

Exploring the E-Learning Experiences of Academic Staff at a South African University

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Abstract

While there is evidence of a burgeoning research output on academic staff's e-learning acceptance and usage in universities, there is a paucity of studies that seek to understand the South African experience. Thus, the purpose of this study was to explore the experiences of academic staff with the uptake and use of e-learning innovations in teaching and learning in the context of a university in South Africa. Theoretically, the study was underpinned by activity theory. The study was qualitative in nature and an exploratory single case study design was employed. The participants comprised six purposively selected academic staff at a South African university. In the study, we used semi-structured interviews to gather the data required to answer the research questions. We analysed data using an inductive thematic framework following Braun and Clarke's (2006) approach. The following themes emerged from the analysis: challenges with technology infrastructure and internet accessibility on campus, technical support for students and staff, staff development and training, difficulty in creating e-learning content, and challenges with non-resident students. Based on the findings we recommend an increased interactive and context-dependent e-learning support system for academic staff. In addition, to accelerate the acceptance and effective use of e-learning technologies there is a need for collaborative and peer-oriented activities that develop the knowledge of academic staff.

Keywords: academic staff; activity theory; e-learning in higher education; South African universities

Introduction

The purpose of this study was to explore the acceptance and usage experiences of university academic staff as they develop and embed electronic learning (e-learning) technological innovation in the teaching and learning environment. Levchenko et al. (2017) highlight that globally the knowledge-based economy and the Fourth Industrial Revolution have drastically altered the way any industry provides the services they offer to their stakeholders. According to Gachago et al. (2017, 33), for higher education this has meant

reorienting the current development of the society at the next stage, where the higher education is more flexible to changes in the environment, creative and result-oriented, focused on the need not only to give knowledge for students but to learn get it independently, and most importantly—the educational institutions are increasingly becoming independent and self-sufficient institutions which produce not only a professional staff but also high-tech products, involving in the process of creation its graduates.

At the forefront of this changing knowledge landscape in higher education is the integration of e-learning as a tool for communication in teaching and learning.

In the context of this article, e-learning is defined as the “information and communication technologies used to support students to improve their learning” (Ellis, Ginns, and Piggott 2009). Broadly speaking, e-learning encompasses several academic technologies, media, communication and information systems used to mediate teaching and learning (Omer et al. 2015). E-learning is an “ICT-enhanced practice in universities ranging from e-mail provision, online journals and networked libraries, to development of creative software solutions for information management tasks in teaching, research and administrative systems” (Bagarukayo and Kalema 2015, 168). The rapid development of information and communication technology has without a doubt revolutionised all aspects of human life. For the 21st-century university, this has meant that its walls have become boundless and permeable owing to e-learning technologies, innovations and tools. While in the traditional university, knowledge and its constructions resided in the bricks and mortar of the institution, the rapid increase in the use of technology is reshaping the teaching and learning spaces (Ellis, Ginns, and Piggott 2009, 304). Due to these changes, the role of academics has changed to accommodate how students access knowledge via technological enhancements (Omer et al. 2015).

A *tour d’horizon* of the literature that focuses on how academic staff accept and use e-learning tools in higher education reveals two trends. Both trends emphasise that the acceptance and use of e-learning innovations in universities is influenced by individual, social and organisational contexts within a specific culture (Devlin and Samarawickrema 2010). Several researchers highlight the significance of e-learning in enhancing the teaching and learning environment in higher education. First, there are researchers who have found that e-learning tools are being partially used in teaching and learning. For

example, in a study conducted within the context of 10 South African universities, Bagarukayo and Kalema (2015) found that the adoption and usage of e-learning innovations was dependent on the context. That is, motivation to embed e-learning strategies in teaching and learning is either enabled or inhibited by the university environment through institutional support, infrastructure and connectivity (Güllü et al. 2016). It might seem from the South African context that e-learning technologies have been enabled by both policy and infrastructure, as evidenced by the new policies, structures and budget that support the integration of e-learning technologies in South African universities (Czerniewicz and Brown 2009). However, beyond policies and vocabulary, there is a need to understand the way in which academic staff use and accept e-learning tools within their context as a strategy for enhancing the teaching and learning environment in higher education.

Second, there are researchers who believe that e-learning has merits in higher education teaching and learning but that “regrettably it can also be a source of threats and dangers. It can contribute to information and digital exclusion, new social divisions and social stratification” (Ziemba 2016, 89). In one such study, conducted within Kenyan public universities, Tarus, Gichoya, and Muumbo (2015) found that although there was willingness among lecturers to integrate e-learning technologies in their teaching, challenges such as infrastructure, internet bandwidth, policies on e-learning, technical support and self-efficacy to use e-learning severely limited its continuous use and acceptance. To understand the use and acceptance of e-learning among university lecturers, Wang, Cowie, and Jones (2008) focused on Taiwan and classified the challenges into personal and technological. Personal challenges refer to the commitment and time required to develop effective pedagogical techniques for use in e-learning. The technological challenges, on the other hand, are obstacles that lecturers encounter when they fail to use the computer equipment due to limited technical skills and facilities. In responding to these challenges and displaying a rather defeatist attitude, López-Martín, Dias, and Tiana (2017, 2) note that “there is no longer the hype which captivated most people at the time or the illusion that all emerging technologies imply, per se, innovative good practices in education.” From an analysis of the studies in this strand, researchers caution against the use of e-learning technologies as they perpetuate the traditional instructional practices that inhibit effective learning.

From the reviewed literature on the e-learning directions in higher education new and interesting ideas on constructing and sharing knowledge emerge. While there is evidence of burgeoning research output on academic staff’s e-learning acceptance and usage at universities, there is a paucity of studies that seek to understand the South African experience. However, the e-learning trajectory in higher education and the “introduction of the high technologies into the production process create[e] the need to improve the knowledge and skills of the employees” (Levchenko et al. 2017, 8). That is, a number of barriers limiting the productive implementation and utilisation of e-learning in universities’ everyday routines still exist as a result of economic, political, technical and pedagogical

issues, as well as the absence of strategic planning and knowledge sharing between universities (Güllü et al. 2016). Against this backdrop, the present study sought to gather participants' experiences by addressing the following questions:

1. How do academic staff at a university in South Africa use e-learning technologies in teaching and learning?
2. How do academic staff at a university in South Africa accept e-learning technologies in their teaching and learning?

Theoretical Orientation

The theoretical foundation for this study is drawn from activity theory to explain the acceptance and use of e-learning technologies and innovations at a South African university. Activity theory is a theoretical framework that is applied to examine the interaction between humans and tools or artefacts (Ellahi, Zaka, and Sultan 2017). In addition, Hashim and Jones (2007) state that activity theory is a relevant analytical tool for studies that seek to understand how participants' historical and cultural contexts and the tools they use to execute their duties are constantly changing and influencing their experiences at work. The theoretical orientation embraced in this study is underscored by the philosophical notion that teaching is a socioculturally nuanced phenomenon that collectively benefits from a relationship between culture, people, context, institutional rules and innovative tools (Wang, Liu, and Hwang 2017). The overarching goals of e-learning at a university can be better understood using activity theory as it provides a framework for exploring the lived experiences of the users within a context. According to Engeström (1987), the activity that shapes a phenomenon is embedded in the context. That is, it is pointless to study an activity without appreciating the context in which the individual and collective memories, sociocultural historic events, artefacts and relationships are mediated (Szeto 2015). This suggests that there is a reciprocal interconnectedness between the object (activity) and the subject (people) but this relationship is shaped by contextual distinctions that Engeström (1987) calls a community. The addition of the community in the relationship between the object and the subject births two distinct yet embryonic connections, namely, community object and community subject (Engeström 1987). In an environment such as the university there is a need to understand the object (the activity of teaching and learning) and subjects (teachers and learners) are mediated by innovative strategies such as technological tools and the existence of labour in a system. By positioning our worldview within the sociocultural norms, language, tools and values of the system, we sought to reconnoitre the mediated tools that the academic staff at a South African university use and their experience in doing so. The theoretical insights from activity theory provided an analytical framework through which we explored the activities, motivation, goals and conditions of academic staff in using e-learning techniques at a South African university (Hashim and Jones 2007; Shambaugh 2010).

Research Site

The South African university that was used as the research site has been using a learning management system (LMS) since 2009 to optimise and support student learning. Snowball and Mostert (2010) state that LMS is an umbrella term for describing the software tools used to manage students' learning, assessments and interventions. Moodle is a popular open source learning management system that delivers a set of learner-centric tools and collaborative learning environments that empower both teaching and learning at a South African university. Moodle builds the tools into an interface that makes the learning task central. It is built on social constructionist pedagogy, including the tools that are required in an online learning environment. The e-learning community is growing at this South African university and hence an e-learning strategy has been formulated aimed at integrating e-learning into teaching and learning through the use of Moodle as an e-learning platform. The e-learning strategy has the potential to actualise the South African university's teaching and learning vision in three areas in order to:

- Help students to become self-actuated learners who are able to use technology to find information and to solve problems;
- Assist the teaching staff through the use of technology to handle routine administrative tasks, which are particularly time-consuming, given large student numbers; and
- Expand access for non-traditional students, through the use of asynchronous course material and blended learning, so that these students can complete degree requirements in their own time.

To achieve these ideals, departmental e-learning communities of practice are being established through a series of workshops that are conducted on a continuous basis for the purpose of developing academic staff to embed e-learning technologies for effective learning.

Research Methodology

This study was designed to reveal the experiences of academic staff with the uptake and use of e-learning innovations in teaching and learning in South African universities. Given the rationale for the study, we approached it from a constructivist ontology as we held the significance of the subjectivity and the socially constructed knowledge as emanating from the participants' lived experiences (Creswell 2013). That is, we held an interpretivist ontology that states that there is no fixed truth, but that there are different subjective positions from which individuals experience and interpret their world (Creswell 2013). From this understanding, we explored how the academic staff at a South African university experienced their social settings by describing their experiences in embedding e-learning technologies in their teaching.

We favoured a qualitative research design, in line with Maree's (2007) notion that this approach may be viewed as an inquiry process involving the understanding of a complex, holistic picture, analyses, words and reports of detailed views of informants, which is conducted in a natural setting. To address the research questions, we conducted an exploratory single case study. According to Gall, Gall, and Borg (2007), a case study design is used when researchers intend to explore the particularity and complexity of a phenomenon bounded to the context. Yin (2014) notes in this regard that exploratory single case studies have the following characteristics: they study a phenomenon in real-life contexts, offer particularity, and in-depth case descriptions. We preferred the exploratory single case study as our design as we sought to contribute to knowledge of how academic staff accept and use e-learning technologies at a South African university. As research instruments, we wanted to interpret the contextual nuances and examine the meanings that the participants assigned to how they use and accept e-learning technologies.

Selection of Participants

The selection of the participants in this study was done using purposive sampling. According to Patton (2014, 230), purposive sampling is used when

selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry, thus the term purposeful sampling. Studying information-rich cases yields insights and in-depth understanding rather than empirical generalizations.

Following the guidance provided by Patton (2014) above, six lecturers were purposively chosen based on the following criteria: they needed to have incorporated e-learning into the curriculum and to have been teaching in undergraduate programmes. The six academic staff members held in-depth and rich experiences which we intended to access in order to understand the nuanced interaction between tools and humans in a rapidly changing higher education context.

Data Collection and Documentation

Given the particular nature of the study, we collected data using semi-structured interviews. This was done as we sought to listen to participants explain in their own words their experiences of using and accepting e-learning technologies (Creswell 2013). A total of six academics were interviewed to collect data on the experiences of academic staff with the uptake and use of e-learning innovations in teaching and learning at their university. Turner (2010) points out that interviews provide in-depth information pertaining to participants' experiences and viewpoints on a particular topic and that is the reason why interviews were the preferred method of data collection for this study. The participants were purposefully selected because they had already started using the LMS (Moodle) adopted by the university in 2009 to enhance learning. The researchers held separate interview sessions with each of the six participants in the comfort of their own offices. Confidentiality, anonymity and privacy were assured. To answer the research questions, an hour-long

interview was conducted with each participant. During the interviews, each participant discussed how they had accepted and used e-learning in their classroom. The interview was conducted in English and the sessions were audio recorded and transcribed verbatim.

As suggested by Dawson (2002), the researchers had an interview schedule listing the specific questions to be discussed. According to Howitt and Crammer (2011), an interview schedule provides a guideline for what is to be covered in the interview to guard against straying from the significant issues. The interviews were intended to elicit information from academics about their experiences regarding the uptake and use of e-learning in their university. The interview schedule therefore covered the following key areas:

1. The extent to which Moodle as an LMS is being used in the institution
2. Technology infrastructure and internet accessibility
3. The nature of support provided to successfully implement e-learning
4. The e-learning vision of the institution
5. Staff development and training
6. Challenges in implementing e-learning at the institution

Data Analysis

The collected data were categorised into different groups by applying an inductive thematic approach (Runeson and Höst 2009), which has the advantage of classifying qualitative data into several themes in order to infer a general picture. Braun and Clarke (2006) propose six phases that can be followed in order to categorise research data into different themes. The six phases we followed were familiarisation with the data, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and finally, following the activity theory theoretical insights we interpreted the findings in line with the current literature on the acceptance and use of e-learning in higher education.

Ethical Considerations

The approval to carry out this study was granted by the South African university's Ethical Committee and issues of confidentiality, anonymity and privacy were attended to. The participants were assured that they would remain anonymous regardless of the information they provided. The consent of all participants was sought and granted. The purpose of this research was clearly explained to the participants and they were informed that they had a right to withdraw from the study at any point and their data would then be excluded from the report.

Findings

Our study showed that there has been a slow uptake of e-learning technologies by the academic staff. The findings of the study are discussed here in detail using the following themes: technology infrastructure and internet accessibility on campus, technical support for students and staff, staff development and training, difficulty in creating e-learning curriculum content, and challenges of non-resident students.

Technology Infrastructure and Internet Accessibility on Campus

The findings reveal that whilst academics are willing to implement e-learning in their institution to enhance teaching and learning they are constrained by the technology infrastructure and internet accessibility. As academics realise that there is a growing interest in integrating these technologies into the curriculum, it has increased the demand for the provision of reliable internet connectivity so that academics and students may reach their full potential. The internet offers a broad range of possibilities for learning at all academic levels and when students have access to a computer and an internet connection they can study anywhere. In this study the academics indicated that internet accessibility for students is not reliable as they mainly rely on Wi-Fi, which is erratic. The Wi-Fi signal is not strong enough and there are only a few hotspots on campus to cater for more than 17 000 students. This situation therefore hinders and disrupts the learning process. Academic A6 stated the following in this regard:

Access challenges are disruptive due to insufficient infrastructure and poor connectivity which seriously compromise students' learning. They are unable to access the necessary materials on Moodle timeously to complete the activities before the stipulated deadlines. I am sometimes forced to reschedule lectures and assessment activities to accommodate the students. This has ripple effects on other key activities that I have to attend to as part of my academic responsibilities.

It is critical to understand that learning extends beyond the lecture halls and library hours, and students continue to learn even at residences. Hence, an enabling environment which supports learning should also be created in the residences. The study reveals that learning after hours is not supported by the university infrastructure. Another academic staff member (A3) had the following to say about the situation:

We acknowledge that there was an attempt to increase the Wi-Fi access on campus, however it is limited to certain areas. In many instances you will find students sitting in steps leading to the buildings with connectivity and in the corridors in order to access Wi-Fi. Wi-Fi hotspots are needed to cover more areas on campus and most importantly in residences as students continue to engage with their studies up until the early hours of the following day. Students sit in these steps even at night because in the residences they do not have Wi-Fi access.

Academics indicate that slow internet connections and old Wi-Fi computers in the computer laboratories have proven to be frustrating for them and students when they try to access the course materials. Academic A4 suggested the following:

I would recommend that the university invests in an e-learning centre for students, a venue where students can go and do online activities with either their own devices or installed devices. This venue should not be used for teaching or any other activity and this would certainly promote the uptake of e-learning in this institution. If the students do not have access to functional computers and reliable internet connectivity we cannot realise the goal of integrating ICT into the teaching and learning.

Academics acknowledge that e-learning provides an opportunity for increased access to content. They observe that a number of students carry smart phones which could be exploited as mobile learning platforms. Students could thus access resources and networks using mobile phones at their convenience to keep them engaged in learning. One academic (A2) had this to say:

We recognise that communication between lecturers and students is vital in an e-learning environment, however, currently Moodle does not allow a link to users' cell phones. The effect is that a student can only see a message when s/he logs in, which leads to students not seeing the message immediately and sometimes [only] a few days later.

The academics felt that the university should attempt to assist all students to access the LMS (Moodle) from own their own cell phones as well.

Access to a computer and internet connectivity therefore becomes an enabler of teaching and learning. Egoeze et al. (2014) contend that in higher education institutions the common ICT infrastructure and services are usually computers, the internet, and services related to the internet. These obviously play an important role in facilitating e-learning and the curriculum. Siritongthaworn et al. (2006) argue that access to ICT infrastructure and computers is not adequate as you also need a certain quality of connectivity to the internet. The reliability of the connection and the bandwidth will affect the users' ability to access the full range of the content needed.

Technical Support for Staff

The findings reveal that there are no structures in place for technical and system support for staff on the use of Moodle support systems. Guidance is also necessary for the student to make it through the course and for the academics to facilitate e-learning. Support could take the form of an IT help desk to which staff could go when they experience technical challenges with the system. Academic A1 had this to say:

The university needs an e-learning call centre where students and lecturers can be assisted during all hours. A self-service automated system is recommended, much like is

used in banks, to solve minor issues. An operator could intervene for more complex issues.

Academics indicated that e-learning plays a role in enhancing students' academic performance despite the limited infrastructure and unreliable internet connectivity at the university. They do, however, note that students' success would undoubtedly increase if technical support and training were provided on a regular basis. Academic A5 observed the following:

With the scarce infrastructure I have seen a positive influence of e-learning on my students' performance. We are however constrained by the lack of support when we are faced with system failures. The university should have dedicated personnel to provide assistance in times of technical challenges. Regular training on how to improve our understanding of the system would also help a great deal.

Development of a Shared Campus IT Vision

Developing a shared vision concerning the value and future impact of information and communication technologies is important. It is critical for the university authorities and all the stakeholders to agree on a shared vision that will guide the institutional planning and strategy. The participants indicated that there is a lack of coordinated planning for e-learning at departmental, faculty and institutional levels. Goal 4 of the Strategic Plan of the university that was our research site aims to enhance the quality and profile of graduates. The second strategic objective of this goal aims to provide general support and to continue to provide specific technological and collaborative institutional support for students and staff. Against this background, it is noted that the South African university's Strategic Plan directed the development of an e-learning strategy in 2017. However, this has not yet found expression within the institutional e-learning arrangements. Academic A5 explained:

I can say that we do not have a common vision on how we can best use e-learning to benefit our students, taking into consideration our contexts. We use Moodle in various ways according to what is possible in our own modules. I cannot say we have clearly unpacked our strategic plan enough to provide guidelines for a uniform implementation of e-learning in the institution.

Staff Development and Training

Staff development is necessary for any successful implementation of e-learning. The information and communication technology (ICT) field is constantly changing, which necessitates a strong commitment to staff development in order to provide ongoing support and training at the institutional level. Academic staff's e-learning experiences are hindered by insufficient training. The findings revealed that there is no mandatory staff training on the use of Moodle. Academics have not been sufficiently taught how to apply technology to teaching, hence the uptake by academics is low and those who use e-learning mainly use it for posting notes for students. Academic A2 had the following to say:

In our institution attending staff training on e-learning is not compulsory and if you do attend you will not be engaged in hands-on activities. It would be just demonstrations by the facilitator and when you go back to the office in most cases you would have forgotten what was learnt. In our faculty we usually organise information sharing sessions amongst ourselves to try and assist one another on some of the functions on Moodle that we can take advantage of in our teaching.

Difficulty in Creating Appropriate E-Learning Curriculum Content

Some academics find it challenging to create customised content to improve learning in their modules. They indicated that they require training in creating content on Moodle that would enhance teaching and learning in their modules. The fact that they lack the pedagogical strategies necessary to integrate ICT into the curriculum is a cause for concern. Academics mainly use the platform to upload notes and deliver assignments and announcements without any interactive exercises. For example, academic A4 stated the following:

As academics we need support in designing learning and content for e-learning. We find it challenging to design online activities that will facilitate meaningful learning for our students. We end up posting notes and making announcements on the platform that is supposed to be engaging students in various learning experiences that add value to their e-learning. I am personally aware that meaningful e-learning would also entail interactive engagement between the lecturer and the students and amongst students themselves. I cannot even administer online assessments because I lack the requisite skills to do so.

Research shows that activities that affect student performance involve interactivity (Jiang and Ting 2000), collaboration and interaction with peers (Bruckman 2002), and the possibility for hands-on practice for students (Mason and Weller 2000). The inability of academics to create appropriate e-learning curriculum content for their respective modules therefore renders the university initiatives to embrace e-learning futile, as students cannot benefit from non-interactive curriculum content.

Staff Perspectives on the Challenges Faced by Non-Resident Students

The ever-increasing enrolments at universities have led to a shortage of student accommodation on campus. This has resulted in a growing number of students residing off campus. The university has to rent off-campus residential facilities for them and some students have to make their own accommodation arrangements. In most cases the students have to fend for themselves in off-campus accommodation, ensuring their own welfare and safety. A1 highlighted that non-resident students are often disadvantaged in terms of accessing e-learning infrastructure and internet connectivity beyond the working hours. She said:

My assessment indicates that students who stay in campus residences usually perform better than students who stay off campus. Obviously due to transport and safety considerations off-campus students have to leave campus before dusk. This seriously

compromises their learning as the university does not provide any infrastructural and internet support to students beyond the campus premises.

Research confirms that students who use on-campus residences usually perform better than off-campus residence students. Thomsen (2008) observes that among other positive predictors for students who stay on campus are the academic support available and high-speed internet connection. Nelson et al. (2016) contend that there are a number of factors that may influence a student's performance at university, which include whether the student lives on campus or off campus. They argue that students who live on campus are more likely to complete their degrees than students who live off campus. Nelson et al. (2016) observe that students who commute may have a number of demands on their time and may have fewer opportunities to develop a strong commitment to their studies and to their university.

Discussion

In this article we posed two interconnected questions: How do academic staff at a university in South Africa use e-learning technologies in teaching and learning? How do academic staff at a university in South Africa accept e-learning technologies in their teaching and learning? Our findings indicate that the academic staff at the university that was our research site for the most part accept the use of e-learning technologies. However, there are key areas that need to be addressed to realise the full uptake of e-learning in the institution. These include improving technology infrastructure and internet accessibility on campus, providing technical support for students and staff, providing staff development and training, assisting academics to create e-learning curriculum content, and attending to the challenges experienced by non-resident students. Similar to the findings of researchers such as Güllü et al. (2016), López-Martín, Dias, and Tiana (2017), Tarus, Gichoya, and Muumbo (2015), Bagarukayo and Kalema (2015), and Wang, Cowie, and Jones (2008), this study indicates that enablers and inhibitors are found in the areas of technology infrastructure and internet accessibility on campus, technical support for students and staff, staff development and training, creating e-learning content, and the experiences of non-resident students.

Regarding the improvement of technology infrastructure and internet accessibility, the findings reveal that participants regard these as enablers of the successful integration of e-learning into the curriculum. The academics, however, highlighted that in their case the lack of sufficient and reliable technology infrastructure and internet accessibility serves as an inhibitor to the use of e-learning technologies. Gunawardena (2005) points out that for e-learning to succeed in higher education systems, it needs to build on an important pillar, namely, the existence of infrastructure, along with connectivity. Without the technological infrastructure and heavy investment in resources, especially in the initial stages, institutions will not realise their goals of enhancing their curricula offerings through e-learning. Touray, Salminen, and Mursu (2013) confirm that the absence or inadequacy of infrastructure remains a barrier to access among students in developing countries. The

institution should invest heavily in providing infrastructure and reliable internet connectivity so that academics and students may reach their full potential.

Lack of technical and system support for staff on the use of the institutional e-learning platform is another drawback. From time to time staff require technical help to get through some of the challenges they face with the LMS and without this support they sometimes cannot complete their tasks on time. The institution should therefore have a dedicated help desk where staff could go whenever they experience technical challenges with the system. A shared campus e-learning vision in any institution is necessary for the successful incorporation of e-learning into the curriculum. The findings reveal that the institution does have an e-learning strategy but that it does not appear to have a shared vision at institutional level concerning how e-learning should be implemented to enhance learning. Through continuous engagement with stakeholders, the institution should ensure that there is a shared vision that will guide institutional planning and strategising on e-learning implementation. These engagements need to be coordinated at the departmental, faculty and institutional levels.

Mandatory staff development and training to keep up with the constant changes in the ICT field should be an essential feature of institutions that embrace e-learning in their programmes. The findings reveal that the e-learning experiences of academic staff are hindered by insufficient training on the use of LMS and even the irregular training sessions provided are not mandatory for staff. Tarus, Gichoya, and Muumbo (2015) contend that the possession of relevant technical computer skills is a crucial factor for the adoption of technology. Qureshi et al. (2012) echo this sentiment, stating that confidence in skills and the ability to use e-learning contributes significantly to use of technology. Targeted training programmes are therefore recommended to deal with specific aspects of staff training needs.

The study also revealed that academics find it challenging to create e-learning curriculum content that engages students in meaningful learning in their modules. Blackburn (2017) argues that academics need to move away from the orthodox way of teaching to embrace a role where they provide guidance, not answers, to students. For this they need to learn new teaching skills and the content knowledge for successful e-learning. They therefore need support from their institutions at the highest level. Training for academics in creating content on Moodle that would enhance teaching and learning in their modules should be provided on a continuous basis. For all intents and purposes, the lack of pedagogical strategies necessary to integrate ICT into the curriculum does not augur well for e-learning. An e-learning coordinator with the requisite skills should be appointed to assist academics with the development of appropriate e-learning curriculum content. This would contribute to the quality of teaching, positive e-learning experiences and the development of appropriate e-learning assessment practices. Academics should also be encouraged to form support structures in the form of communities of practice (CoPs) where they could share ideas and experiences for developing e-learning curriculum content.

In essence, the findings reinforce the fact that the use of e-learning in universities is a slow progression that requires a coordination of activities and resources that are pedagogically effective to support both teaching and learning. The participants also echo the findings of López-Martín, Dias, and Tiana (2017) and Wang, Cowie, and Jones (2008) that e-learning could compromise the students' exposure to in-depth content knowledge. The participants indicated that e-learning increased their workload as they have to pre-plan, design and manage technology-enabled activities. To compound the problem, non-resident students have limited access to the internet, which makes it difficult to completely infuse e-learning technologies in content knowledge construction. Based on the findings we recommend a more interactive and context dependent e-learning support system for academic staff. There is also a need to have collaborative and peer-oriented activities to develop the knowledge of academic staff on the effective use of e-learning technologies to accelerate their acceptance. A formal evaluation needs to be conducted to identify the successes and failures regarding the implementation of e-learning in the institution. Such an evaluation would help to identify any training needs, IT, content, or process issues that still need to be attended to.

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