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Reflections on the post COVID-19 teaching and learning: Lessons from the emergency transition to online learning at two African universities

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ABSTRACT

The COVID-19 restrictions resulted in the most significant disruptions to education in this century. Universities responded differently to the restrictions. For example, some universities in Southern Africa closed and had no academic activities for months. These universities had little online teaching and learning, opting for a phased return to face-to-face teaching and learning. Other universities shifted to online teaching and learning after a short suspension of academic activities. This article reflects on the cases presented by two universities, considering evidence from the literature on the challenges of transition to online teaching and learning, and the affordances of the learner management systems they adopted. The reflections uncovered the fact that although the responses of the two universities were different, the challenges they faced were similar. There are challenges of access to data and devices needed for online teaching and learning, lecturers', and students' struggles to adapt to online teaching and learning, and issues related to the incompatibility of face-to-face pedagogical practices with online teaching and learning. Despite these challenges, the emergency online teaching and learning mastered during the COVID-19 pandemic offer future benefits of lesser workload for staff, increased enrolments, and preparation of students for the fourth industrial revolution. However, universities that quickly return to face-to-face teaching without retaining the good practices developed during the pandemic might not benefit from the lessons learnt and may be unprepared for future disruptions to education.

Keywords: *COVID-19; online teaching and learning; transition; challenges; future benefits*

INTRODUCTION

The impact of plagues or pandemics on education cannot be overemphasised. Each brought about a change in how we deal with educational matters. Of mention are the Black Death, which revolutionised medical education; Smallpox, which brought about immunisation; tuberculosis which brought about open-air schools; the Spanish Flu that brought about school closures; and SARS that brought about classrooms on air (Yasmin 2022). The COVID-19 pandemic devastated higher education in Southern Africa, much more so than in other parts of the world (Abumandour 2022). Most regional universities were forced to suspend face-to-face teaching and learning (T & L) and shift to online T & L supported by various learner management systems (LMS). Some universities attempted to make the shift without having the necessary ICT infrastructure to support the transition (Bao 2020; Yasmin 2022).

Traditional synchronous face-to-face T & L is the primary mode of instruction at most Southern African universities. This mode of instructional delivery involves the lecturer teaching in front of the class. The content, in this case, is delivered orally and in writing. The alternative method of instruction is synchronous or asynchronous online T & L (Harrison & Stephen 1996). Most universities in developed countries have used some form of online T & L since the 1970s, mainly through computer networking, emails (since 1971) and computer conferencing (since 1971). The first ever recorded fully online teaching as a mode of delivery was in 1984 for undergraduate and 1985 for graduate courses at the University of Toronto (Harasim 2017). Online T & L accelerated with the advent of the world wide web (www) in 1992 (Harasim 2000). The coming in of the www

facilitated easy access to information through online conferencing, audio, emails, web, videos, phone calls, and SMS texts, among others.

In Southern Africa, the COVID-19 pandemic forced shift to online T & L was filled with difficulties and, in some instances, failed. This was exacerbated by the ICT infrastructure challenges prevalent in the region. Before the COVID-19 pandemic, public universities in the region were already struggling to invest in ICT infrastructure because of dwindling government subsidies. For these universities, inadequate ICT investment resulted in low usage of online T & L. Thus, most Southern African universities outside of South Africa had low use of LMS before the COVID-19 pandemic. However, the shift to online learning had a limited impact because of the absence of ICT infrastructure to support it. There was a tendency to opt for open-source LMS, which in most cases did not support synchronous T & L. The challenges relating to access to data and devices meant that most students were excluded from participating. Therefore, it is unsurprising that other universities in Southern Africa have fully returned to face-to-face T & L post-COVID-19 restrictions. The return to pre-COVID-19 T & L practices presents a danger that the lesson learnt during the pandemic would be lost.

The challenge is evident, should the region experience another public health disaster necessitating nationwide lockdowns. These universities would again be unprepared. This article reflects on the COVID-19 experiences of two African universities, considering the literature on the transition to online T & L, the challenges thereof and the affordance of LMS while considering the following research questions:

(1) How did Malawian and South African universities technology respond to the emergency remote T & L brought about by the COVID-19 pandemic restrictions?
(2) What lessons on the transition to online T & L at resource-constrained universities could be learnt from the experiences of the two universities?

The article is structured into three sections. First, there is a presentation of a literature review on the challenges of transitioning to online T & L and on the affordances of learner management systems. Second, the factual situations at a Malawian university of technology (MAUT) and a South African university of technology (SAUT) during 2020 and early 2021 are presented. Finally, the third section reflects on the experiences of the two universities, considering the lessons from the literature.

RESEARCH METHODS

The study followed a qualitative research design. It combined a scoping literature review (SLR) and a collective reflection of the experiences of two African universities on the transition to and from emergency online T & L. The research process was iterative, alternating between individual information-seeking and online group reflection sessions that followed an adapted version of Gibbs reflective analysis (Gibbs 1988). The process started with an online meeting focusing on descriptions of the experiences of the two universities. The audio of this meeting was transcribed and coded. Five keywords emerged: *online T & L, LMS, affordances, challenges, and transition*. The keywords were used as search words for a review that followed SLR guidelines (Arksey & O'Malley 2005). Thereafter, two further online meetings were held, interspaced by information seeking relating to the online T & L activities at the universities. The meetings were convened to reflect on the universities' experiences considering the SLR findings. The findings from the SLR and the SLR-informed reflection are presented in the following sections.

THE BENEFITS OF ONLINE LEARNING AND THE AFFORDANCES OF LMS

There were some positive outcomes from the transition to online T & L during the COVID-19 pandemic. Transferring to online T & L also brought many benefits compared to the face-to-face mode of delivery. Teaching online has been posited as fun, efficient, rewarding and challenging at times (Esani 2010). Online T & L offered the opportunity for continuity after the COVID-19 interruption (Yasmin 2022) and provided benefits that were especially relevant to the COVID-19 period. First, it is more flexible and manageable as one can teach from anywhere in the world if one has access to the Internet and an electronic device such as a laptop, cell phone, tablet or computer (Esani 2010). Second, it is more suited to asynchronous learning due to the relative ease of putting content online compared to face-to-face. Third, there is a chance to provide exceptionally creative and interactive learning content that would assist even those challenging concepts (Esani 2010). Lastly, online learning forces both the lecturer and the learner to deeply understand the material content (Esani 2010).

Despite these benefits, it was clear that the effectiveness of any LMS was limited by its affordance. The concept of 'affordance' refers to the utility of an object arising from the functional properties that it provides or furnishes (Gibson 2014). In Gibson's conception, affordance is a function of the thing alone. The concept can be extended to include the perceived functional properties of an object, thereby incorporating the subject as well (Norman 1999). Affordances indicate what a particular thing provides its users regarding possibilities for action (Norman 1999; Gibson 2014). Affordance is a problematic concept and can be illustrated using an example. For instance, software that allows for dynamic dragging of parts of a figure, such as a triangle, while indicating the enclosed provides affordance to demonstrate the formula for the area of a triangle.

Another example can be found in a study on the COVID-19-induced shift from offline to online (Faizah, Ambarwati & Rahayu 2021). The researchers found that education and biology lecturers took advantage of the features of Google Classroom to share flexible lecture schedules with their students (Faizah, Ambarwati & Rahayu 2021). The LMS gave students real-time access to the class schedule, letting them immediately see if the lecturer has changed the schedule. This indicates that Google Classroom has high synchronicity affordance. However, they found that the LMS did not have any tool that would allow the lecturers to incorporate practicum activities. As a result, 59.4% of the lecturers replaced practicum activities with other tasks. In this case, the LMS had low affordance concerning facilitating practicum activities.

The above examples support earlier research that highlight LMS educational affordances (Bower 2008). Educational affordances are possibilities that a particular LMS or features offer regarding remote or technology-mediated T & L (Valanides 2018). These affordances can be functionally static such as read-ability, view-ability, listen-ability and accessibility or functionality collaborative such as write-ability, draw-ability, speak-ability and focus-ability (Bower 2008). For example, an LMS with speak-ability, listen-ability, present-ability and view-ability has affordances relating to presenting a lecture that focuses on conveying information without expecting interacting feedback from the students. However, if the above are the only features that an LMS has, it would most likely have low affordance relating to subjects that require manipulation of figures, such as Computer-Aided Design (CAD) (Dasgupta, Magana & Vieira 2019).

Lecturers face challenges exploiting the educational affordances embedded in an LMS (Dasgupta, Magana & Vieira 2019). Primarily, this has to do with the challenge of matching the affordances available in an LMS and the affordance requirements of the T & L tasks they want to implement (Bower 2008; Dasgupta, Magana & Vieira 2019). This matching is a complex process requiring deliberate planning by the lecturer and sometimes changing how a particular subject is taught and assessed. In some studies, lecturers reported that they found it challenging to replace computer science paper and pen tests with online tests on Moodle (Dasgupta, Magana & Vieira 2019;

Draskovic, Misic & Stanisavljevic 2016). As a result, they had to abandon more extended questions with open answers in favour of shorter questions that were amenable to the Moodle platform.

THE CHALLENGES OF TRANSITIONING TO ONLINE T & L

Students and lecturers face challenges when transitioning to online T & L, that are not limited to those associated with LMS affordances. The challenges range from pedagogical to resource challenges.

The challenges of the transition to online T & L from the lecturers' perspective

For those universities that were not e-learning ready, the abrupt switch to online learning brought many challenges. The challenges were policy shift, pedagogy, logistics, socioeconomic factors, technology, and psychosocial related (Barrot, Llenares & del Rosario 2021; Yasmin 2022). The lecturers had to abandon their traditional face-to-face way of delivering content, switch to computer-based classrooms, and adapt quickly. This shift was relatively easy for those that had already started the online classes before the COVID-19 pandemic. However, when moving to the online setup, universities with international students or students living in different time zones found it challenging to schedule classes that best suited everyone.

From the lecturer's perspective, the literature outlined some of the transitioning challenges that came with this shift to the online mode of delivery.

- Lack of prior knowledge of online teaching and pedagogical skills demands that come with it (Yasmin 2022).
- Existing data on lower online degree completion rates, with data showing 46.6% compared to face-face at 76% in Australia (Stone 2019). Stone (2019 indicated that online students are 2.5 times more likely to drop out of school than face-to-face students and highlighted the need for students' desire for communication and connection, including feedback.
- Continuing lack of recognition and support from institutional management because preparing for the online materials takes a long time (Esani 2010; Yasmin 2022). One must type each word on a handout that would otherwise be verbalised during face-to-face delivery.
- Recording and uploading the content online provides disengagement, and that online content preparation differs from that delivered face-to-face (Esani 2010; Yasmin 2022).
- Need for tracing at-risk students. Some institutions have early warning interventions that trace students who are struggling (Stone 2019; Esani 2010; Dhawan 2020)
- Need for a proactive approach and not just waiting for students to approach the lecturer.
- Tracking student participation and academic progress within the LMS and having this inform strategically targeted student interventions
- Not all LMS tools are effectively used, with most staff requiring refresher courses on how to use them (Stone 2019), and no analysis of the available data
- Online learning is viewed as all theoretical and not engaging with difficulties in making interaction and in practical courses (Barrot, Llenares & del Rosario 2021; Dhawan 2020).
- Lecturers must constantly keep up with ever-changing features of the LMS and other emerging technologies, which requires continuous professional development (Esani 2010; Yasmin 2022).

Most developing world institutions were unprepared for the severe and massive disruption in the traditional education approach of face-to-face learning. The online resources challenges become more pronounced when technical qualifications like engineering are considered (Asgari *et al.,* 2021). Engineering students in an Egyptian setup have faced the following online resource challenges, including poor or under-resourced IT infrastructure (Abumandour 2022). This becomes

more pronounced in developing countries where the bandwidth will not support multiple users simultaneously, leading to student frustrations. Some students cannot use online resources; hence, training to navigate online centres is important (Abumandour 2022). Lecturers find it time-consuming to prepare online resources (Abumandour 2022). Power outages were a problem faced by lecturers in the Philippines (Wenceslao & Felisa 2021).

The lecturers' familiarity with readily available Internet-based teaching tools, such as video conferencing software, was also a challenge in delivering module materials. It has also been reported that lecturers' lack of self-efficacy in using LMS tools can impede online learning (Mtani & Mbelwa 2022). Coupled with this, the lack of proper instructional materials from the institutes can also hamper the effort of the lecturer (Maycock, Lambert & Bane 2018). The negative perception of the lecturer of online learning and teaching may inhibit the proper delivery of online teaching content. These can also include the lecturer's unwillingness to learn new technology (Bower & Sturman 2015) or the resistance to change (Hung & Chou 2015). Lecturers struggle to create quality and engaging online videos for online learning. The slow Internet connectivity makes it more difficult to share these videos (Leo & Puzio 2016). The time-consuming exercise of creating online videos and the lecturers' lack of competency in editing the videos are also other challenges. Technological anxiety has also been a barrier to effective online teaching. Lecturers face numerous technical and operational challenges in an online setting. These include difficulty in making students aware of new online material, inability to train students on the use of online materials, ability to effectively resolve technical challenges on availability of material, the unavailability of time to properly design and manage online courses and the inability to troubleshoot technical problems (Rasheed, Kamsin & Abdullah 2020). The lecturer's disbelief in the effectiveness of online teaching can also be a challenge (Pilgrim, Hornby & Macfarlane 2018). The unwillingness or inability of institutions to train lecturers in online teaching pedagogy is also a major challenge (Sharma, Bansal & Pandey 2021).

It is important to note that preparedness for the pandemic was lacking for most people. This lack of readiness became a challenge once COVID-19 hit the world. One study in Malaysia in 2015 showed that 53% of lecturers were IT incompetent, had a negative perception of online learning and lacked or had limited exposure to online tools (Mohamad, Salleh & Salam 2015; Kaqinari *et al.,* 2021). In Bangladesh lecturers faced numerous challenges, including the difficulty or inability to conduct practical work via online teaching. Most lecturers stated that it was difficult to monitor students, coupled with insufficient student feedback and the lack of meaningful, usual direct contact with students. The vibrancy of classroom interactions was reduced - reduced student-instructor interaction, poor Internet connectivity, perceived students' low-interest, and difficulty or inability to evaluate students' performance online (Saha *et al.,* 2022). Some technical challenges include downloading errors, issues with installation, login problems, and problems with audio and video connections (Haron *et al.,* 2021).

One of the significant challenges lecturers have faced is that most institutes in the developing world do not provide adequate and necessary tools for lecturers to effectively implement online T & L (Sabir Ahmad, Mat Seman & Zakaria 2021). A one size fits all approach by institutions was problematic to lecturers. This is due to institutions preferring one method for online teaching (basically to cut costs), which may not meet the specific needs of different modules (Mazlan *et al.,* 2021). Inadequate preparation time was also seen as a factor where in one institute in South Africa, online classes started 14 days after the lockdown, irrespective of the lecturer's preparedness to effectively conduct online classes (Rudman 2021). Moreover, the pace of adoption of online T & L was unreasonably fast. Lecturers faced incorrectly configured settings resulting in content being shared with unintended participants and tech support focused on implementation, not operations. The free availability of materials also left lecturers without control or intellectual property rights over their content. Lecturers were inundated with queries from students, even on minor issues which otherwise verbal communication could have fixed. The time-consuming efforts spent on online

teaching materials meant that research by lecturers suffered, yet institutional demands for research output remained the same. The recording of lectures also curtailed academic freedom, not knowing who might have access to the recording and what it may be used for. Instruction on how to use online tools came from tech-savvy IT personnel, assuming that everyone understood their lingo, leaving many lecturers unsure of what to do (Landa, Zhou & Marongwe 2021). Lecturers were unable to measure learner engagement with online content. This has led to lecturers simply dumping data on the LMS. It is also essential that most lecturers have been taught or used to face-to-face teaching in their education; therefore, online T & L was and is foreign to them (Ohanu & Chukwuone 2018). Some lecturers were unhappy that the fast shift meant they had to use personal laptops for institutional work.

The challenges of the transition to online T & L from the perspective of the student

Students also faced challenges with online T & L. The literature suggests that students faced technological, emotional, and social difficulties during the transitioning period. Yasmin (2022) found that most students (80 %) in their study, had a negative attitude towards online learning. Seventy-nine percent indicated that they did not enjoy online T & L. Although Internet providers, governments and universities strived to provide students with free access to educational websites, another frequently cited challenge for the students was access to the Internet and availability of devices (Barbu, Popescu & Moiceanu 2022) as most students (as high as 98% in some studies - Toader *et al.,* 2021) use their own equipment and Internet data subscriptions. Most students live in rural areas where the signal is low, and for them to have access to the Internet, they must travel long distances. Most of them come from poor backgrounds, and access to Internet-enabled devices, like laptops/computers, cell phones or tablets, was difficult.

One challenge noted by Besser, Flett & Zeigler-Hill (2022) was the concern that since students were now using online platforms, they were missing out on actual student life.

MAUT AND SAUT RESPONSES TO THE EMERGENCY ONLINE T & L

The situations that unfold at the Malawian university of technology (MAUT) and the South African university of technology (SAUT) are examples of how universities at different stages of LMS adoption responded to the COVID-19 pandemic. MAUT had not adopted LMS before the pandemic. It was an entirely face-to-face university. On the other hand, SAUT had been using an LMS for some time, and it had a dedicated education technology unit.

COVID-19 forced emergency online T & L at MAUT

COVID-19 was declared a national disaster, and public and private schools were ordered to close by the Ministry of Education in March 2020. Because of this, the MAUT was closed for nearly seven months. After that, MAUT opened online learning through LMS2 in October 2020 for four weeks, during which all classes were conducted online, followed by third, fourth and fifth year students being allowed on campus for face-to-face T & L in November 2020, while the first and second year classes remained online.

Pre-COVID-19 T & L at MAUT was dominated by the traditional face-to-face classroom approach with no online T & L. The pandemic forced MAUT to adopt the LMS2 platform for online T & L to continue with the academic project. However, the adoption of LMS2 was hurried, and there was insufficient staff training on its use. This rush resulted in varying levels of competence within the academic staff leading to inadequate LMS2 delivery methods. Some lecturers dumped the whole semester notes on the LMS2 platform, and others simply uploaded textbooks. This invariably contributed to negative perceptions of online T & L by the student body.

The asynchronous delivery mode made it difficult for students who were used to the face-to-face approach. The university provided 10 GB of data to staff. This limited data made it difficult for lecturers to upload lecture videos to the platform. Furthermore, the LMS2 platform could not handle some practical modules like engineering drawing, leading to high failure rates. Moreover, the discussion platform was rarely used, leading to a hybrid student-lecturer interaction using WhatsApp, email and other social media.

In the latter half of 2020, Internet service providers in Malawi provided free access to the Internet to MAUT students. This eased only one part of the challenge of Internet access, Internet bandwidth and availability in the remotest areas of the country.

COVID-19 forced emergency online T & L at SAUT

Before the COVID-19 pandemic, T & L at SAUT was slowly transitioning from face-to-face instruction to blended learning. The university had adopted LMS1. However, most lecturers were not fully utilising the LMS, using it mainly to deliver learning materials such as notes, MS PowerPoint slides and a video here and there. However, the transition's status and pace depended on individual departments and lecturers. The rate of the change was not limited by resources but rather by the preference for face-to-face T & L. In addition, the university provided training resources and support for online T & L.

SAUT suspended all academic activities on 16 March 2020 in response to the Minister of Higher Education's statement urging South African universities to implement measures on the COVID-19 pandemic. There was the hope of resuming the activities once the situation improved. However, on 26 March 2020, the South African Government implemented a 21-day national lockdown. SAUT decided not to have any teaching, online or otherwise, during the 21 days. When the lockdown was extended, it became clear that things would not return to normal shortly. From 1 May 2020, SAUT started planning to shift to multimodal T & L, with most teaching being online. The shift was not smooth and was plagued by resource challenges, particularly concerning IT devices and other related resources. Also, not all academic staff previously attended training on e-learning offered by the university.

SAUT resumed T & L through online platforms on 1 June 2020. Soon, there were challenges relating to student access to online T & L. Some students did not have devices or data to attend online classes. The university tried to address this by providing 10 GB of data to staff and students. When it realised that this was not enough, the SAUT negotiated with cell phone networks to zero-rate access to its website. In addition, it rolled out an access initiative that loaned laptops to students. This addressed the access challenges. Several challenges relating to student participation in online classes and assessment integrity remained. Assessment integrity issues forced the university to shift from online to venue-based assessment. The shift of assessment back to venue-based was generally well-received by professional bodies and other stakeholders.

REFLECTIONS ON THE EXPERIENCES OF THE TWO UNIVERSITIES

The experiences of MAUT and SAUT on the COVID-19 pandemic forced transition to online T & L aligns with the literature. The experiences of the two universities confirm that the migration to LMS was done in haste without considering what the platforms could offer. This was evident in the experience of MAUT, which had no exposure to LMS before the COVID-19 pandemic. All universities wanted the academic year to be done at all costs (Yasmin 2022). Universities started with unrealistic expectations as most thought they could just move from face-to-face to virtual with the same setup. While using the LMS, it was realised that the LMS systems do not offer the same experiences as the physical delivery as there was a need to make many adjustments. More significantly, it was impossible for those doing technical courses requiring demonstrations or

practical aspects to do them online (Barrot, Llenares & del Rosario 2021; Dhawan 2020). This limitation was consistent with what was found by (Dasgupta, Magana & Vieira 2019) on the difficulties of teaching CAD using the LMS.

The literature and the authors' reflections concur that limited attempts were made during the COVID-19 restrictions to evaluate the affordances of LMS and to match this with what the universities were trying to deliver (Bower 2008). Even after realising the limitations of various LMS, universities did not take a step back and evaluate the systems to see what works and what does not. Instead, SAUT made online T & L an integral part of its offering, whereas MAUT abandoned it and reverted to face-to-face teaching. Perhaps, this outcome was not unexpected, given that SAUT was transitioning to online T & L before the pandemic as part of its multimodal offering. In contrast, online T & L was new to MAUT. It is suggested that MAUT should have continued with online T & L, perhaps adapting its offering to multimodal like SAUT. This approach would enable it to be ready should another event force it to close its campuses.

One opportunity that migration online brought about is the possibility of having larger classes which couldn't have been possible with the physical mode of delivery, because of the unavailability of classroom spaces. With the effects of COVID-19 becoming manageable, most institutions in Southern Africa have returned to the face-to-face delivery method while some are still using the LMS, and others have resorted to a blended mode of delivery. Students have accepted blended learning as part of T & L in the post COVID-19 era (Shrivastav & Shrivastava 2022). However, those who started large classes while on lockdown will find it difficult to return to face-to-face delivery because of a lack of physical resources, such as classrooms, to accommodate many students. So, for example, at SAUT, they have classes with up to 300 students, of which they don't have lecture theatres that can accommodate them. This has necessitated them to continue blended learning unless they split the large classes into manageable groups. This has its implications, such as loading. The other consideration for such larger classes is to offer tuition through a multimodal system of delivery, in which case, the lessons could be provided online. At the same time, assessments and practicals would be venue-based. This approach might change the nature of a residential university, blurring the distinction with Open Distance e-Learning (ODeL) universities.

Through experience, it also was found that it was easy to set up algorithms that would mark classes once done correctly. This eased the marking process as the class size didn't matter, as the LMS would instantly grade student work. However, the challenge was securing the integrity of online assessments. LMS such as LMS2 does not have in-built proctoring capabilities. Proctoring software and live online invigilation would be added at a cost in other LMS. Unfortunately, this was not often available at resource-constrained universities (Mutongoza & Olawale 2022). Regarding live online proctoring, small computer screens meant that invigilators could only effectively see one camera at a time, which was exhausting, particularly for large classes. There were modules where, face-to-face, the pass rates were significantly lower, while the pass rate improved considerably with the online ones. Initially, it was thought that students understood online content better. Later reviews indicate it could be attributed to challenges in effective online invigilation and setting up numerical questions that were of the same standard as venue-based assessments.

Another observation of LMS is that it directed the lecturer to be at the centre. When there are supposed to be discussions, the lecturer typically initiated them while participation from the student was minimal. At the start, there was so much expectation on the affordances of the LMS. Most of the university communities thought the LMS would solve all their problems. Soon, they realised that some of the things you would do in a face-to-face class would not be accomplished with LMS.

The challenges highlighted in the literature are the same as what the two institutions experienced. Chief among them was the access to the Internet for both the lecturer and the student and availability of devices (Toader *et al.,* 2021; Barbu, Popescu & Moiceanu 2022). The Internet

problem was due to either availability or bandwidth which was exacerbated by electricity issues. Because most students come from rural areas, they had to travel long distances, for example, to trading centres, if they were to have access to the Internet. Even on campus, the Internet was provided to students through Wi-Fi, and only a few locations had the strongest Wi-Fi signal. Access to the Internet in classes was minimal as the signal was weak in certain places and unavailable in certain classrooms. As for the bandwidth, it affected how much one could download from the Internet and, at the same time, the access speed. Because of the bandwidth, the number of video files MAUT lecturers were allowed to upload to the LMS was limited to 15 MB per file. This made it very difficult for the lecturers to share content in video form.

Even with all these challenges, the universities did not pause to reflect on students' or lecturers' experiences with online T & L during the pandemic. This suggests that the universities would likely repeat the same mistakes if again forced to shift online quickly. There appears to be no-university-wide consensus, as the rebuilding processes seem to be management driven. The findings concur with Pokhrel & Chhetri (2021) that notwithstanding the hardships of the COVID-19 pandemic, there are lessons and opportunities that, if exploited, would improve and mainstream online T & L. There is an opportunity to leverage online T & L for the two universities: lesser workload for staff, increased enrolments, and preparation of students for the fourth industrial revolution (Faizah, Ambarwati & Rahayu 2021). This could be done if the universities found a post-COVID-19 pedagogy that addressed the challenges identified and made online T & L responsive to the needs of the students and lecturers.

IMPLICATIONS

The study has practical implications for adopting online T & L in resource-constrained environments. It shows that resource-constrained universities should expect challenges from the rapid adoption of online T & L, especially in response to disruptive events such as pandemics. A one size fits all online T & L does not work. An appropriate approach is situational, accounting for local conditions such as Internet access, availability of bandwidth and devices and the monetary resources within the institutes and the student population. Additionally, the study shows that resource-constrained universities need effective online T & L policies if they are not to be left behind if the world experiences another global disruption, such as a pandemic.

CONCLUSIONS

This article aimed to reflect on the COVID-19 restrictions-induced transition to online teaching and learning at MAUT and SAUT. The reflections were grounded in the literature on the benefits, transition challenges and affordances of online teaching and learning. The transition challenges and experiences were consistent with the literature: minimal access to data and devices, mismatch of learner management systems' affordances and lecturers' pedagogical practices. However, a key finding was that universities are not getting a university-wide consensus on how they would exploit the lessons from emergency online teaching and learning. The response and future planning seem to be management driven. This is unfortunate because it does not allow the universities to develop and implement strategies that exploit the benefits of online teaching and learning and futureproof the universities against potential disruptions to their academic projects.

RECOMMENDATIONS

The study makes the following recommendations:

- The policies of resource-constrained universities should prioritise blended learning as synchronous online T& L at these institutions may be prone to severe challenges.
- The online T & L policies should include readiness for disruptions to face-to-face T & L in the case of similar eventualities as presented by COVID-19 happen again.

- Universities must continue supporting needy students by providing data and devices to mitigate some of the resource challenges.
- Universities should consider gradually investing in IT infrastructure to increase the online portion of T & L delivery and accommodate their growing student enrolments.

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