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Establishing the Operational Practices Of E-Learning In An Online And Distance Learning Curriculum In Botswana: A Case Study Of An Open University

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ABSTRACT

This qualitative study established the students', tutors', and Learning Management officers' practices of e-learning in an Online and Distance Learning curriculum in Botswana. An adjunct model was used as an underpinning model where seven students who were registered for an online programme, together with two of their LMS officers and tutors, were purposively selected to take part in the study. Open-ended e-questionnaires were used as interviews where the participants had a chance to share with the authors their operational practices with e-learning. The reason for e-questionnaires was prompted by the fact that the data was collected during the COVID-19 outbreak. Findings revealed that the online University in Botswana has a clear plan for online programmes, but students continue to struggle with it due to various reasons like lack of internet connectivity, poor maintenance of gadgets, as well as age, which makes most of them not digital natives. Tutors showed dissatisfaction with how students engage with them online, where due dates are missed, while the LMS officers felt like they do not have proper support from the institutions in terms of resourcing them to assist struggling students. The study recommends that perhaps the government needs to come in to improve on issues of infrastructure in the country, where the internet and bandwidth would be improved for e-learning to thrive.

KEYWORDS

E-learning; blended learning; learning and management system; open and distance learning; online learning.

INTRODUCTION AND BACKGROUND

Open and distance education has become popular worldwide in the last century because of its nature. It goes beyond normal school or university boundaries because it is flexible and instills lifelong learning. This method of learning is mostly used by students who are studying part-time. With the rapid use of technology in teaching and learning, the use of smartphones, computers, and internet connectivity has made access to education easy. According to Yusuf and Al-Banawi (2013), new ways of teaching and learning emerged globally. Most importantly, electronic learning (e-learning) has become a reality in any teaching and learning setting. In the last century, the world has seen many changes in the use of Information and Communication Technology (ICT). The coming of these changes greatly impacted the education sector, which led to a move from the traditional classroom setting, where teaching and learning were more teacher-centered, to more technology-aided teaching and learning, which takes a more learner-centered approach. This evolution in the education sector has come with an explosion of new knowledge and an increase in population within educational institutions. Balaji et.al (2016) state that there is a constant and rapid change in the use of technology, and this can bring difficulty in the use and access to the internet. Furthermore, students may face limited wireless bandwidth, which may impact their access to information that they need for their learning. This may also impact their interaction with their instructors and other learners.

Electronic Learning is somewhat seen as a new version of Open and Distance Learning (ODL). It offers learning regardless of time or place where there is an internet connection (Balaji et al., 2016). However, tertiary institutions, even those that are meant to provide online programmes, still struggle to provide e-learning, and that raises more questions than answers, hence this study. This study provides the establishment of students' and officials' practices based on an online University, of e-learning in an online curriculum in Botswana. Al-Azawei et.al (2016) explain that e-learning emerged as an intervention to meet the demands posed by the development of information technology. This was done to give access to information. E-learning became very popular and adopted in developed countries, and this became the model that other countries followed later. However, the adoption and speed of adoption of e-learning technologies vary from country to country due to several factors, including but not limited to, availability of resources, infrastructure, culture, and societies, etc. In Botswana, ODL came because of an Act of Parliament in 1998, which birthed the Botswana College of Distance and Open Learning (BOCODOL). It was created with the view that it would allow access to learning opportunities for out-of-school youths in the country. BOCODOL started by offering school equivalency courses, that is, subjects and examinations from secondary school Junior Certificate, and School Leaving level, known as Cambridge O'Level. Furthermore, it is through this also that Botswana Extended College (BEC) was established. According to Magetse et al. (2024), BEC offered non-formal courses to teachers in rural areas and some workers from different ministries, who could not finish their training and courses from the University of Botswana (UB) and other Teacher Training Colleges within the duration of the mainstream

courses. According to Gatsha and Tau (2017), the entry requirements into the distance education platform in Botswana ushered in a third generation of distance education. Furthermore, learning materials were more self-instructional and integrated with radio. The coming of self–instructed learning was also characterised using ICT, CD-ROMs, and videos. This was later replaced by more interactive ICTs, which included the use of Moodle, which is an online learning platform, Google applications, Online Radio, Teleconferencing, the internet, the use of smartboards, etc. Being that it may, it seems like there are challenges in operational practices of e-learning in ODL at a Botswana University, hence this study.

E-learning refers to the use of digital platforms and technologies to facilitate learning and teaching. In ODL institutions like the university in Botswana, e-learning is the backbone of flexible and asynchronous education. Scholars such as Moore and Kearsley (2012) argue that e-learning enhances accessibility and interactivity but requires robust operational structures to succeed. However, there seemed to be challenges in the Botswana Open University, where this study was conducted. There seem to be operational challenges that should be in place to ensure that ODL is enhanced, especially for the students.

Operational practices refer to the institutional mechanisms and processes that enable the delivery of e-learning, including infrastructure, human resources, instructional design, quality assurance, and learner support. According to Anderson (2019), successful e-learning implementation relies on integrated systems encompassing policy, technology, and pedagogy. For an institution like said Botswana University, one would have thought that the concept of ODL is not going to be an issue because, by the nature of the institution, all mechanisms that put up a better ODL platform should have been planned and implemented on time. This study then unearths challenges that could be hindering the operational practices of e-learning in Botswana University.

The common barriers include insufficient ICT infrastructure, lack of technical skills among instructors, and resistance to change (Al-Fraihat et al., 2020). In sub-Saharan Africa, poor internet access and limited digital literacy compound these challenges (Ngwenya, 2021). However, the university where this study was conducted is in a town where one would think issues of infrastructure and connectivity cannot be a hindrance to e-learning. Botswana's government has prioritized ICT in education through initiatives like Vision 2036 and the National ICT Policy (Maitlamo). However, studies (e.g., Mooketsi & Kebaetse, 2022) reveal uneven adoption of e-learning and gaps in operational consistency at the institutional level. The Botswana Open University, being the country's main ODL institution, provides an ideal setting to study these dynamics.

In 2007, the Botswana government finalised the Maitlamo National ICT Policy. The National ICT Policy was created to enable the growth of the ICT environment and the provision of universal service and access to ICT facilities to make Botswana an ICT Hub (Sebusang & Esslaar, 2013). According to the Statistics Botswana Report (2016), the use of fixed telephone lines and cellular phones declined in 2015. Furthermore, there was a significant decrease of 25%

in internet subscriptions, which led to the revision of data costs in 2015. Asymmetric Digital Subscriber Line (ADSL)/ fixed wireless internet subscriptions increased by 32.2% in 2016. This meant that more people were installing the Internet in their homes and workplaces. This would have shown a change in digital adoption, particularly in learning institutions like the Universities, but the reality on the ground seems different. The practice of installing the Internet in homes remains more prominent in the cities and towns where there is access to roads, electricity, and other infrastructures. Despite all the efforts by the government to provide service and access to internet facilities and broadband, usage remains low (Sebusang & Esslaar, 2013). Remote areas of Botswana, where most students who are enrolled in the said online University come from, still experience challenges, as there are places where access by road, electricity, internet access, and availability of ICT infrastructure for online learning remain non-existent.

Students enroll at the said online University because of the open and distance nature of the programmes, which are spread across the country, even to the remotest parts of the country. These remote areas are characterised by a lack of resources, such as a lack of reliable transport systems, a lack of infrastructure (roads), a lack of electricity and water supply, and poor networks.

The significance of the study is articulated by the contribution that it brings to benefit those who are involved, how to improve current practice, and help uncover critical areas that will enable the educational process that researchers were not able to explore (Regoneil, 2015). In Botswana's context, the use of ICT in teaching and learning has been mainstream in teaching and learning. Studies by Moalosi and Molwane (2008) focused on the use of technology as a resource rather than a new method of teaching and learning; for example, they focused on the use of equipment in design and technology and the introduction of new medical equipment. This also leaves a gap in establishing operational practices of e-learning in ODL, which students and staff members seem to grapple with. This is so because students enrolled in online programmes at Botswana University, often struggle with online assignment submission, let alone completing their degrees on time and this raised eyebrows.

The penetration of emerging technologies has helped important innovations in Education, which have enabled access to different learning institutions. Technology has become a catalyst in helping to overcome the challenges faced in ODL. Kabir & Kadage (2017) indicate that distance education is synonymous with technology. It has moved from print to educational radio and television, to multimedia systems, and internet-based systems. Al-Fahad (2009) argues further that distance education relies heavily on technology and for this reason, it cannot exist without technology. Recent innovations in multimedia technologies offer many promises on how to facilitate individualised and collaborative teaching and learning. Saiyd and Sayed (2011) state that these technologies, have improved the quality, diversity, and availability of information and have altered teacher-student relationships. This study posed the following objectives:

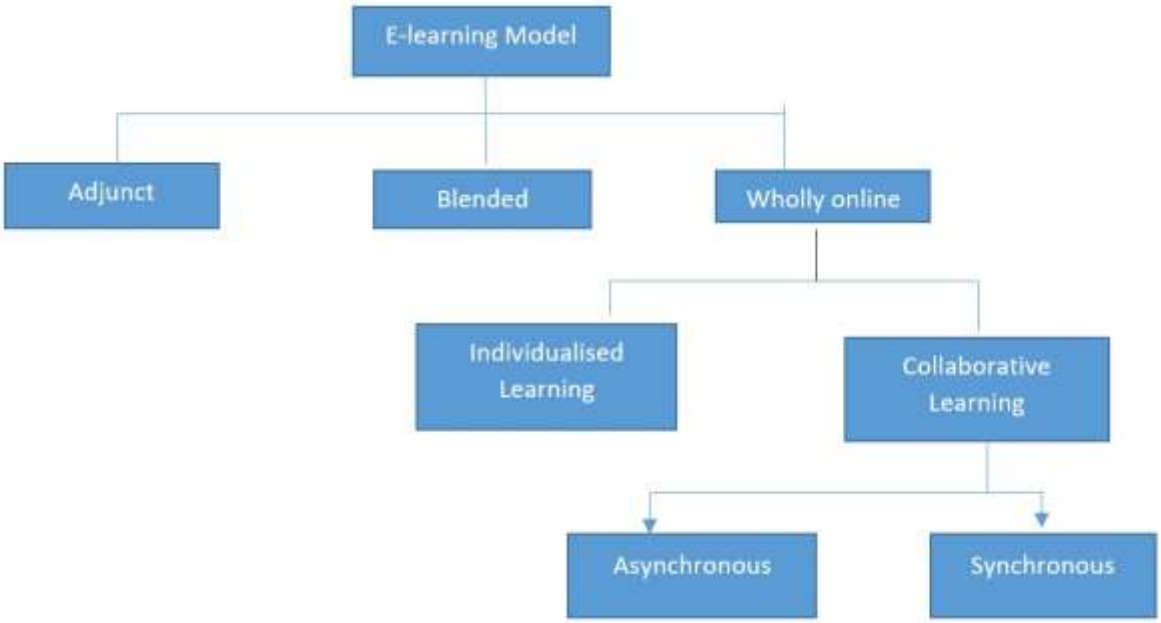
- To establish operational practices of E-learning in a MEdEL programme

- To propose strategies that assist students to thrive in e-learning and the ODL programme

This study then made use of an e-learning model as an underpinning structure or framework. The model is shown below in Figure 1:

Figure 1.

Adjunct model for e-learning in education



Source: Algahtani (2011)

From the above figure 1, it is evident that e-learning can take three models and these models are adjunct, blended, and wholly online. According to Algahtani (2011), the adjunct model takes on the idea that technology is used to assist in the traditional classroom. Furthermore, this model provides independence to students, for example, with this approach, the teacher will make use of PowerPoint slides to project information during a learning session. Here technology is just used to aid in the learning process. The other approach is the Blended model, where their use of aspects of the traditional classroom and the integration of technology are used. Hameed, Badii, & Cullen, (2008), explain it as learning where face-to-face and online learning are used at the same time. This approach is seen as common in higher education as it allows all students to take part in the learning process also blended learning may take different forms. Hameed, et al., (2008) state that blended learning is learning through information, learning through collaboration, learning through classroom, and learning through interaction. This model of blended learning has been very common in higher education and is termed mixed learning or hybrid learning. The purpose of blended learning is believed to downside pure online instruction and drawback the disadvantages of both traditional classrooms and that of pure online. The other approach is wholly online or purely online, this approach entails where learning is done online (Hameed, et al., 2008). The learning environment is well designed, well

interactive, student-centered approach, flexible, and can be accessed anywhere, anytime making full use of internet connection and digital technologies. The instructional sessions are online and the use of learning management system (LMS). According to Arkorful and Abaidoo, (2015), wholly online creates room for learning to either be collaborative or individual learning. Collaborative learning can be either Synchronous or Asynchronous.

Asynchronous e-learning supports work relations between students and teachers where participants cannot be online at the same time (Hrastinski, 2008). This includes and is not limited to the use of electronic mail (e-mail) and discussion forums/boards. E-learning promotes the use of technology and other online tools to produce learning materials and teaching using a variety of technologies. One of the most common uses of asynchronous learning is discussion forums, where a thread is posted, and students respond to the posted thread. This allows multiple responses and even responses to another peer's response. Asynchronous learning benefits students as it allows them to dig deeper into the learning materials and have a better understanding of concepts. This is because a post may be made, and students are given a few days to respond to it (Varkey et al., 2022). Students work at their own pace and are allowed to reflect on their learning. Basri et.al. (2021) further support this by stating that an asynchronous learning platform promotes convenience where students work independently and are given time to think and understand materials without pressure. Google Forms and ScreenCast-O-Matic are some of the examples of tools used in Asynchronous learning.

Synchronous e-learning, on the other hand, relates to real-time communication between students and teachers (Perveen, 2016). This is more social-oriented, and it includes videoconferencing, webcasts, telephone conferences, interactive learning models, and chats. Normally, asynchronous online activities require support and require Web-based training. Synchronous learning and teaching allow for multiple ways to interact, share, ask questions (real-time), and collaborate. Unlike Asynchronous e-learning, Synchronous e-learning requires online facilitators (tutors and lecturers) to have skills and experiences with technology to ensure that they effectively deliver virtual activities. It requires both facilitators of learning and students to be motivated to engage in the online space for learning (Politis & Politis, 2016). This model came in handy for the study because it was used to reveal the operational practices of e-learning by the students who are registered for ODL in a Botswana university.

METHODS

The chosen research approach for this study is qualitative. This decision is rooted in the study's goal to understand and establish the operational practices of e-learning in the ODL programme, by the students who are registered in an online University in Botswana. The qualitative research approach is fundamentally exploratory, aiming to delve deep into participants' perspectives, feelings, and experiences (Smith, 2015). Qualitative research is defined as an inquiry that is useful when used to find and understand a central phenomenon (Creswell, 2014). Research design is described as a type of inquiry in which different research methods provide a specific

direction for research (Creswell, 2014). A case study was used in this study. Noor (2008) explains a case study as an empirical inquiry that investigates a contemporary phenomenon with its real-life context using various sources of evidence. We were able to conduct an in-depth inquiry about a particular group of people in the institution to have a better understanding of the information on an existing situation. Case studies are used to find out "why" and "how" things happen and are not used to control behavioural events (Teegavarapu et al., 2008). This study relied largely on interpretivism paradigm. Interpretivism is a research paradigm emphasizing the understanding of human behaviour through the subjective meanings individuals assign to their experiences and social contexts (Alharahsheh & Pius, 2020). This research had as its theoretical starting point the idea that people create their realities in response to their experiences with other people and their surroundings. Sampling, according to Saunders, et al (2019), is a crucial stage in any research process; it is the act of choosing a portion of the targeted population to take part in the study, from which the results would be extrapolated to the entire population. A convenient, purposeful sampling technique was used in this study to select nine (9) participants to take part in the study. This sampling procedure entails selecting individuals and sites to learn and understand the central phenomenon (Creswell, 2008). Data collected is meant to contribute to a better understanding of the e-learning model that is guiding the study (Etikan et al., 2016). The researcher, in this case, identified participants because they are currently enrolled in an online distance learning programme, and they seem to struggle with the operational practices of e-learning in ODL. Since the data was collected towards the end of the COVID-19 pandemic, the questionnaires were emailed to participants, with an indication of acknowledgment of receipt to ensure that all those who had been purposively selected were on board. Ethical clearance was first sought from the Botswana University before the clearance form was used to apply for another clearance at a South African university, where the main researcher was a student. Letters of permission to conduct the study were then emailed to the Botswana university management, and an information session with participants was held virtually to explain ethical issues about the study. These ethical issues included being free to withdraw at any time by any participant, should they feel that the study does not have any harm whatsoever, and that the main aim of the study is to be conducted for study purposes and nothing else. The sample consisted of 7 active students and 2 officers who manage the LMS system that every student uses, as well as 2 tutors who are at the forefront of online teaching. This sample comes from a population of 1 online University, which has more than 800 students and several LMS offers and tutors, more than 70. The reason for such a smaller sample is that at the time the study was conducted, the country was coming out of the COVID-19 outbreak, where many people were in a fragile state to be active in anything. Data was collected via interviews with the participants, where e-questionnaires were sent to them. The analysis of data was via thematic analysis. Thematic analysis was relevant because in any qualitative study where the sample is small, themes are mainly used to clarify what is being interpreted on the ground. For every question posed to the participants who responded to the aim of the study, themes were

developed. We started by familiarising ourselves with what the participants said, then did the coding before we generated themes. The themes were then reviewed to check if they are representative of the responses, and then we named themes for better organisation and response. Pseudonyms were used for the participants, where students were referred to as Student 1, etc., and tutors were called Tutor 1, with Officer 1, 2, etc. Officer 1.

RESULTS

The study aimed to establish the operational practices of e-learning in ODL, particularly for the students, officers, and tutors, because they are both actively involved with online programmes daily. The questions were fairly the same because of the purpose of the study. When students were responding to their level of technological knowledge, toward their online learning, a theme of Challenges with technology use emerged.

Theme 1: Challenges with technology support

The students said that they had never been enrolled in an online training programme.

Student 2 explained that *"I have never enrolled in any online training programme. I looked forward to this opportunity that the University has given me. However, I realised that I still lack technological knowledge and getting help is not easy".*

Student 2 said, *"Technical knowledge is a problem. Our institution's online service is not always perfect and easy to understand, so I have been struggling a little bit with accessing the learning portal. During virtual meetings, I always need to seek assistance from other colleagues or people with whom I reside."*

To add to that, Student 4 said:

"I enrolled for the course that I am doing, knowing that I won't be able to attend full-time because I am a wife, I work, and I thought online would be a good idea. But now the device that I have is mine and not provided for by my institution, and when it is broken, it gets expensive to fix".

This was added by Student 5, who said:

"I stay in a remote area, and much as there is a satellite campus for us to go visit, it is far for many of us, and it would be easy if the university could provide us with data".

Student 6 said:

"It is difficult to get everyday assistance because I always have to ask for assistance. I do not like to go wrong when doing my schoolwork, so I always have to seek assistance from colleagues and family members who are familiar with the use of technology, who mostly fail to assist."

Student 7 stated: *"The only challenge I faced was poor network thus affecting my assignment submissions on set deadlines, and what made things easy for us this side (*meaning on the other side of the satellite campus) is that information was always available from the administrator and the University website, so when I encounter problems I check first on the website if there are any instructions or guidelines to assist me if I do not get them, I contact the helpdesk".*

When the students were asked *What makes it easy/ difficult for you with the University online platforms?* They said the following:

"It is difficult because I am afraid to carry out activities online or use technology to go online; I always have to ask for assistance. I do not like to go wrong when doing my schoolwork, so I always have to seek assistance from colleagues and family members who are familiar with the use of technology," said Student 1.

Student 2 stated that:

"Things for me have been easy because the University network connectivity is of high quality, where I often go, and the services are reliable. On many occasions, I have asked for help from the helpdesk, and I was assisted. The issue is a lack of training that I believe I need".

Student 3 said,

"The only challenge I faced was poor network thus affecting my assignment submissions on set deadlines, What made things easy is that information was always available from the administrator and the University website, so when I encountered problems I checked first on the website if there are any instructions or guidelines to assist me if I do not get them, I contact the administrator who then gives me guidance on what to do."

Student 4, on the one hand, stated,

"That there are no difficulties experienced on the online platforms at the University and that assistance is always available."

Officer's findings

In a question that aimed to determine the students' technological knowledge, one theme emerged.

Theme 1: Students' lack of technological knowledge in ODL programmes

The two officers, who are the ones who assist students with the technical know-how of the technological aspect, unanimously agreed that students have a technical programme when it comes to the use of digital tools.

Officer 1, stated that *"adaptation of technology is a big problem for both students and staff, this is mainly because of their background, where they come from, their technology skills are challenged, and some have no skills at all while others have the basic skills."* He went on to point out that *"during and after induction, some students remain clueless about the use of the learning technologies and are not able to access learning portal and learning materials to start their studies, so we are always called to assist."*

Officer 2 further pointed out, saying, *"The challenge of logging into the system is always an issue. During the first semester of the first year of study, we spent most of the time resetting students' passwords and passwords for tutors."*

Officer 2 further outlined that *"one of the biggest challenges, when skills are limited, is implementing some of these online services we have, and this is because some staff is not ready, they for the longest time never thought they would start using technology in their teaching or even use the online system to facilitate and assess students. They only thought technology would*

be used for communication, such as email, sending learning materials, etc., and with the coming of COVID-19, this became a reality they could not escape."

On a question of the students' comfort level in using the institution's LMS, below is what the Officers responded:

Officer 2 *indicated that things have changed, and content development for teaching and learning is no longer the way it was done before*. *He further said that the landscape for material development is no longer the traditional way of doing things, but creating materials and placing them on the learning portal. Most tutors are finding it difficult to do this, and this leads to the training and retraining of the use of the LMS."*

He further pointed out that, *"tutors like students, only use the LMS for activities such as chats, forums and assessments uploading and retrieving during examination time, they have no time to explore the learning portal to use features that would make their teaching and learning better."* CTELT Officer 1, stated that *"we have created several students & tutor guides on how to navigate the LMS, also showing them how different parts of the LMS are used."*

Tutors' findings

The tutors, too, had their fair share of events that resonated with those of the Officers who mind the LMS. Tutors are those who facilitate modules for these students, and their contribution to this study was deemed important. When asked about their opinions on the University's stance on adopting technology, this is what they said:

Theme 1: There are plans in place for the adoption of technology in the University

Tutor 1 stated

"The university has put in place activities that take us using technologies that aid in teaching and learning. Some students and even tutors are not techno-savvy, so they need training. The only problem is that we are not committed to the scheduled training, and that means we never get to know what we must do."

Tutor 1 further said

"We are then forced to learn as we go. We are lucky that the Officers have an open-door policy where we can walk in when we need assistance or use their online helpline to get assistance."

Tutor 2 further supported this and said,

"Training is scheduled by the department, and we as tutors do not attend this training, especially if we feel that the training we attended when we were first employed or appointed by the University. We never know or keep up with the trends of teaching online, so we encounter problems when facilitating online or trying to carry out online activities."

Tutor 2 further stated that:

"Lecturers are not monitoring both tutor and student progress online, and this is a problem because they will never know our training needs or actual student progress during the semester."

DISCUSSION

The study established that the operational practices that the students have with e-learning for their registered ODL are widely affected by several issues. Much as Botswana has a policy called Maitlamo, it looks like, at the ground level, the implementation process of the said policy has not yet kicked in. This defies what Anderson (2019) said that the successful e-learning implementation relies on integrated systems encompassing policy, technology, and pedagogy. Yes, the policy at the national level is there, but the university struggles with students' infrastructure because many students do not have digital. tools, and they travel far to access Wi-Fi. This echoes what was said by Ngwenya (2021) that in sub-Saharan Africa, poor internet access and limited digital literacy compound the challenges of digital learning. This is despite the Botswana University, where this study was conducted, having one of its campuses in the city, where one would have thought that infrastructure would not be an issue. There are some students who have the liberty of visiting 'working' satellite campuses for technological support, and some said some technical help is a phone call or email away. The students' challenges are opposing what Saiyd and Sayed (2011) said that technologies have improved the quality, diversity, and availability of information, and have altered teacher-student relationships. This is so because when students fail to do what the teachers have asked them to do, their academic relationship is affected, thus negating what Saiyd and Sayed (2011) said. This is despite what Kabir and Kadage (2017) indicated that distance education is synonymous with technology, while the students lack electronic devices, which then nullifies the entire government's plans of ODL. The Officers on the other end said that assistance is often provided to the students who struggle, but the challenge is that the students, most students, are struggling with network issues when they work from home. This adds to what was said by Sebusang and Esslaar (2013), that despite all the efforts by the government to provide service and access to internet facilities and broadband, usage remains low, and that could be because of the students' contextual issues, since Botswana has deep rural villages. Balaji et.al (2016) state that there is a constant and rapid change in the use of technology, and this can bring difficulty in the use and access to the internet. However, such a rapid change in the context of this study varies, since some have connectivity issues, some have gadget issues, and others are just not digitally savvy.

CONCLUSION AND RECOMMENDATIONS

The gaps that this study found against the adjunk model that was used as an underpinning framework are that, for e-learning to thrive, students would need blended learning where they need even some face-to-face sessions because of the struggles that they have with connectivity and gadgets and not being of the digital age. This would provide individualised learning because wholly online is impossible. The study suggests that students in this case need an asynchronous approach, where some connect online, others would prefer face-to-face (Hrastinski, 2008). The recommendation in this case is that, seeing that the students', Officers and Tutors' challenges seem beyond the University, perhaps the government, particularly the Ministry of Education, is

the last resort to ensure that e-learning is supported by infrastructure development in the country.

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