

Research proposal

Research topic

Understanding experiences of the users of cell phones as a teaching and learning platform: A case study of three African Teacher Education institutions.

The problem statement

The African academic mission is to ensure the highest possible quality of education in a changing Africa (Deta conference, 2011). The modern African citizens are born in the advances of digital resources. The African citizens need an optimal access to digital and academic resources and current information to promote effective decision making. Research reveals that almost 99% of student teachers in any given African Teacher Education Institution owns advanced Mobile phones (Kreutzer, 2008), and pedagogical promises of this tool have partially been explored and integrated in the African Teacher Education Sectors. Likewise, Conole (2009) argues that the use of cell phones in the curriculum may transform education by providing a wealth of resources, new forms of communication and virtual learning environments. Moreover, Siemens (2004) emphasizes that Cell phones in pedagogy promotes access to sources of information through social networks. Social networks involve peers, colleagues, parents, principals, students, lecturers and consultants. The researcher has been teaching at two campuses of the Lesotho College of Education, approximately, 170 KM away from each other, and used to spend at least one week at each campus. Cell phones have been the major tool (platform) for students' consultations with the facilitator (the researcher). The cell phones have been working very well in both campuses. Students' performance has never been sacrificed or compromised in any way due to the lecturer's absence while offering the course at another campus. Communication between students and the facilitator (researcher) was satisfactory. Students were able to seek clarity from the facilitator via their personal cell phones. In contrary, very few lecturers (including the visiting lecturers at the Lesotho College of Education, in the two campuses) and other lecturers at the institutions of higher learning in the African context are

using cell phones as teaching and learning platform. It is significant to understand and produce data on experiences of users of Cell phones in pedagogy. It is hypothesized that: (a) not all qualified African teachers who graduated from African Teacher Education Institutions would stay with teaching profession as subject tutors. Equally, Wordpress (2007) suggests that people learn to learn as they learn. Learning is an innovative and talent discovery process. Individuals gather important information from which bases of crucial decisions are made. The African Teacher Education curricula may provide a platform from which student teachers would be able to identify other possible professions and such potential talents may be motivated during lecture hours. It is also hypothesized that: (b) Mobile phones promote student support (access to digital resources) and in contrary, they could aid cheating during Exams. (c) It is also hypothesized that African Teacher Education are not producing skills that match the market demands. Many African citizens are qualified to do a number of jobs, however, they are unemployed.

Rationale for the study

The African students possess diverse learning preferences and therefore corresponding talents. Two musicians amongst the population of student teachers have already composed and produced copies of audio CDs during the academic period year 2010- 2011. There is a need to listen to their views as well as the intended professions. HIV/AIDS vulnerable children may also enjoy working with technology for psychosocial support. They could be able to make arrangements to meet with their counsellors with ease. They may also want to get information on HIV/AIDS related issues. Cell phones might be suitable media in such cases because they are affordable to many learners. It may also be important and cost-effective for the African tertiary institutions to liaise with the Primary, Secondary and High school managers, to jointly concentrate on and produce the skills and a caliber of human resource wanted in the industries. Furthermore, the increasing demand for educational services by all the members of the African society could as well be easily addressed by integrating mobile learning technologies such as cell phones, which can support self-directed learning and attend to the needs of a bigger student population, and in this way, space and distance may not hinder learning (Birch & Burnett, 2009). Many cell phones are available at affordable costs and are also user friendly with a bigger population of African citizens (Lynne, 2007). There may be no tricky technical skills required for their operation and application in education. Lynne (2007) further argues that if a student is slow

to copy notes from the board, pictures can be taken of the missed notes and accessed later. Many African citizens are not able to access education due to a shortage of competent teaching staff and learning facilities such as lecture theatres.

Location of the study

This study will be conducted in three African Teacher Education institutions.

Purpose of the study

The purpose of this study is to understand experiences of the users of cell phones in teaching and learning in African institutions of higher learning.

Objective of the study

The objective of the study is to explore the use of cell phones in teaching and learning of Commercial courses. Cell phones could be used to enhance a quality of education if used as teaching and learning platform (Bates, 2006). Students can learn better from interactions and collaborations with peers, course facilitators and physical engagement with learning content. Technological devices such as picture cell phones have become popular features since their introduction. They take pictures as camera does and send it to another cell phone on email or via the Bluetooth. The picture cell phone technology has advantages similar to a digital camera (ArtilBase, 2008). Moreover, Sparxoo (2009), in Tech Trend; Digital Identityø states that every social network serves a specific purpose. For instance, Link In is for professional development, Face book is for life ócastings, MySpace is for music sharing. All of these positive aspects of mobile technology motivated the study to understand and improve if necessary, the teaching and learning using cell phones, to explore full potential of cell phones in the curriculum. The aim is therefore, to promote access to a kind of learning that could expand educational and employment opportunities for all African citizens. To share with the African Teacher Educations skills preferred in the market place and therefore teach accordingly. African continent is still faced by a serious level of unemployment in the presence of qualified and skilled citizens.

Chances for the use of virtual learning environments are increasing due to the integration of mobile learning technologies in pedagogy (Bates, 2006).

Significance of the Study

The study is hoped to share and provide knowledge and insight with other lecturers in the African countries about the usefulness of cell phones in virtual learning environments. Again, to bring to the attention of lecturers, teachers, students and parents that cell phones have not yet been fully used to their capacity in pedagogy. Based on the researcher's experiences, the demand for higher education by the members of the societies in the African context exceeds the number of training facilities provided by the institutions of higher learning. Many applicants are denied admissions into African tertiary institutions due to a lack of physical infrastructures such as lecture theatres, residential facilities etc. If admitted, all students learning preferences are not yet catered for and motivated. Gardener (2009) argues that failure to consider learner's intelligence, simply suggests that a certain talent is not appreciated. In contrary, all children have specific needs and equal rights to education. I believe a possible solution to this challenge, could be through the establishment of virtual classrooms or universities with the use of cell phones, video conferencing, and varied teaching strategies as well as instructional materials. The African Teacher Education institutions have to offer courses and programmes that minimize a level of unemployment as well as promoting retention of qualified teaching staff in the field of pedagogy. The study is therefore hoped to identify skills currently required in the market place, so that the tertiary institutions may concentrate and produce end product that is competent and confident enough to address emerging challenges in the African continent. Again, to put in place possible pedagogical strategies that instructional technology facilitators may create to accommodate all multiple intelligences and talent discovery amongst the African student teachers.

Review of related literature

A lot of research has been done on other forms of learning technologies and their effects on pedagogy in both local and international level. They involve teaching resources such as moodle, cell phones, smart boards, Symposium, Visualizers, Newspapers, Posters, and Learning Management Systems etc.

This section will present a review of literature based on the use of cell phones in teaching and learning at both locally and international levels. It will involve the findings of other previously conducted research projects about the use of cell phones in pedagogy (Thornton & Houser,

2004). There are many different types of cell phones, such as the standard cell phones, two-way radio cell phone, picture cell phone, video cell phone, PDA (Personal Digital Assistant) cell phone, and touch screen cell phone (Articlesbase, 2007). One of the newest introductions in the cell phone market is the new touch screen user to browse the internet with ease, collect and play multimedia files which seems to be enjoyed by many users. The introduction of 3G (Third Generation) protocol is of the greatest significance in this regard. Things such as Synchronous communication, Internet access, skipping are highly possible with the help of this device (Liz Kolb, 2010). In support to this, Bracey (2008) argues that when an individual has lost the mobile phone, it is as serious as losing the part of such individual's brain. The role and value of cell phones in pedagogy may be equally important as that of human brain. Thornton and Houser (2004) presented three projects in mobile learning technology. They first polled 333 Japanese university students regarding their use of mobile devices. The findings of their research projects revealed that hundred percent of the students reported owning mobile phones, 99 percent sent email on their mobile phones, exchanging some 200 messages each week. 66 percent of the students emailed peers about class activities, while 44 percent of them emailed for studying. The above research results imply the value of cell phones use in pedagogy.

Regardless of their significant role in education, some people find it very difficult and expensive to always have airtime for recharging their (pocket computers) cell phones, and therefore such presents a challenge to the users of this brand of technology (Lynne, 2007). There are a number of constraints for a sustainable integration of cell phones as a teaching and learning platform in the curriculum. Liz Kolb (2010) states that other users of cell phones in pedagogy, observe cheating during tests via mobile phones and therefore think that banning the devices rather than educating the students, is the appropriate answer.

In the study, conducted by Mitchell (2010), based in Uganda, it is implied that the portability and always on features of the cell phone, along with increasing capability for the devices to carry and transfer data suggest that they would reach more people than computers and the Internet in coming years. Self-reported quantitative survey data from 1503 secondary school students in Mbarara, Uganda collected in 2008-2009 suggested that 27% had cell phones and about half (51%) of all students and 61% of those who owned a cell phone believed that they would access a text messaging-based HIV prevention program if it were available.

In another literature drawn from the study conducted in Malawi, it is emphasized that elders are a valuable source of knowledge for the schools and villages. However, this knowledge has not been systematically connected to the school curriculum, due to social and technical barriers (Glasson & Evans, 2009). In many cases young generations are left behind with important issues in most countries because of poor social networks that do not seem to exist between their elders and themselves. As a result, a smooth flow of knowledge from one generation to another might not be possible. As an important goal of primary school curriculum in Africa, the aim is for the children to learn from the elders in the community. As it stands presently, there is a big gap of information between the young generation and their community elders. A lot of history for the cultures, norms and values of the African community seems to be hiding from a larger population of young generation. Each generation should at least be able to trace its origin as well as its identity. Establishing technological connections between indigenous knowledge and school curriculum is particularly important when posed within the context of developing nations that are struggling to modernize and improve the educational experiences of their citizens in the midst of widespread challenges such as poverty, hunger, diseases, lack of infrastructure and environmental degradation.

Much focus here was in the primary and secondary schools. The report slightly touches on experiences of the users of mobile phones in the tertiary level which indeed gives a reason for this research project to further explore the experiences of the users of cell phones in the international tertiary institutions.

Theoretical Framework

The study will employ Construct-Connect Theory; the combination of (Constructivism: Wordpress: 2007 & Connectivism: Siemens, 2004). The two theories correlate well with the use of cell phones in the pedagogy because they advocate for discussion, chatting and using SMSs to promote social networking as advocated by principles of the theory (Woodill, 2007). It is on these grounds that these theories are relevant to this study. The principles stipulate that; learning is a process of creating social networks, learning and knowledge rests in the diversity of opinions, learning may reside in non-human appliances (Siemens, 2004), and that learning is an active process in which learners use sensory input and construct meanings out of it, learning is a social activity and motivation is a key component to learning (Wordpress, 2007). Modern

African learners are born in a period of digital age in which they access electronic resources and current information. They are already motivated to handle and interact with mobile phone on a daily basis. Educators need to design relevant educational software and digital resources that could be posted for constructivist and connective learning. Research reveals that almost 99% of student teachers in any given African Teacher Education Institution own advanced Mobile phones (Kreutzer, 2008), and pedagogical promises of this tool have partially been explored and integrated in the African Teacher Education Sectors. The learning Model of Construct-Connect theory will be drawn, labeled and explained.

Paradigm followed

The study will engage interpretive paradigm. Interpretive based studies are meant to understand issues such as experiences and interactions of research participants with a related phenomenon under study (Neuman, 2003). The paradigm correlates very well with the topic: understanding experiences of the users of cell phones in the field of pedagogy. It studies the opinions and feelings of the academics and students who are using cell phones in the curriculum. For interpretive researchers, social reality is based on people's definition of it. The interpretive approach holds that social life is based on social interactions and socially constructed meaning systems. Users of cell phones in the pedagogy may have useful experiences with this technology to share with their colleagues. It is on this grounds that interpretive paradigm is chosen for the study.

Research Design and Methodology

This research project will employ a Mixed Methods Approach (a combination of quantitative and qualitative approaches). McMillan and Schumacher (2006) argue that with mixed methods design, researchers are not limited to using techniques associated with the traditional designs, namely; quantitative and qualitative. Explanatory design will be employed; the two approaches will be applied sequentially, that is to say; there will be two levels of data production. The first level will involve the administering of questionnaire to generate baseline data with students (quantitative approach) and the second level (qualitative approach) for the production of qualitative data with both academics and selected students (sub-population) of the first level (Tashakkori & Teddie, 2003). Qualitative methods will include focus group interview, individual

interviews and varied teaching strategies; relevant tools for collecting data on the experiences of the research participants which is also applicable in this research project (Maree, 2007).

Context and Sampling

Sample population: the study will engage academics and registered students from chosen African institutions of higher learning, who are using cell phones in teaching and learning commercial courses. *Sample size:* the number of participants will depend on the type of method in use because their sizes differ (Maree, 2007).

Methods of data collection

This section discloses the research instruments that will be employed in this study for data production. They involve questionnaire, focus group interviews and individual interviews;

Questionnaire

A questionnaire will be employed in this study, because it can generate more baseline data as it is targeting a larger population of respondents (Maree, 2007). Furthermore, Burns (2000) argues that questionnaires are easy to administer; they are less expensive. Funds are not required for the training of the administrators. It is also argued that a questionnaire that can guarantee confidentiality, may elicit more truthful responses than would be obtained with a personal interview (Burns, 2000). In contrary, questionnaires are unsuitable instruments when probing is desirable. One may not be able to get deeper into issues under study through the use of questionnaires if a need arises (Burns, 2000).

Focus group interview

This type of interview is capable of producing large amount of data on people's experiences (which constitutes a part of this research project) within a short period of time (Koshy, 2005). Focus group is a relevant tool for producing in depth data. However, focus group interview transcripts are not easy to develop because they are time consuming. This method will be used with the sub-population of questionnaire (from first level of data production). The participants whose responses seem to be addressing the research questions will be selected; therefore

purposive convenience sampling will be applied in this research project (Henning, 2004). A tape recorder will be used to capture responses given by the participants and then transcribed later.

Individual interview

The study will choose those lecturers who are informative about the use of cell phones in teaching and those students whose responses from focus group interview seem to be answering the research questions. The intention here will still be to collect data on cell phones users' experiences (Maree, 2007). The tape recorder will be used for capturing the responses provided by the participants and later transcribed.

Varied teaching methods

The researcher intends to employ varied teaching strategies and resources to offer lectures in instructional technology. The resources include; chalkboard, Smart board, DVD (audio-visual resources) Charts, Posters and Cell phones for interacting with student teachers in two campuses. The intention is also to identify teaching strategies which could be friendly to all registered student teachers. Students will be exposed to a set of multiple intelligences so that they could understand learning preferences of a diverse population of learners, to select or design teaching resources that also reinforce such intelligences (Gardener, 2009). The choice of such resources is done in a manner that it may reinforce potential talents existing amongst students' population. Two musicians amongst the population of student teachers have already composed and produced copies of audio CDs during the academic period year 2010- 2011. It is believed that good teaching strategies have to empower learners in all aspects. The strategy has to provide possible options for learners to choose a suitable career.

Research questions

- (a) What are experiences of the users of Cell phones as a teaching and learning platform?
- (b) How do the African Teacher Education Institutions accommodate the needs of all students?

Analysis of Data

This section of the research project will be making meanings out of the produced data. It will involve a guided analysis; theory (construct-connect theory) will be incorporated to guide the

analysis and interpretations of claims raised by the researcher. Thematic analysis (McMillan & Schumacher, 2006) will be employed at this level of the study; themes and patterns of behavior and experiences will be identified. All of the talk that fits under specific patterns will be identified and placed with the corresponding patterns.

Ensuring Validity/Reliability of the study

This section will employ different research instruments and varied pedagogical strategies to promote maximum chances to produce required data (Blaxter, Hughes & Tight, 2004). At the first level of data collection, the questionnaire will be piloted with two respondents before it is sent to the target population for data production. According to Blanche and Durham (2002), test-piloted instruments are believed to be free from ambiguities and misinterpretations that could impact on the quality of data. Likewise, the research instruments employed in this study are required to be free from any possible ambiguity.

To establish credibility at the second level of data production, all the interviews will be tape recorded, transcribed and the transcripts (member checking) confirmed later with the research participants (Maree, 2007). Furthermore, data will be collected from both experiences of course facilitators and student teachers. Likewise, Maree (2007) supports that the credibility of the research findings can be enhanced by collecting data from different sources or through employing a variety of research instruments.

Ethical issues in the study

Ethical issues refer to all the precautions, steps and efforts that researchers carefully apply to protect the research participants while interacting with them for data production (McMillan & Schumacher, 2006). It involves both pre and post interactions; transcribing and writing up of the report of the study. Permission will be obtained from the research participants including the institutions targeted for data production through the use of informed consent, which will be stipulating all ethical aspects (Bell, 2005). It will include issues such as participation is voluntary, maintaining confidentiality of sources of information, identity and anonymity undisclosed. Therefore, real names of the participants and institutions will not be used or disclosed throughout the research project (Maree, 2007).

Limitations of the Study

It is anticipated that some of distributed questionnaires may not be returned for the analysis. In such cases, the researcher will use cell phone or telephonic interviews or Skype to produce data with the research participants (Burns, 2000). It is argued that telephonic interviews can reach the unreachable places, and they are believed to be more economical than personal interview, speedy and efficient as well (Burns, 2000).

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