study is therefore to develop context-specific education strategies to enhance service delivery to both staff and students with specific reference to online teaching and learning. Figure 1 presents a modified TPACK/RBT Model (Simon, 2019) as follows:

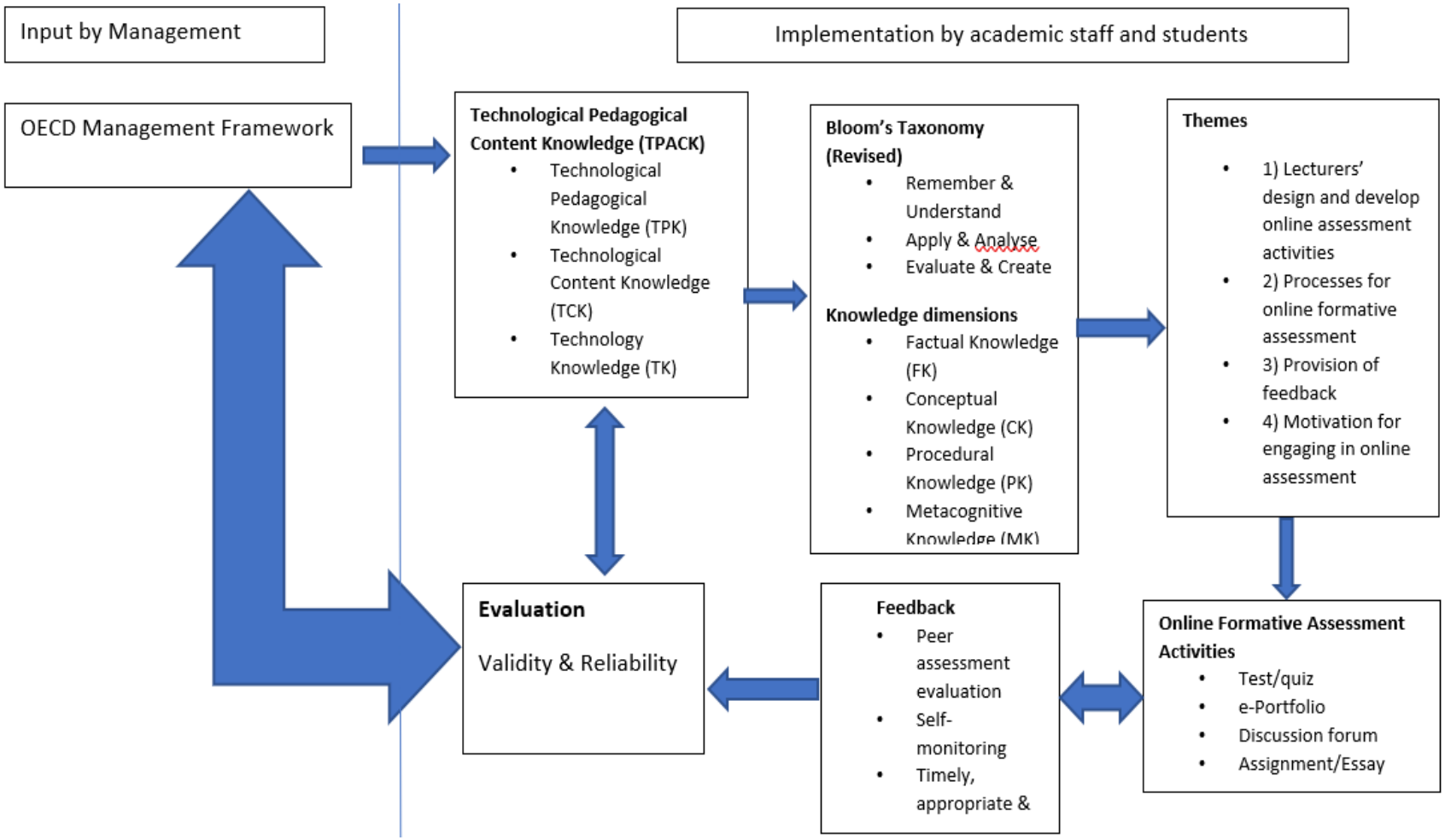

Figure 1 Consolidated summary of the best practices for the implementation of online formative assessment (Simon, 2019).

Figure 1 represent a consolidated summary that shows the link between the three conceptual frameworks, namely: OECD Management Framework; TPACK; and RBT adopted and adapted for this study.

The OECD Management Framework (OECD, 2020) assumes that there is a need for management to adopt a proactive approach contributing to the mitigation of the impact of the Pandemic and to prevent learning loss during the period of necessary social distancing. Institutions of higher learning should contribute to the creation of opportunities to help reskill those displaced by the Pandemic and facilitate their reintegration into the labor market. To attain these goals, it is expected of the institutions to establish an agile leadership group or steering committee in charge of overseeing the education response to the Pandemic; develop a strategy with clear implementation plans, monitor the implementation of the strategy, and where possible engage with similar groups in other education jurisdictions to access knowledge about similar efforts ongoing and their results, and accelerate their learning and ongoing improvement of their strategy. Therefore, Management at HEIs should create necessary opportunities for rapid learning and continuous improvement. Also, in addressing this adaptive challenge, collaboration amongst stakeholders will be essential, in that everyone will need to step up, get out of the comfort zone, in order to get the job of educating students online. It may be advisable to structure the work of this task force to ensure completion of the ongoing academic year. Once management has provided a conducive environment and the necessary resources, then the academic staff and students can adopt the implementation of online learning.

TPACK and RBT components have been adopted in the developed model as follows:

(1) TPACK is utilized to represent how lecturers combine content with formative assessment activities with available tools and technologies; and to understand lecturer knowledge of integrating technology in their online formative assessment practices (Thompson & Mishra, 2008).

(2) RBT is employed to classify the online formative activities as components focusing on course content and student learning objectives and outcomes.

(3) Feedback is used as an iterative approach for lecturers to design online assessment based on continual internal and external feedback (Simon, 2019).

The arrows are back and forth between Evaluation and OECD Management Framework; TPACK; and RBT as well as between online formative assessment activities and feedback. The consolidated framework makes provision of evaluations in terms of validity and reliability of formative assessment activities. Lecturers are expected to deliver feedback on time which is appropriate for the specific assessment activity. In addition, feedback should be reflective as a supportive mechanism which focused on learning to enable students with self and peer evaluation. In addition, lecturers and students alike are expected to evaluate courses online and programmes to achieve online teaching and learning objectives. This means that the lecturers can start with either constructs back-and-forth when implementing the online formative assessment. Once feedback is provided then lecturers and students alike can evaluate the assessment activities for validity and reliability. The process can resume after evaluation anytime to support the implementation of online formative assessment at HE institutions and feed policy review and development through OECD Management Framework.

Methodology

Research Design

This study employed mixed methods exploratory sequential design to investigate "Perspectives and experiences of students, academics and management on online learning during COVID (2020-2021) at a public university in Namibia (UNAM)". Since mixed methods designs involve the collection and analysis of quantitative and qualitative data within a single study (Creswell, 2009), convergence of data helps to clarify potential associations between perspectives and experiences of academics, management and students on online learning. Given the rationale for mixed methods design, this study employed two concurrent procedures. Thus, the qualitative data collection was conducted through virtual, semi-structured interviews and group discussions. The quantitative data collection was conducted through the distribution of questionnaires by e-mail and other internet-based platforms to identified respondents. Thus, quantitative data was used to complement the qualitative results and then collated to generate findings (Creswell, 2009).

Population

The study population comprised a total of management, academic staff members (N=2 337) and students in all faculties, schools, departments and centres, within the twelve campuses (N=28 290).

The sample and sampling

In order to obtain an appropriate sample for quantitative data, the study employed both probability and non-probability sampling procedures.

Probability sampling procedures include using existing specific departments and programmes as primary sampling units (PSUs) to randomly select participants (management, academic staff members and students) from specified campuses, faculties departments and programmes. Inclusion/exclusion criteria include several aspects for each set of participants. For management and academic staff members (N=2 337), the study considered five or more years of work experience in the University, of which three years should be at academic or administrative supervisory level. The study considered all students (N=28 290) across all faculties at the university. A response rate of at least 60% was considered as a representative sample.

In order to select an appropriate sample for qualitative data, participants were purposefully selected from existing departments and programmes. According to Marshall (2013) sample size in qualitative research is determined by saturation, which is reached when no new data is being added during interviews or group discussions. Moreover, the sample size for qualitative approach is informed by what the researcher wants to know, the purpose of the inquiry, what's at stake, what will be credible and available time and resources (Marshall et al. 2013).

Informed by the work of Creswell (2009) and Marshall et al. (2013) key informants and group discussants were purposefully selected, based on criteria which include ability to help the researcher understand the research phenomenon, knowledge of the research problem and ability to answer the research questions.

Data collection procedures

The proposed study will employ survey, key informant interviews and focus group discussions techniques to collect data. Document analysis will also be employed to extract secondary data for this study.

Instruments

For qualitative data collection, interview or group discussion instruments were developed to guide key informant interviews and focus group discussions which were held with management members, lecturers and senior students registered in selected programmes within identified faculties and departments. For quantitative data collection, a questionnaire was developed and administered via a secure online system.

Data analysis procedures

Qualitative and quantitative data were sequentially analysed. Firstly, the survey data from the questionnaires was cleaned and exported to the Statistical Package for Social Sciences (SPSS) for further manipulation. The data was analysed together with other existing official documents. Descriptive statistics were produced at an aggregated level to give respondents' background in terms of gender, age, geographic area, specialisation, mode of study (distance), year of study, device availability and online assessment methods issues amongst others.

Secondly, data from key informant interviews and focus group discussions were thematically analysed to develop themes, coding and concept mapping; and to explain and interpret the perspectives and experiences of management and academic staff members regarding online learning and teaching during COVOD-19. The significance was allocated equally to both types of data. Finally, the results from both components were synthesised.

Creswell (2009) advises mixed methods researchers to use both inductive and deductive data analysis techniques, to build patterns, categories, and themes. The idea is to triangulate data from different sources to generate the basis for generalisability of the findings (Bowen, Rose & Pilkington, 2017).

Results

This section presents the results of the study regarding perspectives and experiences of online teaching and learning during COVID-19 pandemic (2020-2021), as reported by the management staff, lecturers as well as students.

A response rate of at least 60% was considered as a representative sample. Furthermore, key informants were purposefully selected, based on the positions they held in various positions in the university staffing: management, teaching, student leadership and students who are at the receiving end. The desired response rate was not obtained therefore the quantitative outcome was complemented with the qualitative data.

A total number of 97 staff members responded to the questionnaire with most of the respondents being Lecturers (68%), followed by Senior Lecturers (18.6%). Professors and Tutors were the least (2.1%) represented categories of staff members as depicted in figure 2.

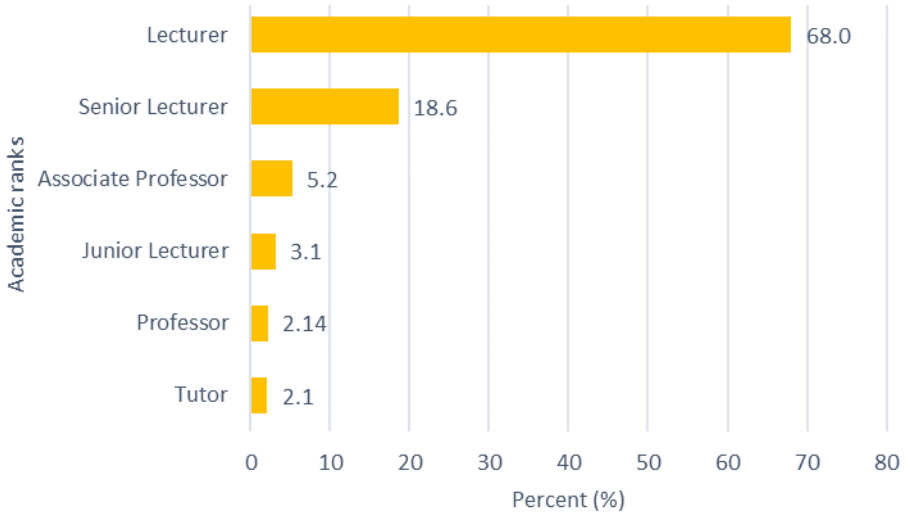

Figure 2 Response rate categories of staff.

Figure 3 shows students' response per campus. The results illustrates that most students who participated in the study were enrolled at the main campus (65.6%), followed by Oshakati campus (8.4%), followed by Rundu campus (5.3%) and Hifikepunye Pohamba campuses (5%). Hage Geingob campus and CoDEL has the least participants with 1.1% and 0.4% respectively.

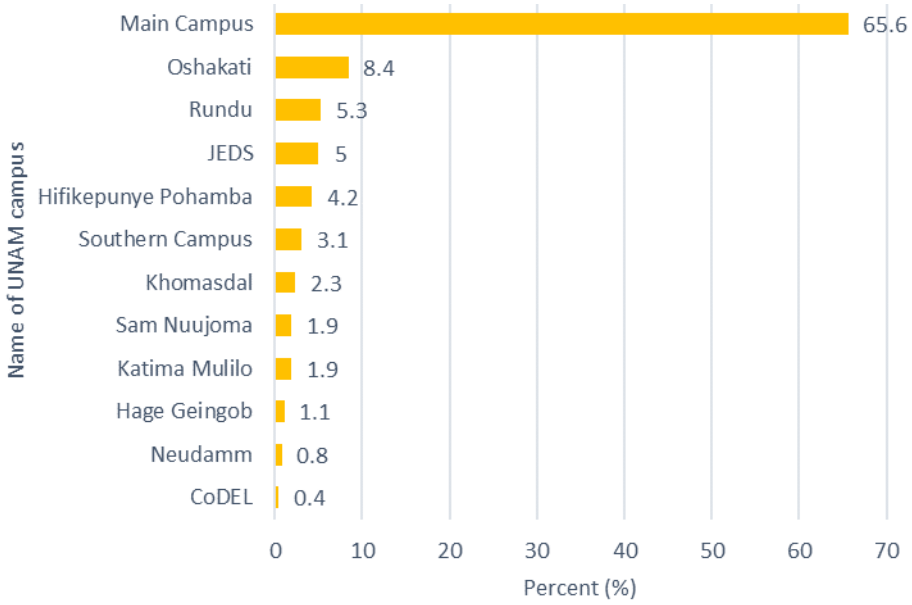

Figure 3 Students' response rate per campus.

With respect to students' year of study, Figure 4 shows that majority of respondents were 2nd and 3rd year students with each making up 28.8%, follow by 1st years students (17.7%) and 4th year students (14.2%). Shockingly 11.5% of respondents did not provide correct response for this question.

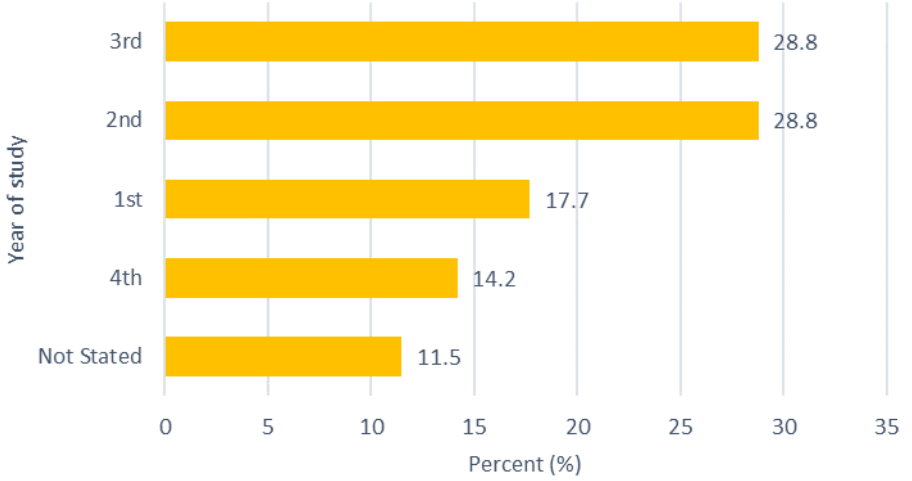

Figure 4 Years of study (students).

Table 1 below presents academic staff members responses regarding the types of internet connectivity they were using. About 14.4% of respondents reported that they are using "*LAN network with wireless connection*" while 11.3% of respondents indicated that they use "*DSL/Cable modem with wireless connection*". Surprisingly 8.2% of respondents reportedly "*Did not know/were unsure*" of what type of internet connectivity they were using.

Figure 5 below presents students' responses regarding access to internet connectivity where 40.3% of the respondents said that they had access to a computer and stable internet but not very often. About 34.2% of the respondents reported that they had access to a computer and stable internet daily. In addition, 20.9% of the respondents had access to a computer and stable internet at least 2 or 3 times a week. About 3.4% of the respondents said that they have no access to internet connectivity at all.

Table 1 Type of Internet Connectivity (Lecturers).

What type of internet connectivity do you use?	Frequency	Percent (%)
DSL/Cable modem with Ethernet connection (wired)	7	7.2
DSL/Cable modem with Ethernet connection (wired), DSL/Cable modem with wireless connection (wireless)	3	3.1
DSL/Cable modem with Ethernet connection (wired), DSL/Cable modem with wireless connection (wireless), LAN network with Ethernet connection	1	1.0
DSL/Cable modem with Ethernet connection (wired), DSL/Cable modem with wireless connection (wireless), Wireless mobile device	1	1.0
DSL/Cable modem with Ethernet connection (wired), DSL/Cable modem with wireless connection (wireless), Wireless mobile device, LAN network with Ethernet connection	1	1.0
DSL/Cable modem with Ethernet connection (wired), DSL/Cable modem with wireless connection (wireless), Wireless mobile device, LAN network with wireless connection, LAN network with Ethernet connection	1	1.0
DSL/Cable modem with Ethernet connection (wired), I don't know/Not sure	1	1.0
DSL/Cable modem with Ethernet connection (wired), Wireless mobile device	4	4.1
DSL/Cable modem with Ethernet connection (wired), Wireless mobile device, LAN network with Ethernet connection	1	1.0
DSL/Cable modem with Ethernet connection (wired), Wireless mobile device, LAN network with wireless connection	1	1.0
DSL/Cable modem with Ethernet connection (wired), Wireless mobile device, LAN network with wireless connection, LAN network with Ethernet connection	1	1.0
DSL/Cable modem with wireless connection (wireless)	11	11.3
DSL/Cable modem with wireless connection (wireless), LAN network with wireless connection	3	3.1
DSL/Cable modem with wireless connection (wireless), Wireless mobile device	3	3.1
DSL/Cable modem with wireless connection (wireless), Wireless mobile device, LAN network with wireless connection	3	3.1
I don't know/Not sure	8	8.2

LAN network with Ethernet connection	9	9.3
LAN network with wireless connection	14	14.4
LAN network with wireless connection, LAN network with Ethernet connection	1	1.0
Wireless mobile device	11	11.3
Wireless mobile device, LAN network with Ethernet connection	4	4.1
Wireless mobile device, LAN network with wireless connection	3	3.1
Wireless mobile device, LAN network with wireless connection, LAN network with Ethernet connection	1	1.0
Not stated	4	4.1
Total	**97**	**100**

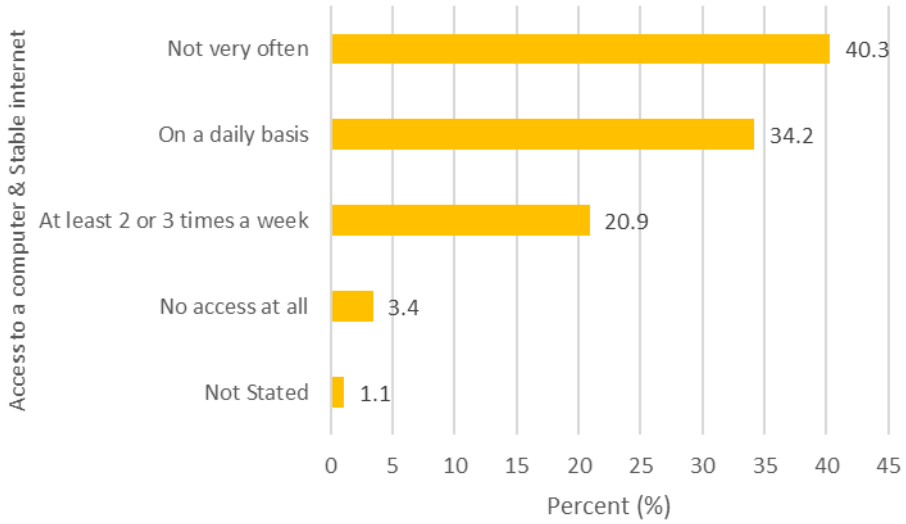

Figure 5 Access to Internet Connectivity/ICT equipment by Students.

Regarding students' ownership of a Mobile device (e.g., Tablet, iPod, iPhone), Table 2 shows that 69.2% of the students reported that they owned one of the devices and knew how to use them, while 7.2% said they owned one, but do not know how to use them very well. On the other hand, a significant percentage (22.4%) of students indicated that they did not own any of the devices.

Table 2 Ownership of a mobile device.

I have a Mobile device (e.g., Tablet, iPod, iPhone)	Frequency	Percent (%)
I own one and know how to use it	182	69.2
I own one, but I do not know how to use it very well	19	7.2
I do not own one	59	22.4
Not Stated	3	1.1
Total	**263**	**100**

Academic staff were asked how they classified themselves regarding the use of technology in remote teaching and learning as a Lecturers. Figure 6 below illustrates that most of the respondents more than half (52.6%) of respondents stated that they were somewhat competent using ICT, while 26.8% indicated that they were highly competent. About 1.0% of respondents stated that they were incompetent in using ICT facilities. 19.6% of respondents failed to respond to this question.

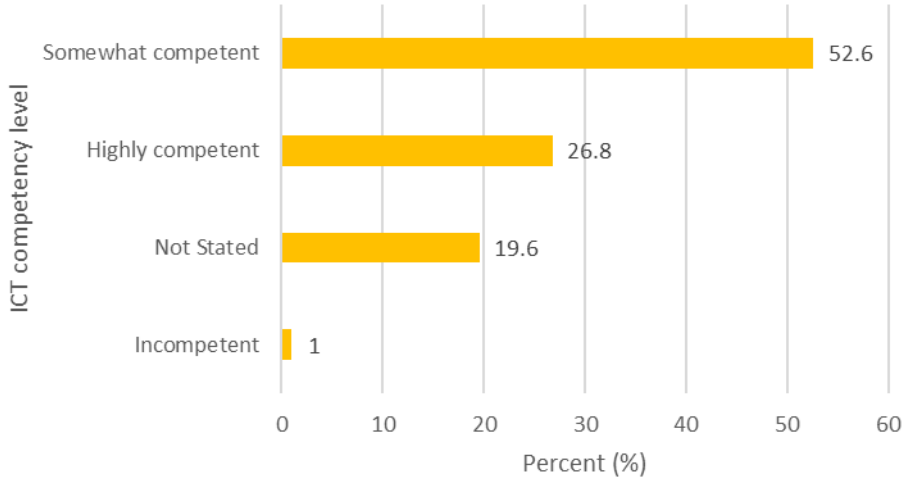

Figure 6 ICT Competencies (for Lecturers).

Table 3 illustrates that 64.3% of the student respondents indicated that they were experienced and quite comfortable. Moreover, 27.0% of the respondents indicated that they were hesitant to take risks, but persistent and determined while 8.0% had little or no experience and feel uncomfortable manipulating computer files (e.g., creating files in Word/Excel, opening files, editing files, saving files).

Table 3 Students ICT competencies.

Ability to manipulate computer files (e.g., creating files in Word/Excel, opening files, editing files, saving files).	Frequency	Percent (%)
I am experienced and quite comfortable	169	64.3
I am hesitant to take risks, but I am persistent and determined	71	27.0
I have little or no experience and feel uncomfortable	21	8.0
Not Stated	2	0.8
Total	**263**	**100**

Table 4 Students ICT competencies.

Regarding using the Web (e.g., visiting websites and using search engines such as Google)	Frequency	Percent (%)
I am experienced and quite comfortable	159	60.5
I have some experience	89	33.8
I have little or no experience and feel uncomfortable	11	4.2
Not Stated	4	1.5
Total	**263**	**100**

Table 4 illustrates that 60.5% of students indicated that they were experienced and quite comfortable while 33.8% of the respondents indicated that they had some experience. Moreover, 4.2% of the respondents said that they had little or no experience and feel uncomfortable about using the Web (e.g., visiting websites and using search engines such as Google).

Table 5 Student willingness to utilise ICT.

When asked to utilise new skills and technologies as a student	Frequency	Percent (%)
I embrace the challenge and enjoy trying new things	158	60.1
I am hesitant to take risks, but I am persistent and determined	88	33.5
I am very uncomfortable and tend to avoid new strategies	15	5.7
Not Stated	2	0.8
Total	**263**	**100**

Table 5 illustrates that about 60.1% of the respondents (students) indicated that they were willing to utilise new skills and technologies as students and embraced the challenge and enjoyed trying new things, while 33.5% of the respondents indicated that they were hesitant to take risks, but persistent and determined. Moreover, 5.7% of the respondents said that they were very uncomfortable and tend to avoid new strategies.

Table 6 Student willingness to utilise ICT.

Learning and downloading new software programs or applications.	Frequency	Percent (%)
I am adept at learning and downloading new software	93	35.4
I am willing to attempt downloading and learning new software, but will ask for help	145	55.1
Learning new software is uncomfortable and I might avoid doing it	21	8.0
Not Stated	4	1.5
Total	**263**	**100**

Table 6 illustrates 55.1% of the respondents (students) indicated that they were willing to attempt downloading and learning new software, but will ask for help, while 35.4% of the respondents indicated that they were adept at learning and downloading new software. Moreover, 8.0% respondents said that learning new software is uncomfortable and they might avoid doing it.

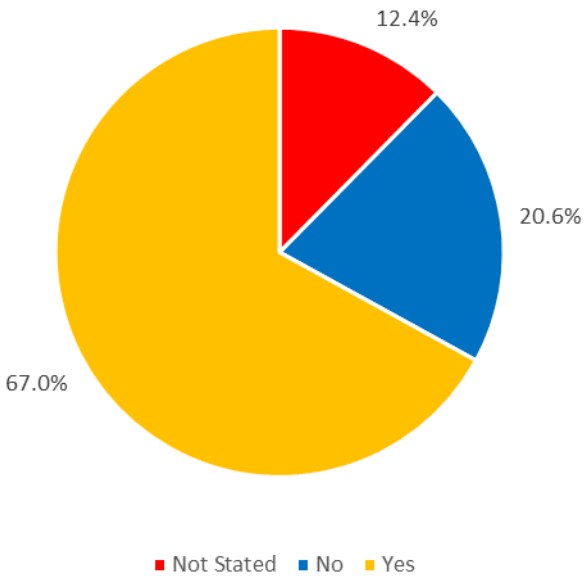

Figure 7 ICT Utilisation (Exclusively online teaching).

Figure 7 illustrates the frequency of responses (in percentages) regarding whether lecturers taught classes that were completely online without any face-to-face contact sessions. The pie chart shows that 67.0% of the respondents reported that they taught classes that were completely online, relative to 20.6% of the respondents who said they did not. About 12.6% of academic staff did not respond to this question. Against this background, it was safe to conclude that most of the lecturers taught classes that were exclusively online during COVID-19 pandemic.

Figure 8 depicts the findings regarding whether lecturers taught classes that were blended. The pie chart shows that 69.1% of the participants reported that they taught classes that were blended compared to 11.3% of the respondents who reported that they did not. 19.6% respondents failed to provide responses for this question.

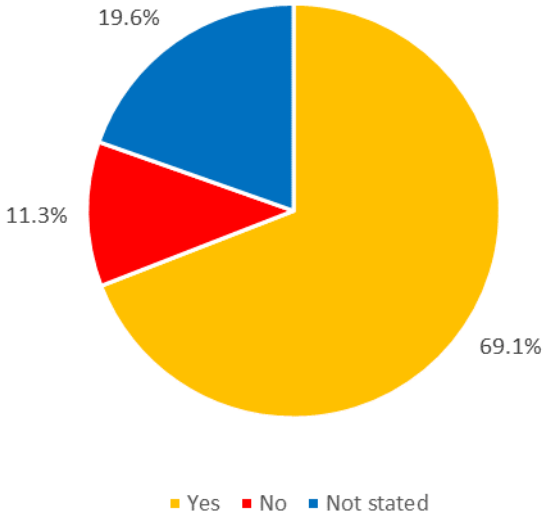

Figure 8 ICT Utilisation (Blended teaching).

Figure 9 and Figure 10 below present the results about whether lecturers used /accessed or were interested in using/accessing specified online services for teaching and learning during COVID-19 pandemic by answering the following research question: Have you used these online services or you might be interested in using them?

Figure 9 shows that 83.7% of the lecturers indicated that they used online services for lecture recording, storing and distributing videos of class lectures while 13% said that they might use the online services after learning more. About 74.5% lecturers indicated that they used online services for class discussion while thirteen said that they may use the online services after learning more. Further, 47.3% of the lecturers indicated that they used online services to export recorded media to open systems, while 31.9% said that they might use the online services after learning more.

Most lecturers (76.9%) indicated that they used online services for e-mailing to, from and between students, while (46.4%) indicated that they used online services of which access to virtual course was limited to paid students for virtual courses. In addition, most lecturers used online services for homework assignment and submission (82.8%), grade books for assignment

and tests (70.5%) and online testing (89.2%). Furthermore, most lecturers (94.6%) indicated that most of the material were uploaded on Moodle for use by students with a least about 48.9% having a to link to external web pages. Some lecturers (31.8%) preferred using blogs, wikis and emails and video conferencing 55.6%.

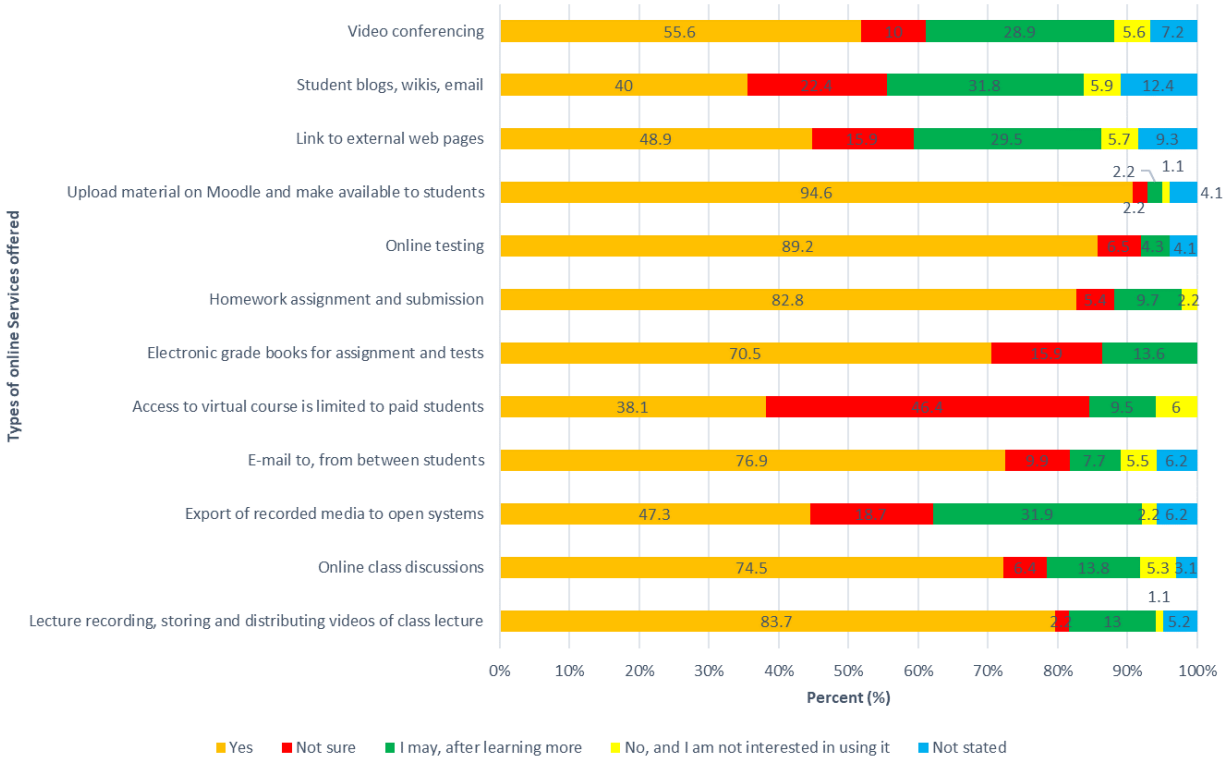

Figure 9 Lecture recording and distribution.

Efficiency of online services

The following section present the results on whether lecturers specified online services used for teaching and learning during COVID-19 pandemic worked well for them or not by answering the following research question: Have the online services you have used worked well for you?

Figure 10 below shows that 58% of the lecturers indicated that lecture recording, storing and distributing videos of class lecture, worked well while 55.6% stated that online class discussions worked were successful. Regarding the use of online services to export recorded data, 42.4% lecturers unsure of whether exporting of recorded media to open systems efficient, while most lectures (68.2 %) opined that e-mail as form of communication to, from and between students was effective. More than half (53.2%) of the lecturers were aware that access to virtual courses was limited to paid students. Furthermore, about half (50%) of the lecturers indicated that access to virtual course and the electronic assessment and tests (76%) were said to be effective. Specifically, online testing was rated as most effective (89.2%). The process of uploading

material on Moodle and making them available to students was also positively rated (86.8%). Links to external webpages (38.6%) was not effectively conducted neither the student blogs and wikis (28.9%). Some lecturers (41%) were ignorant of the use of blogs and less than half (44.7%) used wikis as well as video conferencing.

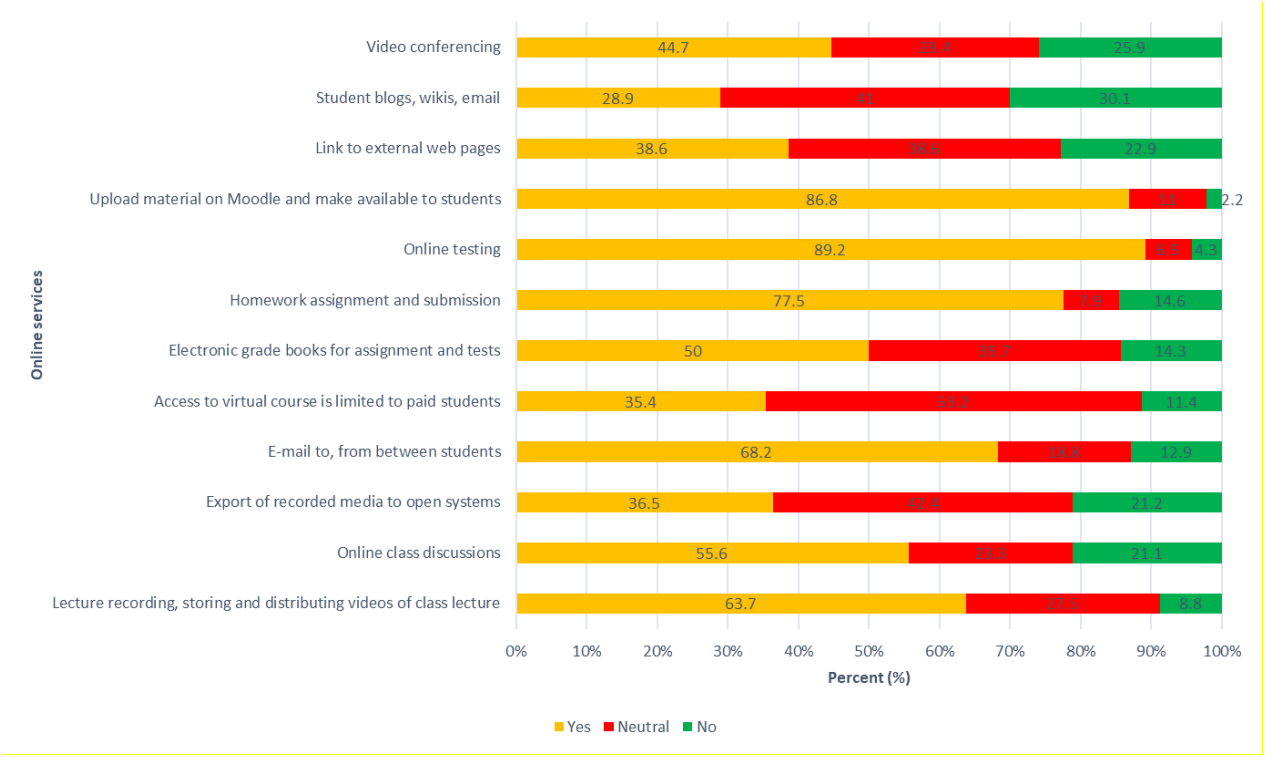

Figure 10 Efficiency of online services.

Frequency of online use

Figure 11presents the results on the question on time spent on online teaching per week by lecturers. 26.8% of respondents indicated that they spent 6 to 10 hours on online teaching per week, while 23.7% said that they spent 11 to 15 hours on online teaching per week. Very few respondents indicated spending more time online teaching, with 6.2% reporting to have spent 40 or more hours followed 2.1% of those spent 31 to 40 hours per week.

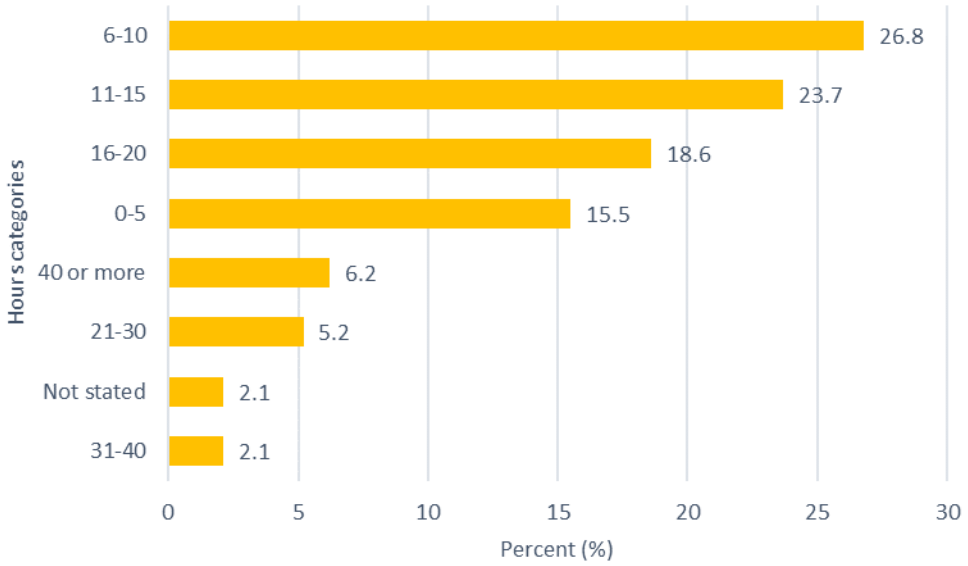

Figure 11 Time spent per week on online teaching.

Factors contributing to the decision to teach and assess learning online.

Lecturers were asked to state the reasons that lead to their decision to teach and assess online. Their responses are indicated in Table 7 as follows:

Based on Table 7, the main deciding factors were the emergence of COVID-19 pandemic (86) and the adequate time available to set assessment. In addition, other factors were the fact that the technology involved in online is not confusing and they were familiar with effective pedagogy for online teaching and assessment among other factors.

Table 7 Factors contributing to the decision to teach and assess learning online.

Factors	Percent (%)	
	Yes	No
The emergence of COVID-19 pandemic.	86	6
I do not believe that the absence of face-to-face interaction with students is a disadvantage.	30	42
The technology involved in online is not confusing.	43	32
Online teaching does not take up more time than classroom teaching.	29	47
I am familiar with effective pedagogy for online teaching and assessment.	43	36
There is adequate technical support for online teaching and assessment.	39	39
There is adequate technical support for online course development.	33	41
Students have adequate access to participate effectively in online courses.	17	61
There is adequate time to revise online course content.	39	38
There is adequate time to experiment with technology for teaching online prior to actual teaching online.	35	44
There is adequate time to observe other lecturers using technology for online teaching prior to teaching online.	16	59
There is recognition for online teaching.	34	41
There is adequate time to set assessment activities.	52	26

Support needed for online teaching.

Figure 12 shows that 81% lecturers were in need on technical support more than they needed a manual/guide and course materials (55%), followed by help desk support (44%).

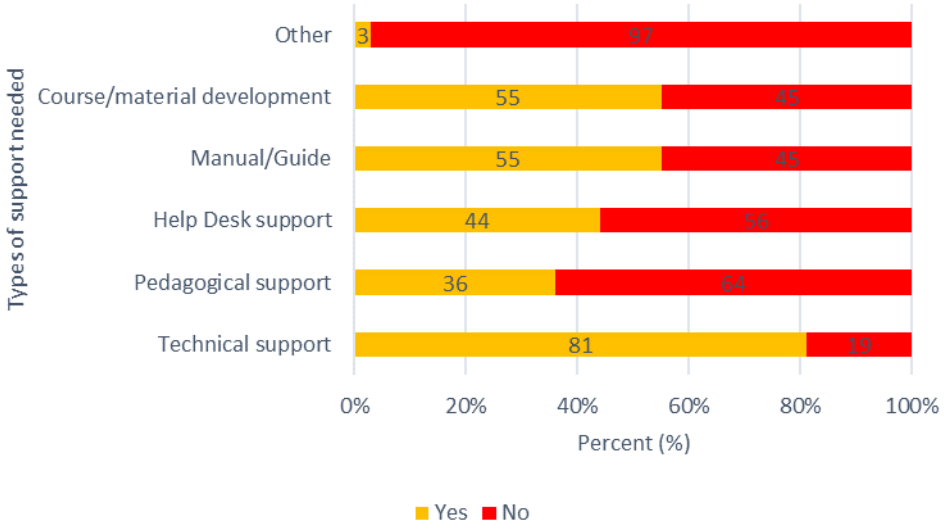

Figure 12 Kind of support or resources needed to teach and assess learning online (Lecturers).

Lecturers and Students' support

Both lecturers and students were asked to indicate if they have ever contacted the Help Desk (@CODEL) by phone or email when they needed assistance with online learning or assessment? Their responses are shown in the table below:

Table 8 Technical Support for the lecturers and students.

Types of assistance	Responses	Percent (%)	
		Lecturers	Students
Help desk contact	Yes	64.2	51.2
	No, but I knew I could contact them	24.2	28
	No, I did not know I could contact them	11.6	20.8
The issue was resolved timely	Yes	74.6	31.4
	No	25.4	68.6
The issue resolved satisfactorily?	Yes	85.9	38.5
	No	14.1	61.5

Table 8 shows that some lecturers (64.2%) and students (51.2%) contacted the help desk for support. Out of those that contacted the help desk, their issues were resolved timely depending on their status, with 74.6% of the lecturers indicated that their issues were resolved timely, however, only 31.4% of students indicated that their issues were timely resolved. In addition, 85.9% of the lecturers indicated that their issues were satisfactorily resolved compared to 38.5% of students. Notably, students had indicated that they were somewhat competent (49.0%) in online learning as illustrated in Figure 13.

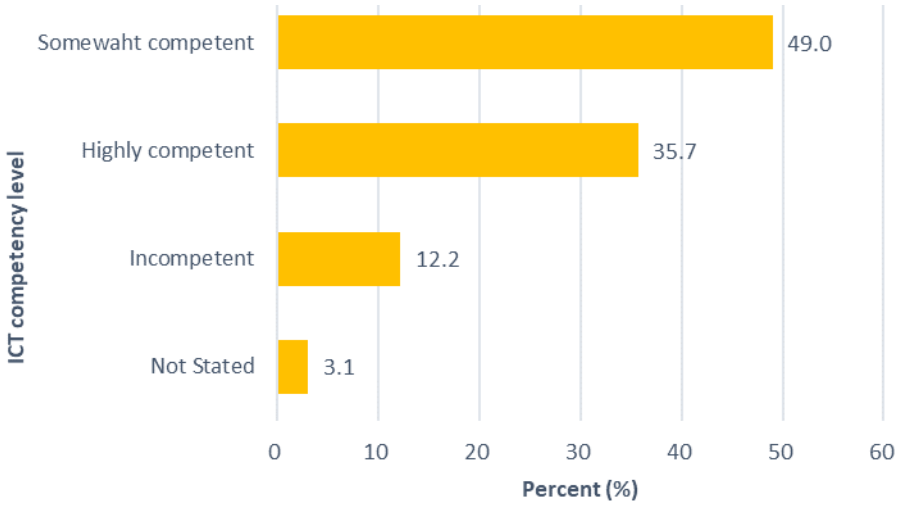

Figure 13 Readiness of Students for remote Learning.

Although competent, students needed to receive technical support during remote teaching as not all of them had the knowledge and skills to navigate through platforms. The technical and pedagogical support received is shown in Table 9 and Table 10 respectively.

Table 9 Technical support received by students.

To the best of your knowledge, have your students received technical support for the Online learning activities?	Frequency	Percent (%)
Yes	26	26.8
No	11	11.3
Do not know	58	59.8
Not Stated	2	2.1
Total	**97**	**100**

Table 9 shows that 26.8% of lecturers indicated that their students have received technical support for the online learning activities compared to 59.8% of stated that they did not know if their students received technical support or not. While 11.3% indicated that their students did not receive technical support for the Online learning activities.

Table 10 Instructional support on online course activities for the lecturers.

Online course activities	Percent (%)			
	Yes, I received support	Not, but would like support.	No and not interested.	Not Stated
Structuring your course for best online experience.	53.6	33.0	7.2	6.2
Running discussion forums effectively.	35.1	49.5	8.2	7.2
Structuring students' activities that stimulate student-lecturer interaction.	40.2	46.4	6.2	7.2
Structuring students' activities that stimulate student-student interaction.	35.1	49.5	8.2	7.2
Giving students feedback in a timely manner	60.8	27.8	5.2	6.2
Gathering feedback from students to improve the learning experience	38.1	46.4	5.2	10.3
Developing strategies for lecturer's active participation.	30.9	54.6	6.2	8.2
Ensuring that students understand what it takes to succeed online	24.7	60.8	5.2	9.3

Table 10 shows that lecturers received instructional support on online activities. About 60.8% of lecturers received support on giving students feedback in a timely manner; and on structuring the online course (53.6%) among other needs. Running discussion forums effectively (49.5%); and structuring students' activities that stimulate student-student interaction seems moderately supported. However, lecturers would like to receive support on ensuring that students

understand what it takes to succeed online (60.8%); and to developing strategies for lecturers' active participation (54.6%).

Furthermore, students stated that most (62.1%) of them have not received technical support Figure 14.

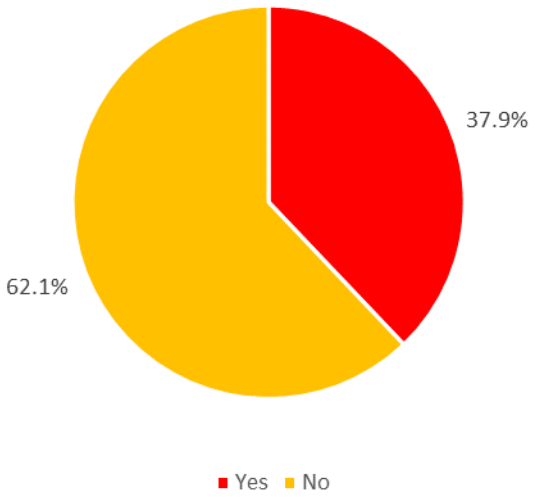

Figure 14 Technical support for students.

More, students stated that lecturers were sometimes available (69.9%) for consultation during remote teaching. Majority of students (87.7%) expressed that the instructions given to them was Easy to follow but would prefer to have a lecturer explain them the lesson to them. Furthermore, about 60% of the students agreed that the content of the course uploaded online is adequate for obtaining skills relevant for progression and graduation. Students expressed that lecturers were not always available to attend to their needs as illustrated in Figure 15.

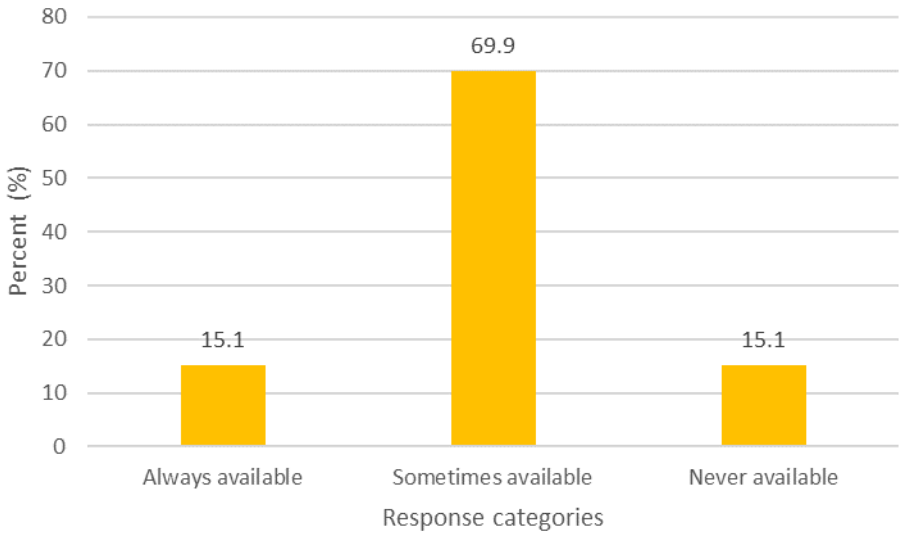

Figure 15 Lecturers' availability to students.

On whether lecturers attended any Professional Development Course on Online Course Development, teaching and assessment, about 70% stated that they have indeed attend a course on preparing them for online teaching as illustrated in Figure 16.

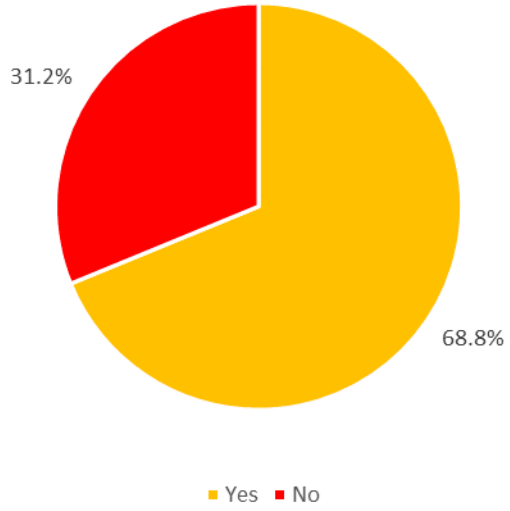

Figure 16 Professional Development on Online Course Development.

Table 11 shows that lecturers were generally satisfied with the quality of the programmes offered at the institution. They expressed that the knowledge, course content and the prescribed textbook for teaching were very good to acceptable, while the instructional manuals like work equipment were rated good to acceptable. On the other hand, laboratory work, training in practical skills and WIL was rated acceptable. Teaching methods and lecturers' knowledge of theory were good.

Table 11 Quality of Programme delivery (lecturers responses).

What is your opinion regarding the quality of programmer's delivery? Please click to indicate the most appropriate response.	**Percent (%)**				
	Programme quality indicators				
Teaching	**Very good**	**Good**	**Acceptable**	**Poor**	**Very Poor**
Knowledge (Theory)	34.9	45.3	17.4	1.2	1.2
Course Content	29.8	51.2	17.9	1.2	0
Prescribed Textbooks/reading materials	24.1	41.0	27.7	6.0	1.2
Instructional manuals	13.2	36.8	36.8	10.5	2.6
Workshop Equipment	6.8	35.1	32.4	20.3	5.4
Laboratory work	7.6	19.7	40.9	21.2	10.6

What is your opinion regarding the quality of programmer's delivery? Please click to indicate the most appropriate response.	Percent (%)				
	Programme quality indicators				
Teaching	**Very good**	**Good**	**Acceptable**	**Poor**	**Very Poor**
Training in practical skills	9.3	24.0	44.0	10.7	12.0
Work Integrated Learning (WIL)	10.4	29.9	45.5	9.1	5.2
Teaching methods	16.7	50.0	25.6	6.4	1.3
Lecturer's knowledge of theory	39.0	42.7	15.9	2.4	0
Lecturer's practical skills	35.0	38.8	17.5	8.8	0
Lab technician's practical skills	16.1	30.6	27.4	14.5	11.3

Table 12 shows that students the quality of the programmes offered at the institution was generally acceptable. Students expressed that the knowledge, course content and the prescribed textbook, instructional manuals, work equipment, laboratory work, training in practical skills, WIL, teaching methods, lecturers: knowledge of theory, practical skills and technicians' skills were generally acceptable.

Table 12 Quality of programme delivery (students' responses).

Teaching	Percent (%)				
	Programme quality indicators				
	Very good	**Good**	**Acceptable**	**Poor**	**Very Poor**
Knowledge (Theory)	19.0	39.5	33.8	6.5	1.1
Course Content	14.1	43.3	33.8	7.2	1.5
Prescribed Textbooks	13.7	34.2	34.2	10.6	7.2
Instructional manuals	12.5	32.3	33.8	16.0	5.3
Workshop Equipment	6.5	21.7	39.9	20.5	11.4
Laboratory work	6.5	19.0	39.5	20.2	14.8
Training in practical skills	8.4	23.2	35.7	17.5	15.2
Work Integrated Learning	8.0	27.4	40.3	12.9	11.4
Teaching methods	9.1	32.3	31.6	18.3	8.7
Lecturer's knowledge of Theory	22.4	39.5	29.3	6.1	2.7
Lecturer's practical skills	18.3	35.0	29.7	11.0	6.1
Lab technician's practical skills	9.5	27.0	39.9	11.8	11.8

Table 13 shows that both lecturers and students stated that sanitation facilities on campus were adequate. Furthermore, hygiene and personal care facilities were adequate, however, mental health of lectures and students is not monitored. Facilities were accessible to people with physical disabilities.

Table 13 Readiness for COVID-19 Response (Lecturers and students).

Opinions regarding provision of basic physical facilities and sanitation on campus	**Percent (%)**					
	Lecturers			**Students**		
Facilities	**Yes**	**No**	**Don't know**	**Yes**	**No**	**Don't know**
Water and Sanitation	66.3	27.4	6.3	60.1	15.9	24
Hygiene and personal care	58.9	34.7	6.3	58.5	23.3	18.2
Mental health	6.9	87.4	5.7	33.1	66.9	0
Access to facilities by people with physical disabilities	48.4	29.5	22.1	57.6	7.4	35.0

Findings and discussion

The staff and students expressed the unabated need for access to internet in order to teach and learn online. Some lecturers (11.3%) had DSL/Cable modem with wireless connection (wireless) while the students 40.8% of the respondents said that they had access to a computer and stable internet very often. Some lecturers and students used their private internet especially during lock down periods. During these periods, access to virtual courses was limited to paid students and those living in urban areas. The university management stepped in to provide dongles with limited data to both staff and students aiming at to increasing access to online teaching and learning.

Most staff (70%) and students (73%) had mobile devices (Tablet, iPod, iPhone) which they were competent in using. In addition, both staff and students possess the necessary skills to manipulate computer files (e.g., creating files in Word/Excel, opening files, editing files, saving files) and search engines. About 60.5% of the students indicated that they were willing to embrace new skills and technologies to enhance learning.

Most lectures (67%) reported that they taught classes that were completely online using Moodle, Zoom in some cases WhatApp. The lecturers liked the fact the LMS could record the lessons and created the flexibility for students to access the material repeatedly at their own time. On the contrary, about 21% of the lecturers did not teach online as they lacked skills to

prepare online classes even though they used online services for e-mailing to, from and between students. However, these lecturers were willing to learn more about skills necessary to enable them to teach online. In the same vein, lecturers felt neglected as they seemed to have been left on their own to figure out what strategies they needed to teach online.

Both staff and student stressed on the usefulness of certain online instructional methods that academics use to deliver the courses/modules using videos, recorded lessons among others. The time spent on designing online course content, completion of assessment tasks and projects was obtainable from the LMS. The results show that lecturers spent between 6 to 8 hours on the LMS. However, the quality of the teaching materials, preferred pedagogy and assessment tasks have not been evaluated to determine the quality of such activities.

Both staff and students were satisfied with the technical support provided when they needed assistance with online courses development, teaching or assessment towards teaching and learning during the pandemic. They sent queries through email and phone but were attended to on time, except in a few cases where dissatisfaction was expressed.

Management ensured that online learning occurred through the pandemic without informed guidance in the initial phases of the pandemic. The situation changed over time as policies were developed to guide teaching and learning and assessment activities. However, both lecturers and staff expressed dissatisfaction on the dissemination of policies to that effect.

The study established minimum collaborative teaching and learning among the two groups: lectures and students. The lectures that were technologically advance created interactive sessions and effective feedback mechanisms. Very few professional development courses were conducted to upskill lecturers in technical skills needed to teach online and create collaborative groups for teaching and learning exchange of ideas, skills and knowledge on topics.

Both lecturers and students stated that sanitation facilities on campus were adequate. Furthermore, hygiene and personal care facilities were adequate. However, mental health of lectures and students was not monitored. Facilities were accessible to people with physical disabilities.

Conclusion

To improve understanding and implementation of online teaching and learning, the university management provided ample support to academics and students to embrace digital technologies more than ever before. Moodle and Google classroom platforms were mostly used to connect remotely, communicate and conduct assessments. Academics prepared self-directed learning content using minimal skills they possessed to design engaging instructional, informative and interactive assessment activities. Majority of students preferred to use smart phones for online learning. Using content analysis, we found that students preferred recorded classes with quiz at the end of the term. Students stress that the flexibility and convenience of online classes makes it an attractive option while issues of broadband connectivity in rural areas make it a challenge for students to participate in online initiatives. The study recommends that for successful integration, the university needs to adopt a conceptual model that explains the success of the following factors: human, courses, leadership, technology and pedagogy to improve the learning environment in higher education.

Recommendations:

- The university management must source funding for the provision of unlimited data to be used for academic activities to both staff and students. In addition, university management must engage companies in the business of internet provision to increase the broadband width and in turn provide access to online teaching and learning to students in rural areas.
- Lecturers and students must be afforded opportunities to learn new skills required to maneuver different technological devices that they may use to participate in online learning. More and robust continuous professional development course are need for upskilling lecturers and students in the use of Moodle and possibly other LMS to allow choices informed by skills possessed by lecturers and students.
- Although the study programmes was deemed satisfactory and a good amount of time is spent on designing online course content, completion of assessment tasks and projects. There is a need to evaluate the use of technology in order to determine the most appropriate and preferred pedagogy to enhance quality of teaching and learning during unprecedented times.
- There is a need to conduct a needs assessment to determine the exact needs of lecturers and students. The course should also address strategies to motivate the lectures and students to keep abreast of new technological requirements.
- Communication strategies on information dissemination is needed to enforce new policy directives.
- There is a need to enhance efforts to establish effective collaborative teaching and learning communities among lectures and students. Advance technologically skilled lecturers and students will exchange information and share skills with their counterparts in lower levels of technology advancement.

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APPENDICES

MULTIDISCIPLINARY RESEARCH (MR)

Perspectives and experiences of students, academics and management on online learning during COVID (2020-2021) at UNAM

LECTURERS' QUESTIONNAIRE

CONFIDENTIAL

INTRODUCTION

You are invited to participate in this survey. This study aims to establish lecturers' opinions and experiences with online teaching during the COVID-19 pandemic at the University of Namibia during 2020-2021. The length of the survey will depend on how extensively you use online teaching and learning tools and should take about 10-15 minutes to complete.

Please note that participation in this study is voluntary and you do not have to answer a question if you don't feel like it. However, your participation will be greatly appreciated since the findings of the study will be used to develop a model to enhance remote teaching, learning, and assessment practices.

Demographic information

1. What is the range of your age?
   A: 25 to 30 years
   B: 31 to 35 years
   C: 36 to 40
   D: 41 to 45
   E: Over 45 years

2. What is your gender?

A: Male

B: Female

C: Other

3. What is your marital status?

A: Single (never been married before)

B: Married

C: Divorced

D: Separated

E: Cohabiting

Name of campus		
Code of online course		
Code of lecturer	Tutor	*Circle only ONE answer*
	Junior lecturer	
	Lecturer	
	Senior lecturer	
	Associate Professor	
	Professor	
Number of years of teaching		

Readiness of Lecturers for remote teaching

In this Section as a Lecturer, you are required to choose the appropriate alternatives regarding remote teaching and learning.

What type of internet connectivity do you use?	DSL/Cable modem with Ethernet connection (wired)	
	DSL/Cable modem with wireless connection (wireless)	
	Wireless mobile device	
	LAN network with wireless connection	

	LAN network with Ethernet connection	
	I don't know/Not sure	

Regarding the use of technology in remote teaching and learning as a Lecturer, I would classify myself as:
A: Highly competent
B: Somewhat competent
C: Incompetent
D: Other

Have you taught courses that were completely online or blended with face-to-face class time with students?

Statement	Yes	No
I have taught classes that were completely online (with no face-to-face)		
I have taught classes that have combined an online with face-to-face class time with reduced seat time (Blended)		

How many hours do you spend per week on online teaching?

A: 0-5
B: 6-10
C: 11-15
D: 16-20
E: 21-30
F: 31-40
G: 40 or more

Which of the following factors contributed to your decision to teach and assess learning online?

Factors	Yes	No
The emergence of COVID-19 pandemic.		
I do not believe that the absence of face-to-face interaction with students is a disadvantage.		
The technology involved in online is not confusing.		
Online teaching does not take up more time than classroom teaching.		

I am familiar with effective pedagogy for online teaching and assessment.		
There is adequate technical support for online teaching and assessment.		
There is adequate technical support for online course development.		
Students have adequate access to participate effectively in online courses.		
There is adequate time to revise online course content.		
There is adequate time to experiment with technology for teaching online prior to actual teaching online.		
There is adequate time to observe other lecturers using technology for online teaching prior to teaching online.		
There is recognition for online teaching.		
There is adequate time to set assessment activities.		

What kinds of support or resources would you need to teach and assess learning online? (*Tick all that apply*)

Technical support	
Pedagogical support	
Help Desk support	
Manual/Guide	
Course/material development	
Other	

Have you used these **online services** or you might be interested in using them?

Online services	Yes	Not sure	I may, after learning more	No, and I am not interested in using it
Lecture recording, storing and distributing videos of class lecture				
Online class discussions				
Export of recorded media to open systems				

E-mail to, from between students				
Access to virtual course is limited to paid students				
Electronic grade books for assignment and tests				
Homework assignment and submission				
Online testing				
Upload material on Moodle and make available to students				
Link to external web pages				
Student blogs, wikis, email				
Video conferencing				

Have the online services you have used worked well for you?

Online services	Yes	Neutral	No
Lecture recording, storing and distributing videos of class lecture			
Online class discussions			
Export of recorded media to open systems			
E-mail to, from between students			
Access to virtual course is limited to paid students			
Electronic grade books for			

assignment and tests			
Homework assignment and submission			
Online testing			
Upload material on Moodle and make available to students			
Link to external web pages			
Student blogs, wikis, email			
Video conferencing			

Support from CODeL

Have you ever contacted the Help Desk (@CODeL) by phone or email when you needed assistance with online courses development, teaching or assessment?

A: Yes

B: No, but I knew I could contact them

C: No, I did not know I could contact them

If yes, was the response from the Help Desk (@CODeL) timely?

A: Yes

B: No

If yes, was the issue resolved satisfactorily?

A: Yes

B: No

To the best of your knowledge, have your students received technical support for the online learning activities?

A: Yes

B: No

C: Do not know

Please indicate if you have received instructional support on online course activities listed below:

Online course activities	Yes, I received support	Not, but would like support	No and not interested
Structuring your course for best online experience.			
Running discussion forums effectively.			
Structuring students' activities that stimulate student-lecturer interaction.			
Structuring students' activities that stimulate student-student interaction.			
Giving students feedback in a timely manner			
Gathering feedback from students to improve the learning experience			
Developing strategies for lecturer's active participation.			
Ensuring that students understand what it takes to succeed online			

Professional Development Course on Online Course Development

Have you attended any Professional Development Course on Online Course Development and teaching and assessment?

A: Yes

B: No

What is your opinion regarding the quality of programmer's delivery? Please click to indicate the most appropriate response.

	Programme quality indicators				
Teaching	**Very good**	**Good**	**Acceptable**	**Poor**	**Very Poor**
Knowledge (Theory)					
Course Content					

	Programme quality indicators				
Teaching	**Very good**	**Good**	**Acceptable**	**Poor**	**Very Poor**
Prescribed Textbooks/reading materials					
Instructional manuals					
Workshop Equipment					
Laboratory work					
Training in practical skills					
Work Integrated Learning					
Teaching methods					
Lecturer's knowledge of theory					
Lecturer's practical skills					
Lab technician's practical skills					

Basic Physical Facilities

What is your opinion regarding provision of basic physical facility needs? Please click to indicate the most appropriate response.

Physical facilities	Yes	No	Don't know
Are water and sanitation facilities on campus adequate?			
Are hygiene and personal care facilities adequate?			
Is your mental health monitored?			
Are facilities accessible to people with physical disabilities?			

MULTIDISCIPLINARY RESEARCH (MR)

Perspectives and experiences of students, academics and management on remote learning during COVID (2020-2021) at UNAM

STUDENT QUESTIONNAIRE

CONFIDENTIAL

INTRODUCTION

We are investigating how lecturers teach and conduct formal assessment remotely during COVID-19 pandemic (2020-2021). Therefore, you are invited to participate in this survey. This study aims to establish whether lecturers have provided support towards remote learning and assessment. The information you provide will help us to better understand the extent to remote learning has been the best mode of delivery during the pandemic. Completion of the questionnaire will take no more than 20 minutes.

Please note that participation in this study is voluntary and you do not have to answer a question if you don't feel like it. However, your participation will be greatly appreciated since the findings of the study will be used to develop a model to enhance online teaching, learning, and assessment practices.

Demographic information

4. What is the range of your age?
   A: 15 to 20 years
   B: 21 to 25 years
   C: 26 to 30
   D: 31 to 35
   E: Over 35 years

5. What is your gender?

   A: Male

   B: Female

   D: Other

6. What is your marital status?

   A: Single (never been married before)

   B: Married

   C: Divorced

   D: Separated

   E: Cohabiting

7. What is your year of study?
8. What is the name of your campus?
9. What is the name of the Programme you are pursuing?

Readiness of Students for remote Learning

In this Section as a Student, you are required to choose the appropriate alternatives (A, B, C or D) regarding remote teaching and learning.

Regarding the use of technology in remote teaching and learning as a student, I would classify myself as:

A: Highly competent
B: Somewhat competent
C: Incompetent
D: Other

Written instructions in activities are
A: Easy to follow
B: Easy to follow, but would prefer to have a lecturer explain them to me
C: Confusing and frustrating to me

When learning through reading
A: I read and comprehend rather well and quickly
B: I read and comprehend, but I need to take my time
C: I do not really like to read very much

Regarding relationship-building with classmates in a fully online class, which statement fits best?
A: I am confident and I can develop relationships and interact with peers totally online
B: I am a bit concerned about interacting totally online, but feel like I can do it
C: I am anxious and do not know how to begin interacting with peers online

The place I do my online class work is:
A: In a quiet room without distractions
B: A common room, I share with my siblings
C: In a room where I will not be able to get away from the TV, family, or other distractions
Other:

The time that I am able to set aside to work on one of my online classes
A: About the same as if I was attending a class (approx. 6-9 hours) a day
B: Less than 30 hours a week
C: Whenever I can fit the time into the rest of my schedule

The best description of my study habit is
A: I am a disciplined student and stick to my study plan
B: I loosely follow my study plan
C: I tend to cram at the last second or need extensions

The content of the course uploaded online is adequate for obtaining skills relevant for progression and graduation

A: Strongly agree
B: Agree
C: Not applicable
D: Disagree
E: Strongly disagree

I have access to a computer and stable Internet
A: On a daily basis
B: At least 2 or 3 times a week
C: Not very often

I have a Mobile device (e.g., Tablet, iPod, iPhone)
A: I own one and know how to use it
B: I own one, but I do not know how to use it very well
C: I do not own one

Ability to manipulate computer files (e.g., creating files in Word/Excel, opening files, editing files, saving files).
A: I am experienced and quite comfortable
B: I am hesitant to take risks, but I am persistent and determined
C: I have little or no experience and feel uncomfortable

When asked to utilise new skills and technologies as a student
A: I embrace the challenge and enjoy trying new things
B: I am hesitant to take risks, but I am persistent and determined
C: I am very uncomfortable and tend to avoid new strategies

When I run into basic computer problems (e.g., my computer freezes, cannot get on the Internet).

A: I work on it right away and ask for technical help if necessary
B: I get nervous, but I try to fix the problem
C: I get upset and shut down my computer

Learning and downloading new software programs or applications.
A: I am adept at learning and downloading new software
B: I am willing to attempt downloading and learning new software, but will ask for help
C: Learning new software is uncomfortable and I might avoid doing it

Regarding using the Web (e.g., visiting websites and using search engines such as Google)
A: I am experienced and quite comfortable
B: I have some experience
C: I have little or no experience and feel uncomfortable

What is your opinion regarding the quality of programme delivery? Please click on the most appropriate response.

	Programme quality indicators				
Teaching	**Very good**	**Good**	**Acceptable**	**Poor**	**Very Poor**
Knowledge (Theory)					
Course Content					
Prescribed Textbooks					
Instructional manuals					
Workshop Equipment					
Laboratory work					
Training in practical skills					
Work Integrated Learning					
Teaching methods					
Lecturer's knowledge of Theory					
Lecturer's practical skills					
Lab technician's practical skills					

Student support

Have you ever contacted the Help Desk (@CODEL) by phone or email when you needed assistance with online learning or assessment?
A: Yes
B: No, but I knew I could contact them
C: No, I did not know I could contact them

If yes, was the response from the Help Desk timely?
A: Yes
B: No

If yes, was the issue resolved satisfactorily?
A: Yes
B: No

As a student, have you received technical support for the online learning activities?
A: Yes
B: No

Please describe lecturers' availability for consultation during remote teaching.
A: Always available
B: Sometimes available
C: Never available

Basic Physical Facilities

What is your opinion regarding provision of basic physical facilities' needs? Please click on the most appropriate response.

Physical facilities	Yes	No	Don't know
Are water and sanitation facilities on campus adequate?			
Is hygiene and personal care adequate?			
Is your mental health monitored?			
Are facilities accessible to people with physical disabilities?			

- END -

MULTIDISCIPLINARY RESEARCH (MR)

Perspectives and experiences of students, academics and management on remote teaching and learning during COVID (2020-2021) at UNAM

LECTURER INTERVIEW GUIDE

CONFIDENTIAL

INTRODUCTION

We are investigating how lecturers teach and conduct formal assessment remotely during COVID-19 pandemic. You are invited to participate in the interviews because of your position and experience you have about teaching and developing remote assessment activities. The information you provide will help us to better understand the extent to which lecturers teach and conduct formative assessment remotely. The aim of the study is to find out the best practices lecturers have to offer to enhance remote teaching and learning, and assessment. You will be interviewed for about 45 minutes to an hour. The information you provide will be treated with utmost confidentiality and anonymity.

Please note that participation in this study is voluntary and you do not have to answer a question if you don't feel like it. However, your participation will be greatly appreciated since the findings of the study will be used to develop a model to enhance online teaching, learning, and assessment practices.

Interview guide for lecturers

Demographic information

10. What is the range of your age?

A: 25 to 30 years
B: 31 to 35 years
C: 36 to 40
D: 41 to 45
E: Over 45 years

11. What is your gender?

A: Male
B: Female
C: Other

12. What is your marital status?

A: Single (never been married before)
B: Married
C: Divorced
D: Separated
E: Cohabiting

Component	**Questions**
Professional Information	Tell me a bit about yourself. How long have you been lecturing at this institution? Which course are you responsible for? As an educator, what type of internet connectivity do you use and how do you administer the online course?
Digital technologies *Technology Knowledge (TK)*	What are the different digital technologies available for remote assessment at your institution? Which digital technologies do you normally use and why? What are some of the most useful remote or web-based programs that you use when preparing online teaching & assessment?
Online teaching and assessment tools	What types of online tools do you normally use when teaching and setting up assessment activities? Why do you use these online tools? What motivates you to use the online teaching and assessment tools? What can you do to motivate students who show low interest in online engagements in your course?
Component	**Questions**

Technological Pedagogical Knowledge (TPK)	How do you ensure that formative assessment allows students to take responsibility for their own learning? How do you ensure that your students work together online? How do you encourage students to self-monitor progress during learning online? What are some of the strategies you employ to facilitate the actual use of online assessments? How would you describe your own abilities to use technology in your assessments? Would you describe your online course development as a crucial variable that accounts for effective online formative assessment? Elaborate. How do you incorporate assessment strategies into teaching to support student learning?
Technological Pedagogical Content Knowledge (TPACK)	Do you have technical support staff at your institution? Describe the support available. Who assists you with online formative assessment development? How do you distinguish online formative assessment from traditional assessments? Describe how you make decisions in your course with regard to: ➢ Instructional approaches (lecturers, discussions, labs) that will help to capture students' interest or to achieve learning objectives. ➢ Instructional design in relation to learning opportunities for students, including interaction with the content, their peers and the instructor. ➢ Online organisation and design. How do you ensure that the instructors' design and choice of technology effectively delivers course content and supports the learning process? How do you determine the students' workload that is appropriate to the course level and duration?
Component	**Questions**
Online formative assessment activities & guidelines	Are you familiar with Bloom's taxonomy? How do you incorporate levels of reasoning skills? Which verbs that require high order thinking skills do you frequently use in your assessments? What specific grading criteria or rubrics do you normally use to evaluate the students' work online? Identify different types of assessment in your course? How do you use a variety of assessment strategies in your online platform? How do you involve students in evaluating their own work and that of their peers? How do you afford students an opportunity to review online participation? How do you assess students' progress online?
Professional development	Have you undergone any professional development? Elaborate. What would you highlight as positive impacts on your online formative assessment practices? Describe the PD training you think is relevant. Do you collaborate with lecturers in your institutions and educators or practitioners out of your institution? If so, how do you work with those educators or colleagues?
Component	**Questions**

Challenges and benefits for online assessment	What successes have you experienced after implementing online formative assessments? Elaborate on the challenges you face when implementing or developing online formative assessment. What could be the solutions to these challenges? Are there any tools and strategies for online assessments that you would recommend?
Physical facilities	Are water and sanitation facilities on campus adequate? Are hygiene and personal care adequate? Is your mental health monitored? Are the facilities accessible to people with physical disabilities?