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Professional Development of Academics for the Implementation of Online Learning in African Open and Distance Teaching Institutions

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Abstract: E-learning has been recognized as the vehicle with the highest potential to improve education systems in African countries if implemented well. However, the sought after improvements are yet to be realized owing to the increasing failure of e-learning initiatives. This study investigated how academics were prepared for online teaching and learning at open and distance education (ODE) institutions in South Africa and Nigeria, where two of Africa's largest ODE institutions are located. Twenty participants from both institutions were selected to participate in the study. Qualitative semi-structured interviews were used to collect data, and a thematic analysis was used to analyze the data. Consistent with previous research, the findings of this study showed higher education institutions (HEIs) in Africa did not properly plan and manage their e-learning implementation projects. A lack of proper understanding of online learning and appropriate digital skills were the main reasons for reported failures of e-learning initiatives in these contexts. Consequently, this study positioned the professional development of academics as integral to e-learning innovation in higher education. The results of this study may resonate with other types of educational institutions, and the lessons documented may be valuable

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and helpful to other cases in similar situations. The development of needs-based and timely training interventions is recommended.

Keywords: academic professional development, digital transformation, e-learning readiness, ODeL, online teaching, TPACK

Développement professionnel des universitaires pour le déploiement de la formation en ligne dans les établissements africains d'enseignement ouvert et à distance

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Résumé : La formation en ligne a été reconnue comme le moyen ayant le plus grand potentiel pour améliorer les systèmes éducatifs des pays africains si elle est bien mise en œuvre. Cependant, les progrès escomptés ne sont pas encore réalisés en raison de l'échec croissant des initiatives de formation en ligne. Cette étude a examiné la manière dont les universitaires ont été préparés à l'enseignement et à l'apprentissage en ligne dans les établissements de formation ouverte à distance (FOAD) d'Afrique du Sud et du Nigeria, où se trouvent deux des plus grands établissements de FOAD d'Afrique. Vingt participants des deux institutions ont été sélectionnés pour participer à l'étude. Des entretiens qualitatifs semi-directifs ont été réalisés pour collecter les données, et une analyse thématique a été utilisée pour analyser les données. En cohérence avec les recherches précédentes, les résultats de cette étude ont montré que les établissements d'enseignement supérieur en Afrique n'ont pas adéquatement planifié et géré leurs projets de mise en œuvre de la formation en ligne. Le manque de compréhension de la formation en ligne et des compétences numériques appropriées sont les principales raisons des échecs signalés concernant les projets de formation en ligne mis en place dans ces contextes. Par conséquent, cette étude a positionné le développement professionnel des universitaires comme faisant partie intégrante de l'innovation en matière d'e-

learning dans l'enseignement supérieur. Les résultats de cette étude peuvent trouver écho dans d'autres types d'établissements d'enseignement, et les leçons tirées peuvent être intéressantes et utiles pour d'autres instances dans des situations similaires. Le développement d'interventions de formation fondées sur les besoins et moments opportuns est recommandé.

Mots-clés : développement professionnel universitaire, transformation numérique, préparation à la formation en ligne, FOAD, enseignement en ligne, TPACK

Introduction

Improving the capacity of education and training systems to meet the pressing needs in Africa is an educational imperative. In response, countries like South Africa, Nigeria, Botswana, Kenya, Namibia, and Tanzania have formulated digital transformation policies and embarked on educational innovations, such as e-learning. One of the Millennium Development Goals of the United Nations Educational, Scientific, and Cultural Organisation (UNESCO) is: "Education for all for the twenty-first century." The goal of expanding access to education (Tarimo, 2013) has driven the adoption and use of information and communication technologies (ICTs). This has helped address and fast-track the much needed radical transformation of education systems in Africa. Many institutions in Africa, both educational institutions and private and public businesses, are adopting an e-learning mode of teaching and learning (Masalela, 2011).

In order to introduce e-learning in South Africa and the world, higher education institutions (HEIs) must continuously equip themselves with the relevant skills to optimally facilitate learning using open, distance, and e-learning approaches and technologies. Several authors report that distance teaching institutions (including some African HEIs) in which e-learning initiatives are underway continue to grapple with effectively adopting, adapting, and implementing technology enabled education (Du Plessis, 2017; Azimi, 2013; Mässing, 2017; Panda & Mishra, 2007). Therefore, professional development plays a crucial role in enabling academics to update their pedagogical knowledge and practice, and to use the available educational technology tools in teaching and learning. In addition, Modise (2020) argues that academics at HEIs are constantly required to support and satisfy the needs and demands of diverse learners effectively, and to participate competently in relevant scholarship and discussions about emerging technologies and e-learning.

To ensure that online teaching and learning programs in higher education are successful and sustainable, it is imperative that lecturers are well prepared. They must understand e-learning and be able to navigate its landscape. Despite the exponential growth of students in online environments (Bissessar et al., 2021), research shows most HEI lecturers do not have the necessary skills to facilitate e-learning (Tejedor et al., 2020). The effects of the COVID-19 pandemic on e-learning in higher education, and open and distance education institutions worldwide, especially in developing economies such as in African countries, have made it even more urgent for institutions to prepare their teaching staff adequately. Based on this background, this study sought to understand how academics were professionally developed and supported for digital educational transformation in large-scale open and distance education (ODE) institutions in Africa. The research was based on a study of the National Open University of Nigeria (NOUN) and the University of South Africa (UNISA), two of the largest distance learning institutions in the world (Tait, 2013). The next section presents a review of supporting literature, followed by a discussion of the research's theoretical framework.

Literature Review

Technological advances and changes, socioeconomic imperatives, student demographics, and politics constantly affect the environment in which academics function. Institutions must meet these challenges and the changes they entail with vigour and thoroughness. Research has shown that staff development is important when implementing technology innovation (Zawacki-Richter, 2005). All stakeholders in education need to understand and embrace technology, and invest in the training and skills development necessary for using technology optimally to teach and learn. Nhando (2015) reports that Africa is an emerging market for e-learning and emphasizes the need to train teachers on the African continent.

In light of burgeoning advancements in distance education and e-learning in developing countries, Anderson and Garrison (1998) believe "new technical skills are [obviously] required" (p. 109). Academics must be digitally literate to be able to handle e-learning. Many years ago, Zawacki-Richter (2004) predicted that technical competencies and digital literacy would become a basic qualification for faculty. Also, Boyd-Dimock and McGree (1995) argued that new skills and knowledge would lead to increased confidence among teachers and a stronger commitment to teaching. In her research on integrating technology into theological education at UNISA, Oliver (2014) found that not only is it essential to train staff and students to continue using technology, we must also conduct research on how technology can be used in ways that are pedagogically viable. Schäfer (2002) warns that new emerging teaching technologies in higher education demand the "ongoing updating and supplementing of the knowledge and skills of people in the work process throughout their lifetimes," thereby requiring lifelong learning and learning on demand. Online teaching and learning requires lecturers and teaching agents (such as tutors and teaching assistants) who are intentionally prepared, have planned ahead, and have undergone training and development.

According to Zawacki-Richter (2021), the COVID-19 pandemic has forced many lecturers to use various technology tools to learn, teach, assess, and support students online. Staff at many institutions have operated from their homes for an extended period, requiring more than basic computer skills. Ali (2020) states that such exceptional times require teaching staff to use technology and technological gadgets to effectively and competently enhance learning. A study conducted by Tejedor et al. (2020) revealed an ever-increasing need to develop teachers' digital skills and teaching methodologies to meet the demands of the current context. Another study by Ali (2020) revealed that, in addition to resources, staff readiness and confidence play an important role in learning

that has been integrated with ICT. Ali (2020) argues that "society needs flexible and resilient education systems as we face unpredictable futures" (p. 16), which includes resilient educators. It has long been prophesied and argued that teachers and learners must acquire twenty-first century digital skills (Trilling & Fadel, 2009). It should be noted that if lecturers do not have digital skills themselves, they cannot transfer important digital skills to learners. COVID-19 has highlighted this fact unequivocally.

Frick and Kapp (2009) argue that an integrated model of academic professional practice is necessary to bring together scholarly teaching roles with the research, engagement, and administration of educators in HEIs. Frick and Kapp (2009) also define academic professional development as the "enhancement of professional competence and expertise to the benefit of the individual professional, the organisation, its clients, and society" (p. 257). Modise (2022) agreed a holistic approach is needed to prepare lecturers for online teaching and learning. Lecturers' technological and digital skills and knowledge may not mean much if they are irrelevant and unavailable when required. Similarly, accepting and adopting new e-learning technology may depend on the skill sets available and the training provided to teaching staff.

Nhando (2015) points out that lecturers' training and professional development are the main challenges the African continent must overcome to successfully implement e-learning initiatives. Academics in HEIs face the challenge of facilitating learning and supporting students using emerging educational technologies without adequate preparation and training. Bagarukayo and Kalema (2015) warn that academic staff members often find themselves burdened and frustrated owing to the haphazard nature of e-learning innovations. Alhazmi and Rahman (2012) report a high level of criticism directed at the failure of e-learning initiatives, such as how some "learning management systems (LMS) implementations fail to create the sought after interactive learning

environment and to improve learning outcomes" (p. 1). Rohayani et al. (2015) further argue the adoption of e-learning should ideally be initiated by measuring the readiness for e-learning. Another study warns that a readiness assessment must be done before e-learning is implemented (The & Usagawa, 2018). Adiyarta et al. (2018) used the Thirteen-Factor E-Learning Readiness Model in a study and found the "three readiness factors that needed a lot of work" included human resources, technical skills, and content (p. 241). There is resounding agreement that the limited expertise of staff members at HEIs poses a challenge to online learning (Adiyarta et al., 2018), and working online requires a new set of skills and a new way of thinking about e-learning initiatives (Conole & Alevizou, 2010, p. 23).

Ng'ambi et al. (2016) warn that developing countries need to take their own lead in predicting and planning for changes in technology enhanced learning. In an earlier study, Ngengebule et al. (2007) also warned that successful e-learning models depend not only on the ICT infrastructures in the institution, but also on maximizing students' satisfaction and successful completion of their studies. For these reasons, educators must continuously equip themselves with the skills required to effectively impact today's learners (Modise, 2020). Zawacki-Richter (2004) warned that e-learning requires new skills, specifically using technology to teach and learn. Effective e-learning goes beyond creating good learning content. To realize the benefits of e-learning initiatives, those involved must make an intentional investment in educators "as facilitators rather than as lecturers, or deliverers of content" (Blackburn, 2016, p. 91).

Theoretical Framework

This study used the Technological Pedagogical Content Knowledge (TPACK) theory, formulated by Mishra and Koehler (2006), as its theoretical framework. Mishra and

Koehler describe TPACK as the type of knowledge required and desired to effect high-quality teaching. They explain that TPACK "requires developing a nuanced understanding of the complex relationships between technology, content, and pedagogy, and using this understanding to develop appropriate, context-specific strategies and representations" (p. 1029). HEIs that use ODeL systems require this knowledge and the confidence it brings to use available technologies creatively and appropriately to teach, learn, and support their students. Koehler and Mishra (2009) believe "the interaction of these bodies of knowledge, both theoretically and in practice, produces the types of flexible knowledge needed to successfully integrate technology use into teaching" (p. 60). This flexibility is needed in all teaching scenarios, especially with ODeL in HEIs. Lecturers need knowledge of the best technology tools and how to use them confidently to be able to provide effective teaching and student support.

There are three sets of knowledge in this approach to learning: context, pedagogy, and technology. The most important feature of the TPACK framework is that it realizes each set of knowledge depends on the others—they are in partnership. It is equally important that lecturers acquire all the necessary knowledge to deliver module content successfully to students in an online environment. It is important to note the impact TPACK has had on teaching and learning. Adopting and applying the TPACK framework in new e-learning innovations may facilitate better adoption, acceptance, and use of new technology by lecturers.

Methods

This research paper involved a qualitative study with multiple cases. Case study research designs have been used extensively in qualitative studies. Such designs are commended (Creswell, 2013) for their key advantages, such as allowing researchers to

immerse themselves in the dynamics of a case to uncover events that could easily be missed if superficial methods were used. A multiple-case study allows for a better understanding of the phenomenon based on participants' interpretation of their experiences in their contexts (Gray, 2022) and in the broader African context.

The following research question drove and guided this research study:

How prepared are academics for online teaching and learning in large-scale African ODE institutions?

Data Collection

Purposive sampling ensured only individuals directly linked to the research question were invited to participate in this study. A snowballing technique, compatible with purposive sampling, was used to identify participants deemed suitable for inclusion in the study. The aim was to "purposefully choose data that fit the parameters" of the research questions, goals, and objectives (Tracy, 2013, p. 4).

The selection was limited to academics and participants who were directly involved in the implementation of e-learning at UNISA and NOUN. These institutions are listed among the top 11 largest ODE institutions globally (Tait, 2013), and are the top two ODE institutions in Africa. Twenty participants were selected to be interviewed: 12 from UNISA and eight from NOUN, as shown in Table 1. As the table shows, only two participants did not have a doctoral degree, and 14 of the 20 participants were professors, some holding management positions. The table shows most participants are over 40 years of age, and age has been reported as a factor in the adoption of technologies (Sinyolo, 2020).

Table 1

Profiles of Participants

Participant	Title	Age	Gender	Race	Employed by Institution (years)	Teaching at tertiary level (years)
P1 (M)	Professor	40–45	Female	W	9	8
P2 (M)	Professor	60–65	Male	I	18	0
P3 (CPD/M)	Doctor	46–50	Female	B	5	5
P4 (CPD/M)	Doctor	60–65	Female	W	17	0
P5 (A)	Professor	40–45	Female	B	3	3
P6 (A)	Ms	30–35	Female	B	7	7
P7 (A)	Doctor	56–60	Female	W	16	16
P8 (M)	Professor	56–60	Female	B	25	25
P9 (A)	Professor	60–65	Female	W	25	16
P10 (M)	Professor	50–55	Male	W	3	2
P11 (ICT)	Mrs	46–50	Female	C	13	13
P12 (M)	Professor	60–65	Male	W	40	30
P13 (A/M)	Doctor	46–50	Female	B	10	6
P14 (A/M)	Professor	60–65	Male	B	12	12
P15 (A/M)	Professor	40–45	Male	B	15	15
P16 (A/M)	Professor	50–55	Male	B	12	12
P17 (A/M)	Professor	55–60	Male	B	6	6
P18 (A/M)	Professor	55–60	Female	B	9	9
P19 (A/M)	Professor	50–55	Male	B	10	10
P20 (A/M)	Professor	50–55	Female	B	10	20

Note. P = Participant; M = Management; A = Academic; CPD = Centre for Professional Development; ICT = Information Communications Technology Department; B = Black; C = Coloured, I = Indian; W = White

The data collection involved semi-structured interviews, which are commonly used for their flexibility, ability to capture participants' views, and the option they give interviewers to ask probing questions (Iyamu, 2018). Owing to COVID-19 restrictions and regulations, the interviews were conducted and recorded on Microsoft Teams and Zoom.

The beauty of these digital platforms is they do not completely remove the "face-to-face" elements of interviews: During the online interviews, the interviewer could see the facial expressions of the interviewees, which often indicated important emotions.

Data Analysis

Thematic analysis was used to code and analyze interviews. Braun and Clarke (2006) define thematic analysis as a "method for identifying, analysing, organising, describing, and reporting themes found within a data set" (p. 80). The recorded interviews were transcribed, and the transcripts were transferred to the Atlas.ti software package for in-depth analysis. Coding yielded 86 first-level codes. The number of codes was finally reduced to 65. These codes were grouped into ten categories and three major themes. Themes were identified through an iterative coding process.

Ethical Considerations

McMillan and Schumacher (2010) state that ethical considerations such as confidentiality, anonymity, and informed consent must be observed when conducting research. The participants in the study were informed of the purpose of the research and their rights. The participants were also assured their responses and the information shared during the study would be presented anonymously to protect their identities. In addition to the ethical aspects discussed above, ethical clearance was obtained from the relevant committees at UNISA and NOUN, and permission was granted to interact with individuals relevant to this research.

Findings

It is important to note the purpose of this research was not to compare the two institutions but to get a collective result, indicating the state of professional development

and the e-learning preparedness or readiness of academics at Africa's largest ODE universities. However, there were instances when comparison was necessary to put perspectives and interpretations into context. Nonetheless, the research aimed to document and share key lessons from Africa's two largest ODE universities. The following section presents themes from the study.

Theme 1: E-learning Competencies and Skills for Teaching with Technology

Theme 1 briefly highlights key competencies relevant and necessary for ODeL in African HEI contexts. Participants voiced their concerns about lecturers' general level of skills and capabilities, and how this affects the support to students and their empowerment throughout their academic journeys. The following key e-learning and digital competencies relevant to ODeL in HEIs were identified by participants:

- Basic computer skills
- Digital literacy and digital skills
- Conducting online examinations and assessment
- Design and development of learning materials (for online teaching and learning)
- Facilitation of learning with technology
- Student support using technology

Many lecturers in this study emphasized that some of these competencies and skills were lacking. For example, basic computer skills were among the competencies reported to be urgently needed by academics at both universities, as indicated by the following comment:

> *All those providing online learning must have at least basic computer literacy and skills.* (Participant 16)

Surprisingly, participants in this study reported that many academics did not know how to do basic things one would have expected them to know, such as "converting a document to PDF, or zip a folder, or resetting their passwords using Microsoft" (Participant 11).

Another participant commented:

> *I have realised that many professors do not know how to present and share the screen, and do a presentation.* (Participant 1)

Regarding the design and development of learning materials for online learning, one participant argued that "to develop a study guide on paper and then put it online is stupid" (Participant 4). Another participant described this as "paper behind glass or paper behind the screen delivery of teaching" (Participant 6). Many participants held the view that "the starting point in open and distance learning [is] instructional design" (Participant 8). They said learning materials that had been appropriately designed would assist distance education students in becoming independent learners. Farid et al. (2015) also state that "shifting from the traditional teaching environment to the e-learning environment is difficult" for the lecturers because they do not have the necessary know-how "to revise their course and teaching material from hard mode to the electronic mode" (p. 167).

Facilitating learning and teaching with technology was also a challenge for lecturers. For example, most participants indicated they knew the content of their discipline, but needed to understand how to deliver the content online in a way that enhances learning, as shown by this comment:

It would be best if you found a way of engaging distance learners with assignments, videos, animations, lab practical simulations, and things like that. So, these things are challenging and still unclear to us here in Africa. (Participant 18)

Theme 2: Academic Support and Training for Online Teaching

The second theme highlights the training and development of academics in an African HEI and ODeL context, specifically looking at how academics are prepared for e-learning. It was evident from conversations with participants that there was a need for a practical approach to training workshops on teaching skills. Most participants also reiterated the importance of retraining:

So, it must be a hands-on course. It must not be just theory, and there must be many follow-ups because you learn something and then two months later … you have forgotten, and you need just a refresher . . . (Participant 9)

. . . all learners and teachers [lecturers] today need to be grounded in e-learning through training and retraining and how to use the e-learning infrastructure (Participant 13).

Regular and continuous training was also indicated as a key success factor for successful e-learning projects in the African HEI context:

Regular orientation and capacity building programs, training and retraining of skills as you know almost every day you have new ways of doing things . . . So, to keep up with the trends and as well as to be more efficient, the academic staff needs to be trained and constantly retrained in work. (Participant 15)

Whereas some participants were concerned about the lack of adequate, relevant training, others were concerned about the number of randomly planned workshops and programs not linked to the real needs of the institutions and lecturers:

> *There are ad-hoc and one-off workshops; once people do them, they return to their inboxes and forget about what they have learned. So, it is not effective because it is not a structured programme.* (Participant 8)

Theme 3: Academics' Readiness for Online Teaching and Learning

The general idea in Theme 2 is that most lecturers admitted they lack the relevant digital skills to adapt and adopt e-learning effectively. Many academics were thus not ready for e-learning, as shown in the following comment:

> *Many of our lecturers are not trained in using technologies in teaching and learning … and part of the reason is that we recruit people from other institutions, especially face-to-face institutions.* (Participant 8)

The competition to hire skilled academics seemed to be increasing at HEIs offering ODeL, especially as the COVID-19 pandemic pressured many universities to move their education programs online and offer courses only through a distance education mode. There were also concerns that many people recruited to these institutions did not have the relevant ODeL background. As a result, when people were hired to teach in ODeL spaces, they tended to continue as they had when teaching face-to-face, using traditional approaches and methods. When educators who do not have a background in ODeL are asked to teach in ODeL spaces, "they get very uncomfortable" (Participant 8). The concern of some participants was that universities hired "people who tell us in interviews and on their CVs that they can do these things. However, once you have signed a contract, you

realise they know nothing. They do not know how to use the technology to teach" (Participant 12). The study also revealed that participants believe training for e-learning or any new technology system is best offered before or at the beginning of the intervention:

> *I think immediately or even before e-learning innovation is introduced to the university. So, I think it is important that training starts very early, as soon as possible, before it is rolled out.* (Participant 1)

> *In fact, from the beginning, do not wait until you conceptualise the need to have e-learning once it is part of your academic brief and your university vision. So, with that kind of orientation, anybody coming must understand that this is what it is and understand that we need to begin our corporate culture in online learning.* (Participant 19)

> *For them [lecturers] to be able to work online and with e-learning technologies, it has to be just in time. So, let us train them as and when they are doing it.* (Participant 3)

Some participants felt it was important to train and prepare lecturers to teach in an e-learning context before the university implemented a new e-learning system. Other participants thought training had to be done concurrently with implementation. The feeling was that it was easier when academics were involved from the point of acquisition or development of innovation "because this makes it [e-learning] acceptable and adoption will be fast" (Participant 20).

The idea was that by the time the new technology was deployed, the lecturers would be familiar with it, and they could easily and swiftly move into teaching in the specific model. However, according to some participants, this did not seem to be the case with the implementation of e-learning at the two universities. One of the major problems with the e-learning readiness of academics in African ODeL was that the HEIs did not

have a clear institutional definition of e-learning, nor did they have an e-learning policy. As one participant indicated:

> *There is no clear strategy, policy, or plan, which you need. You start at the very highest level. The vision and the direction have to be clear. It has to be formulated properly in terms of policies and plans.* (Participant 2)

Age was also identified as a major factor affecting the decision by some educators to not use new technologies and not attend training programs on how to use the new technologies. The universities seemed to have much older and more senior academics, as shown in Table 1. The findings further revealed most UNISA participants felt they had not been properly prepared for the e-learning innovation. Although some participants from NOUN indicated a lack of relevant resources, including digital skills relevant to e-learning, most felt they had been adequately prepared for e-learning implementation in their institution. However, the participants from NOUN were not at a comfortable level of preparedness, as indicated in the following comment:

> *. . . but in terms of preparedness tools, and what works . . . I will say that we have not arrived at a comfortable zone yet; we are doing what we can.* (Participant 20)

The findings revealed the actual use of technology in delivering modules online and supporting students was limited among lecturers at both universities, especially before the COVID-19 pandemic. Participants were concerned that most lecturers were in the habit of not using university tools and systems, such as the LMS, for teaching and learning. Another concern was institutions, especially UNISA, were not mandated to use these tools prior to the COVID-19 pandemic. Some participants indicated that a specific process was not followed to prepare teaching staff for a new e-learning system. Some

participants reported the lack of relevant competencies, skills, and knowledge required to use some online tools was a major issue that hindered the successful adoption of an e-learning innovation. Others blamed the poorly designed systems and platforms, which affected how fast lecturers and students adopted the new technology.

Discussion

Understanding how technology influences pedagogy and technological pedagogical knowledge, as Koehler and Mishra (2009) describe it, is very important, especially in ODeL, in which teaching and learning depend heavily on technology. This was confirmed by some participants in the study. Lecturers may know the content of their discipline, but they also need to understand how to deliver it online because they may need to present the same content in diverse ways to promote learning. For example, according to participants, an LMS is the major system for online content delivery at both universities. An LMS is at the centre of e-learning innovations at HEIs (Anderson et al., 2013). This is because most, if not all, online teaching and learning activities (including all student-to-teacher, student-to-student, and student-to-content interactions) are conducted via the university's LMS (Moore, 1989). It will not benefit the current learners in Africa or any developing country if the knowledge transfer employs old and outdated methods and tools, especially in our technologically driven world. Lecturers must continuously learn new skills and upgrade existing skills to use technological systems and tools to teach and support students in ODeL environments.

It seems common practice among HEIs to digitize paper-based learning materials, upload them to a digital platform, and call this e-learning or blended learning without ever properly processing the learning materials for online spaces. In such contexts, the academic professional development of lecturers is lacking and this negatively impacts

lecturers' readiness for e-learning. Farid et al. (2015) also state that "shifting from the traditional teaching environment to the e-learning environment is difficult" for lecturers because they do not have the necessary know-how "to revise their course and teaching material from hard mode to electronic mode" (p. 167). Hassan (2011) writes that academics may understand new e-teaching and e-learning terminology, and some are even adept at design, but they falter during implementation. The lack of appropriate instructional design skills in ODeL at HEIs has serious implications. One is the issue of attrition, as highlighted by a participant and reported in the literature (Beer & Lawson, 2016; Hamshire et al., 2019).

The general understanding among participants in this study was academic professional development played an important role in the smooth acceptance and adoption of technology for teaching and learning in HEIs. Participants believe if academics had the necessary skills and were familiar with the technology being implemented, using the technology to teach would not be a problem. This belief speaks directly to effort expectancy, which increases when the available skills do not match the skills and knowledge required to use technology in practice (Venkatesh et al., 2003). According to Roberts (2018), given that the oldest open and distance learning institution in the world is in Africa, a person may expect the country to have plenty of experts in that type of learning. However, this study made it clear academics at African institutions still need to develop the skills and knowledge required for effective e-learning delivery.

The interviews revealed the ability to acquire new skills must be met with the opportunity to use these skills in teaching. Learning to teach with technology requires a hands-on approach, and the opportunity to practise is supported by the constructivist approach to learning (Reese, 2011). Moye et al. (2014) argue that "knowing something and knowing how to do something is very different" (p. 22). The systematic nature of academic

professional development is necessary to maintain, improve, and "broaden knowledge and skill necessary for the execution of professional and technical duties" (Brereton, 2004) throughout academics' working life (p. 15).

The lack of understanding of e-learning is a major stumbling block for technology adoption of ODeL by academics in HEIs. The study revealed many participants, including those in management roles, had little understanding of what e-learning entails. This greatly impacted how e-learning was implemented and adopted. Given that it directly affects the teaching and support of students in distance education, e-learning requires appropriate, practical, and timely training and development. Academic professional development is necessary for sharpening the craft of teaching in open and distance HEIs.

Professional development equips academics with relevant e-learning competencies, skills, and knowledge, and prepares them to adopt e-learning. The findings confirmed the interplay of the two frameworks underpinning this study, and showed that certain key facilitating and moderating factors greatly impact the success of e-learning projects. The findings also revealed that the relevant e-learning competencies that come through intentional training and skill development (TPACK), e-learning policy and leadership, recruitment practices, age, and other factors directly impact the behavioural use of technology by academics.

Conclusion

Lecturers' professional development and readiness are key factors in implementing online learning in ODE and higher education contexts. These factors are more important for Africa and developing countries in other continents in which online learning is still new. When lecturers lack key digital skills and knowledge relevant to teaching and

supporting students in online environments, this can frustrate both the educators and their students.

Based on the findings of this study, we recommend that e-learning implementation projects in ODE institutions in African HEIs be driven by the development of a comprehensive e-learning policy and other relevant policies. An e-learning policy is paramount to the health of any institution. The e-learning policy should include a clear and comprehensive statement of what constitutes e-learning and blended learning. This statement can be defined by the institution for their context, or adopted from a working definition taken from another context.

Policy development should be followed by skills auditing and needs assessment. This should reveal the true health of e-learning skills at the institution *before e-learning is fully implemented.* The skills audit report should be used to design and develop needs based and timely training interventions to close the skills gaps and prepare lecturers for the e-learning project. It may be beneficial for HEIs in these contexts to further research and investigate how policy can affect the implementation of e-learning, and how ODeL policies align with the preparation of academics to use e-learning systems.

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