ISSN: 2278-4012, Volume:5, Issue:4, October 2016

Challenges Hindering Student Teachers on Teaching Practice in Coping with E-Learning Environment: The Case of Morgenster Teachers' College, Zimbabwe

Logic Magwa, BEd, MEd

Morgenster Teachers' College

Prince Mkosana, BEng, MEng

Lalapanzi Secondary School

Abstract

The study sought to explore the challenges hindering student teachers on teaching practice in coping with e-learning environment. This study examined student teachers and lecturers competencies in using e-learning, status of e-learning infrastructures in practicing schools and colleges, interests and commitment of lecturers in using e-learning and lastly the availability of funds to implement e-learning in primary schools and colleges. This study adopted the descriptive research design which employs qualitative approach. A sample of 20 subjects was drawn. Interviews and focus group discussions were used to collect data from participants. It was found that, practicing schools and colleges lack adequate ICT and e-learning infrastructures. Furthermore the study revealed lack of relevant e- learning skills on the side lecturers. The study also established lack of interests and commitment by lecturers in using e-learning. Lastly the study revealed unavailability of funds in practicing schools and colleges to support e-learning programs. The study recommends comprehensive training of lecturers and student teachers on e-learning and expansion of ICT and e-learning infrastructures in practicing schools and teacher training colleges. Lastly the study recommends motivation of lecturers to use e-learning and convert their courses materials to e-content.

Keywords: student teachers, teaching practice, e-learning

Background of the study

Within the past two decades, schools, colleges and universities in developing countries have been confronted with significant changes in their external environments. They are forced to respond to emerging challenges and global trends in education such as continual developments and penetration of information and communication technologies (ICTs) in education (Lumadi 2014). In this sense e-learning programs have become a necessity in higher education institutions (Islam, Beer and Slack 2015). In the same vein, Arkorful and Abaidoo (2014) assert that e-learning has come to be more and more important in institutions of higher education. What is worrisome is that despite increasing desire to implement e-learning programs and the incessant penetration of information and communication technologies in the education sector, student teachers on teaching practice who are supposed to be using e-learning on research projects, assignment writing, communication and researching, scheming and planning are not making use of it. They are frequently visiting the college with research projects and assignments on hard copies to consult their lecturers, leaving pupils unattended in schools. Given this fact, this study

ISSN: 2278-4012, Volume:5, Issue:4, October 2016

sought to explore challenges hindering student teachers on teaching practice in coping with e-learning environment.

Researchers on e-learning have made much emphasis on its benefits (Tarus 2011, Piskurich 2004, Lumadi 2014, Aung 2015). In line with this view, Arkorful andAbaidoo (2014) confirm that several studies and authors have focused heavily on benefits or advantages derived from the adoption of e-learning technologies in schools (Mare 2002, Wentling et al 2000,Klein and Ware 2003, Nichols 2003, Hameed et al 2008,Algahtani 2011). Other studies (Sadler-Smith 2000, Singh 2001, Hemsley 2002) also paid attention on the advantages or benefits of e-learning to students. Not much is discussed on challenges hindering student teachers on teaching practice from using e-learning. There is little attention in this area, hence the great need for this study to improve the use of e-learning by student teachers on teaching practice.

An overview of e-learning

Definition of e-learning

The origins of the term is vague and there is much uncertainty concerning the characteristics of the term e-learning (Moore, Dickson-Deane, & Krista, 2011). Some authors assert that e-learning must be strictly accessible using technological tools that are either web-based, web-distributed, or web-capable. Rosenberg (2001) in this vein defines e-learning restrictively as “the use of internet technologies to deliver a broad array of solutions that enhance knowledge and performance”. Other scholars assert that the use of electronic devices to deliver learning content is a sufficient descriptor of the term. Ong, Lai and Wang (2004) agree with this assertion and hence defined the term as: “instructional content or learning experience delivered or enabled by electronic technologies.”A third school of thought, which includes Ellis (2016) and Triacca et al. (2004) believe that some level of interactivity needs to be included to make the definition truly applicable in describing the learning experience. Lehner, Nosekabel and Lehmann (2003) agree and their definition is broader and includes the use of internet, intranets, extranets, audio and video devices, satellite broadcasts, mobile and wireless learning applications and interactive television for content delivery as well as interaction among participants. Nosekabel and Lehmann’s expanded definition will be adopted for use in this paper.

Types of e-learning

E-learning, as discussed above refers to the use of information and communications technology (ICT) to enhance and/or support learning in tertiary education.

In light of this, E-learning can be divided into several different categories. Across the types of e-learning, the common factor is a campus-based educational institution which offers the courses, but using e-learning tied to the Internet or other online network to varying extents.

- **Web-supplemented courses**

These focus on classroom-based teaching but some material such as the course outline and lecture notes on line may be put online for individual access by the students, use of e-mail as well as links to online resources.

ISSN: 2278-4012, Volume:5, Issue:4, October 2016

- **Web-dependent courses**

Web dependent courses require students to make use of online resources for key elements of the programme such as discussions, assessmentand online project/collaborative work. Despite this requirement there is very little or no reduction in classroom time.

- **Mixed Mode**

The e-learning element replaces classroom time. Online discussions, assessment, or project/collaborative work replace physical interaction between the learner and the teacher. Classroom hours are still a significant portion of the study programme though.

- **Fully Online**

In fully online courses, the learner can follow courses offered by the institution in one locale from a different locale or time zone

Dimensions of e-learning

In addition of the types of e-learning described above, it is also essential to note the dimensions of e-learning which cut across the spectrum of the e-learning types (Wagner, N., Hassanein, K., & Head, M., 2008). Four dimensions have been identified which will be briefly described here:

1. **Synchronicity**

E-learning can be real-time (synchronous) or flex-time (asynchronous). Synchronous e-learning requires learners to be present at the time of content delivery. Synchronous technologies include video conferences, online lectures via webcams and electronic whiteboards (Romiszowski, 2004). Asynchronous applications consist of programmed instruction and tutorials that enable and allow students to work through the content at their own pace and in their own space and time.

2. **Location**

Learners may be involved in e-learning from spatially dispersed locations as is the case with distance education (distributed) or from the same location, for example in a classroom, people may make use of a Group Support System (GSS) to work on an assignment (Gunasekaran et al, 2012).

3. **Independence**

E-learning applications vary in that they offer different and varying scopes for collaboration. Some courses may be entirely independent and individual while others allow a group learning and collaborative effort such as discussion forums and chat rooms.

4. **Mode of delivery**

The mode of content delivery may be entirely electronic or may be a mixed approach in which electronic and classroom delivery are blended to a desired degree. Many contemporary e-learning offerings are blended to utilise the best of both worlds (Jack and Curt, 2001).

ISSN: 2278-4012, Volume:5, Issue:4, October 2016

The dimensions discussed above are summarised in Table 1 below

Table 1: The dimensions of e-learning

Dimension	Attribute	Meaning	Example
Synchronicity	Asynchronous	content delivery occurs at a different time than receipt by the student	lecture module delivered via email
	Synchronous	content delivery occurs at the same time as receipt by the student	lecture delivery via web cast
Location	Same place	students use an application at the same physical location as other students and/or the instructor	using a GSS to solve a problem in a classroom
	Distributed	Students use an application at various physical locations, separate from other students and the instructor	using a GSS to solve a problem from distributed locations
Independence	Individual	students work independently from one another to complete learning tasks	students complete e-learning modules autonomously
	Collaborative	students work collaboratively with one another to complete learning tasks	students participate in discussion forums to share ideas
Mode	Electronically only	all content is delivered via technology, there is no face-to-face component	an electronically enabled distance learning course
	Blended	e-learning is used to supplement traditional classroom learning	in class lectures are enhanced with hands-on computer exercises

Adapted from (Wagner, N., Hassanein, K., & Head, M., 2008)

Uses of e-learning in institutions of higher education

E-learning may be used to gain access to higher education. For a given segment of the student population, e-learning maybe a component of a traditional course while for others, whole courses may be accessed online. E-learning therefore provides the opportunity to learn to people who would have otherwise not been able to due to geographic, monetary and time constraints (Kabassi and Virvou, 2004).

E-learning provides institutions of learning with a wider reach (Young, 2001). Students who the institution may have not been able to reach due to geographic dispersion are easily accessible due to e-learning. Further to this, the integration of technology into the classroom to facilitate lecture delivery increases the opportunity for pedagogic innovation and enhanced learning.

Within the educational institutions themselves, the role of e-learning is increasing gradually and e-learning is projected to be a US$107 billion dollar industry by 2015 (McCue, 2014). Lecturers can utilize e-learning resources to issue out assignments, students may utilize the same platform for assignment submission, online discussions with their peers, collaborative projects as well as carry out academic research online.

ISSN: 2278-4012, Volume:5, Issue:4, October 2016

Research problem

Despite the importance of e-learning in institutions of higher education, student teachers on teaching practice are not coping with e-learning environment. Given this fact, this study sought to explore the challenges hindering student teachers on teaching practice from using e-learning.

Methods

This study was guided by 4 research questions and these were:

1 What is the status of ICT and e-learning infrastructures in practicing schools and teacher training colleges?

2 Do lecturers show interest and commitment in using e-learning?

3 Do lecturers and student teachers have technical skills on e-learning?

4 What is the situation pertaining to the availability of funds to support e-learning programs in practicing schools and colleges?

Sample

The sampled participants comprised of 10 general lecturers, 2 ICT lecturers and 8 student teachers from two selected practicing schools in Masvingo District. Distance from researcher's workplace to each of the particular schools was a factor to be considered in the selection of the practicing schools. Student teachers are exposed to different environments in their practicing schools hence the need for participant representation from all types of schools within the district that is 1 urban primary school and 1 rural primary school. From each school, 4 student teachers were selected. Preference was given to student teachers with good record on teaching practice since it was believed that these students would provide correct and rich information on challenges hindering them from using e-learning. General lecturers were purposively selected. The criteria was to target one lecturer from each department who had more years in the department as compared to the one who would have recently joined the department. Two ICT lecturers were selected purposively since they were the only ICT lecturers at the college. They were believed to have rich information on challenges hindering student teachers from using e-learning. In the selection of lecturers and student teachers, the researcher also considered gender balance so that views were obtained from both males and females. A total of 20 participants made up the sample of this study.

Instruments

This study adopted the descriptive research design which employs qualitative approach. Descriptive research design through the use of interviews and focus group discussions helped to give rich explanation on issues pertaining to the challenges hindering student teachers from using e-learning. Interviews and focus group discussions were the main tools for data collection. Semi-structured interviews were used to collect data from 10 general lecturers and 2 ICT lecturers since they were few. Focus group discussion was used to supplement information from semi-structured interviews. Focus group discussion was used to collect required information from

ISSN: 2278-4012, Volume:5, Issue:4, October 2016

student teachers. This is likely because student teachers are likely to express themselves freely when they are in groups where responses cannot be traced back to them. This means that the researcher cannot identify a given response with a given participant. Group dynamic in focus group discussions enabled student teachers to be able to build on each other's ideas, experiences and comments to produce data rich in detail that is difficult with other research methods like interviews.

Data Analysis

Data were analyzed using content analysis in this study. Researchers extracted the information relating to the critical questions from participants. A thematic approach was adopted in this study. The following themes were used in this study.

- Status of ICT and e-learning infrastructure
- Interests and commitment to use e-learning
- Technical skills on e-learning
- Availability of funds to support e-learning programs

Ethical Issues

Prior to entering research sites, permission to carry out the study was granted by the Ministry of Higher and Tertiary Education, Science and Technology Development. The purpose of the study was explained to the participants. Participants were informed during research process that they were allowed to withdraw from the study anytime. The researchers assured participants that the information collected would be kept confidential and used for the purpose of the study only.

Findings

The findings of the study are presented based on research questions which are:

1. What is the status of ICT and e-learning infrastructures in practicing schools and colleges?
2. Do lecturers show interest and commitment in using e-learning?
3. Do lecturers and student teachers have technical skills on e-learning?
4. What is the situation pertaining the availability of funds to support e-learning programs in practicing schools and colleges?

What is the status of ICT and e-learning infrastructures in practicing schools and colleges?

The question intended to find out if practicing schools and teacher training colleges had adequate ICT and e-learning infrastructures. It was revealed in this study that inadequate ICT and e-learning infrastructures was one of the major challenges hindering student teachers on teaching practice from using e-learning. Lecturers pointed out that, although infrastructures like

ISSN: 2278-4012, Volume:5, Issue:4, October 2016

computers, network, internet connectivity and computer labs were available at the college, some of the staff members in other departments did not have access to internet at the college, hence could not access e-learning platform. Furthermore, they added that it was very difficult for their student teachers in rural primary schools to access internet. During interviews with general lecturers, one of the lecturers had this to say:

Our college has made some progress in improving ICT and e-learning infrastructures but some of lecturers in other departments do not have access to internet at the college. Again the problem comes when our student teachers go out for teaching practice. Most of the primary schools in rural areas do not have ICT and e-learning infrastructure.

This was also confirmed by student teachers on teaching practice during focus group discussions. They expressed their sentiments as follows:

Inadequate ICT and e-learning infrastructures in our practicing schools is a major challenge hindering us from using e-learning for researching, communication with lecturers, research projects, assignments submission, scheming and planning.

In the same vein, Tarus, Gichoya and Muumbo (2015) confirmed that infrastructure plays a key role in the implementation of e-learning.(Al-Mobaideen, Allahawiah, & Alkhawaldeh, 2011) reinforce the same. Their own study indicated a huge impact of the available infrastructure on the effectiveness and adoption of e-learning systems in educational settings.

Do lecturers show interest and commitment in using e-learning?

The question sought to find out whether lecturers had interest and commitment in using e-learning. It was established that lack of interest and commitment among the majority of lecturers was hindering student teachers on teaching practice in coping with e-learning environment. It came out clearly that it is time consuming to develop e-learning content. Developing content takes a long time hence, which hinders the implementation of e-learning in teacher training colleges. This was also cited as a cause for lack of interest and commitment in using e-learning by teaching staff. In connection with the above issue, Khan, Hasan and Clement (2012) also found that if teachers want to successfully use technology in their classes, they need to possess a positive attitude to the use of technology. During the interview session, one of the lecturers expressed his sentiments as follows:

We are busy with routine teaching and research tasks, so we do not have enough time to convert our courses from hard copy to e-content.

Almost similarly, student teachers who were responding to the same question during focus group discussion expressed their sentiments as follows:

It is very difficult for us to cope with e-learning environment because our lecturers do not want to leave their traditional way of teaching. They do not want to convert their courses from hard copy to e-content for us to access them without having direct contact with them.

This was also confirmed by Tarus (2011) who assert that developing one complete e-learning course requires a longer period of time as well as resources such as computer and reliable

ISSN: 2278-4012, Volume:5, Issue:4, October 2016

internet connectivity. HoweverTarus, Gichoya and Muumbo (2015) argue that once a course has been developed in digital format, it is easier and less time consuming to maintain and update.

Do lecturers and students have technical skills on e-learning?

The question intended to find out whether lecturers and student teachers had technical skills on e-learning and e-content development. The study revealed that although there was compulsory ICT and e-learning courses at the college for first year student teachers to equip them with ICT and e-learning skills, some lecturers had basic computer literacy skills which were not adequate for them to use e-learning in teaching. During focus group discussion, one of the student teachers expressed her sentiments as follows:

I am frequently visiting the college to consult my supervisor on research project because my research supervisor has insufficient knowledge about e-learning, so he preferred face to face interaction in traditional education systems.

This was also confirmed by ICT lecturer who expressed her sentiments as follows:

Majority of lecturers lack skills on the use of e-learning in teaching and learning. Lecturers without background of ICT lack the necessary skills required to develop e-content.

Almost similarly, a study by Tarus, Gichoya and Muumbo (2015) also revealed the same that lack of technical skills on e-learning and e-content development by the teaching staff was hindering the implementation of e-learning in colleges.

What is the situation pertaining the availability of funds to support e-learning programs in practicing schools and teacher training colleges?

This question intended to find out if practicing schools and colleges had adequate funds to support e-learning programs. It was revealed that financial constraints were among the challenges hindering student teachers from using e-learning. Implementation of e-learning is generally expensive for an average college at initial startup stages (Tarus, Gichoya and Muumbo 2015). It was established that although the college was prioritizing e-learning in their budgetary allocations, primary schools where students were attached did not prioritize e-learning in their budgetary allocations. Responding to this question during interview session, ICT lecturer indicated that:

Although the college can afford to procure adequate internet bandwidths, some primary schools in rural areas cannot afford this. Bandwidth refers to information that can travel between computers per second. Inadequate bandwidth makes it difficult for student teachers in their practicing schools to download documents.

In this sense, primary schools where student teachers were doing their teaching practice could not afford the implementation of e-learning hence hindering its use by student teachers. Primary schools did not prioritize e-learning in their budgetary allocations. In line with this, a study by Kashorda and Waema (2014) established that on average Kenyan Universities were spending only 0.5% of their total recurrent expenditures on internetbandwidth. This means that budgetary restriction was hindering the implementation of e-learning in practicing schools and colleges.

ISSN: 2278-4012, Volume:5, Issue:4, October 2016

Conclusions:

The researcher has reached the following conclusions, inadequate ICT and e-learning infrastructures in practicing schools and teacher training colleges is one of the major challenges hindering student teachers in coping with e-learning environment. It was further established that lack on interest and commitment among the majority of lecturers is also contributing a share in hindering student teachers from using e-learning. Furthermore it was revealed that the majority of lecturers have basic computer literacy skills which may not be adequate for them to use e-learning in teaching. Lastly the study established that most of the practicing schools where student teachers are attached to do not prioritize e-learning in their budgetary allocations.

Recommendations

In the light of the findings of the study on the challenges hindering student teachers on teaching practice in coping with e-learning environment, the following recommendations are made:

- Expansion of ICT and e-learning infrastructure to facilitate access to e-learning by student teachers and lecturers in practicing school and colleges.This expansion may take the form of the setting up of school laboratories equipped with the latest technological devices and equipment, the availability of an efficient backbone with Internet access and unlimited bandwidth, and also the availability of specialized centers with central reference databases as well as the availability of appropriate licensed software.
- Prioritization of ICT and e-learning in budgetary allocations just like other core activities of the school or college.
- Comprehensive training of lecturers on e-learning skills. Training of lecturers on e-learning skills is among critical determinants of successful implementation of e-learning.
- Identifying a way of motivating the lecturers to use e-learning and convert their courses materials to e-content either through being given incentives.

References

Alghatani, A. F. (2011). Durham theses. *Evaluating the effectiveness of the E-learning Experience in some Universities in Saudi Arabia from male students' perceptions*. Durham University.

Arkofu, V., & Abaido, N. (2014). The role of e-learning, the advantages and disdavantages of its adoption in higher education. *International Journal of Education and Research Vol 2 (12)*.

Aung, T. N. (2015). Challenges of implementing e-learning in developing countries: A Review. *Advances in Intelligent Systems and Computing Vol 388*, 405-411.

Croxall, K., & Cummings, M. N. (2000). Computer usage in family and consumer sciences classrooms. *Journal of Family and Consumer Sciences Education 18 (1)*, 9-18.

Ellis, R. K. (2016, August 25). *Learning Circuits*. Retrieved from Association for Talent Development: http://www.astd.org/LC/2004/0704_allen.htm

Gunasekaran, A., McNeil, R., & Shaul, D. (2002). E-learning: research and applications. *Industrial and Commercial Training*, 44-53.

Hameed, S., Badii, A., & Cullen, A. J. (2008). Effective e-learning integration with traditional learning in a blended learning environment. *European and Mediterranean conference on Information Systems*, (pp. 25-26).

Hemsley, C. (2002). Jones International University's focus on quality e-learning opens doors for students worldwide. *Business Media 39 (9)*, 26-29.

Islam, N., Beer, M., & Slack, F. (2015). E-learning challenges faced by academics in Higher Education. *Journal of Education and Training Studies Vol 3 (5)*.

Jack, Z., & Curt, U. (2001). Why blended will win. *Training and Development, 55 (8)*, 54-60.

Kabassi, K., & Virvou, M. (2004). Personalized Adult e-Training on Computer Use Based on Multiple Attribute Decision Making. *Interacting with Computers, 16*, 115-132.

Kashorda, M., & Waema, T. (2014). *E-Readiness Survey of Kenyan Universities.* Nairobi: Kenya Education Network.

Khan, S., Hasan, M., & C, C. (2012). Barriers to the introduction of ICT into education in developing countries:The example of Bangladesh. *International Journal of Instruction Vol 5(2)*, 61-80.

Klein, D., & Ware, M. (2003). E-learning: New opportunities in continuing professional development. *Learned Publishing 16(1)*, 34-46.

Lehner, F., Nösekabel, H., && Lehmann, H. (2003). Wireless eLearning and Communication Environment. *e-Services Journal 2*, 23-41.

Lumadi, M. W. (2014). Challenges Besetting Teachers in the Implementation of e-learning in schools: A Guide to Curriculum Development. *Mediterranean Journal of Social Sciences Vol 5(20)*.

McCue, T. J. (2014, August 27). *Online Learning poised for $107 Billion in 2015*. Retrieved from Forbes: www.forbes.com/sites/tjmccue/2014/08/27/online-learning-poised-for-$107-billion-in-2015/#724f49a66bcc

Moore, J. L., Dickson-Deane, C., & Krista, G. (2011). e-Learning, online learning, and distance learning environments: Are they the same? *Internet and Higher Education 14* , 129–135.

Nichols, M. (2003). A theory for e-learning. *Educational Technology and Society Vol 6 (2)*, 1-10.

Ong, C. S., Lai, J. Y., & Wang, Y. S. (2004). Factors affecting engineers' acceptance of asynchronous e-learning. *Information & Management 41(6)*, 795-804.

Romiszowski, A. (2004). How's the E-learning Baby? Factors Leading to Success or Failure of an Educational Technology Innovation. *Educational Technology, 44 (1)*, 5-27.

Rosenberg, M. J. (2001). *E-Learning:Strategies for Delivering Knowledge in the Digital Age.* Columbus: McGraw-Hill.

Sadler-Smith, E. (2000). "Modern" learning methods: rhetoric and reality. *Personnel Review 29(4)*, 474-490.

Singh, H. (2001). Building effective blended learning programs. *Educational Technology 43(6)*, 51-54.

Tarus, J. (2011). Thesis submitted in partial fulfilment of the requirements for the degree of Master of Philosophy (Information Technology). *Adoption of e-learning to support teaching and learning in Moi University*. Moi University.

Tarus, J., Gichoya, D., & Muumbo, A. (2015). Challenges of implementing e-learning in Kenya: A case of Kenyan Public Universities. *International Review of Research in Open and Distributed Learning Vol (16).*

Triacca, L., Bolchini, D., Botturi, L., & Inversini, A. (2004). Mile: Systematic usability evaluation for e-Learning web applications. *AACE Journal, 12(4).*

Wagner, N., Hassanein, K., & Head, M. (2008). Who is responsible for E-Learning Success in Higher Education? A Stakeholders' Analysis. *Educational Technology & Society, 11 (3),* 26-36.

Wentling, T. L., Waight, C., La Fleur, J., Wang, C., & Kanfer, A. (2000). E-learning: A review of literature. *Knowledge and Learning Systems Group NCSA 9*, 1-73.

Young, K. (2001). The Effective Deployment of e-Learning. *Industrial and Commercial Training, 33 (1),* 5-11.