ACADEMICS GOING MOBILE: IDENTIFYING NEW ROLES FOR NEW TECHNOLOGIES

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Abstract

The use of mobile technologies in education has had a major impact on the pedagogy as known and understood by many academics in Open Distance Learning (ODL) institutions. The old ways of teaching in ODL is gradually been taken over by new pedagogical paradigms. Teaching using new technologies requires different specific competencies which are different from what most ODL academics are familiar with. The aim was to find competencies that are closest to the role and functions of the mobile learning facilitator. The nature of mobile technology is such that the role of the lecturer shifts from being primarily a content expert to being a learning process facilitator. However, it is important to note that the competencies needed for facilitating learning using mobile technologies should be built on the knowledge and skills base of other competencies that academics already have. The implications are that these competencies (both old and new) will provide guidance and structure for formal and informal training for distance education practitioners who will be using mobile devices in their teaching. The purpose of this paper therefore is to identify knowledge and skills that are needed to perform the role of a mobile learning facilitator with the aim of developing a professional development programme that is responsive to the competencies required. The training should give distance education practitioners opportunities to become critical thinkers, problem solvers, information literate, technologically literate and skilled in using mobile technologies.

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1. Introduction

Over the years, distance education researchers have been looking at different technologies that can be used to enhance communication thereby addressing the challenge of isolation which has been associated with the correspondence nature of distance education. One of the major challenges facing distance education institutions is to provide support for students who are not only geographically isolated from their teachers as sources of information, but who are also separated from their peers as sources of support. The challenge of isolation which has been associated with correspondence nature of distance education is even more acute in places of limited resources such as rural South Africa. The effects of such isolation on distance learners can inhibit any possibility for engagement with their study material, teachers, and peers. The role of interaction in the process of teaching and learning cannot be underestimated. Vygotsky (1930/1978) argues that social interactions are methodologies that turn experience into knowledge, with language as a medium for negotiation of teaching and learning. Students' development is determined by social interaction through problem-solving under the guidance of a teacher or in collaboration with capable peers. Cellphones holds a lot of promise for distance education as a cognitive delivery tool to enhance collaborative learning while addressing the challenge of student isolation.

The idea of using mobile technologies for education is premised on building on informal learning that most students are familiar with to develop formal learning opportunities for distance education students. These technologies have the potential to reduce the formality of learning experiences by allowing students to engage socially in their learning experiences. With the changes brought on by new technologies, distance education institutions find themselves in a position where they need to train and develop their staff in new ways of teaching. Although most teachers are competent in teacher-controlled learning environments, they find it difficult to teach technologically savvy students. The difference between what Prensky (2001) refers the digital native, that is, native

speakers of the digital language of the computers, cellphones and videogames and the digital immigrants - the older generation or teachers is that the latter tend to engage more with content while the former focuses on the tools that they use. The digital natives "have hypertext minds – they leap around … they have short attention spans – for the old ways of learning" (Prensky 2001). It is therefore necessary for the digital immigrants to recognize and acknowledge this in order to improve their practice.

The use of mobile technologies in teaching and learning has altered the roles of distance education practitioners. The old ways of teaching in distance education is gradually been taken over by new pedagogical paradigms which places emphasis on students ability to control their own learning. Mediated teaching in distance education has is focused on the relationship between the teacher and the student and student and knowledge. "The student is guided to learn to be more autonomous, participative and more responsible for his/her own learning" (Quiroz, 2003). In developing the professional development programmes aimed at skilling staff on using mobile technologies for teaching and learning, we should take in cognisance these devices will not transform the education on their own, they require teachers who can use them to improve student learning. The use of cellphones for teaching and learning cannot be adopted and sustained if distance education academics and practitioners are not trained on how to use the tool and how to integrate the technology into their own practice. The aim is to ensure that technology is not perceived as an add-on but as an integral part of the curriculum. The purpose of this paper therefore is to identify knowledge and skills that are needed to perform the role of a mobile learning facilitator with the aim of developing a professional development programme that is responsive to the competencies required. The literature review revealed that there is very little if any information on competencies for mobile technology facilitators. In the absence of relevant competencies required for facilitating mobile learning, the roles of ODL professionals and e-learning practitioners were explored. The aim was to find competencies that are closest to the role and functions of the mobile learning facilitator.

2. Competencies

Competencies are important because they serve as tools that identify skills, knowledge and behaviour that is needed to effectively perform a role. Spector, and la Teja (2001) draws a distinction between a competence and competency referring the former as a state of being well qualified to perform an activity, task or job function as the latter as a capability to function in a given situation. Therefore, competency focuses on your actual performance in a given a circumstance.

That means you need competence before you can expect to achieve competency. Van Koller (2003) further states that are different from Key Performance Areas (KPAs) which focuses mainly on intended outcomes and outputs to be achieved. Before we start with the development of competencies needed for facilitating mobile learning, it was necessary to look at the competencies for a distance education practitioner.

What makes distance education different from other forms of education is that students are physically and socially separated from their lecturers, their peers and the institution. As a result the traditional teaching techniques which emphasises the delivery of content in a lecture-based format is not as effective if the delivery has to be mediated through technology. learning (Evan & Nation, 1989). UNISA students reported social interaction as a their conception of learning (Makoe, 2007). Therefore a key competency in distance education is the ability to create an environment where students can interact with the lecturers and with each other.

In identifying the roles and competencies of distance learning professionals, Thach and Murphy (1995) reported that communication and technical skills play a critical role in distance education. Many studies of effective distance education have continually pointed to the role of communication and interaction in distance education. The character of good distance education, according to Holmberg (1981), resembles guided didactic conversation study material which simulates a face-to-face conversation between tutor and student. The structure of the educational program and the quality of the interaction between the teacher and the learner determines academic performance, according to Moore (1993). In his transactional theory, he argued for the relationship between dialogue, structure (teaching strategies and evaluation methods), and learner autonomy. However, it is important that dialogue in distance education does not rest with course design and delivery or even with the media technology selection, but it should recognise that students are key agents in their

2.1 Competencies of Distance Education practitioners (academics, professional and administrative staff)

In 1998, Unisa engaged consultants to develop a job evaluation system with the aim of devising an effective performance management system for academic staff members. The Job Evaluation and Performance Appraisal (JEPA) project was mandated to come up with KPA's and competencies among other things. They identified the following competencies:

1. Communication

2. Interpersonal skills
3. Leadership
4. Development of self and others
5. Commitment to Transformation
6. Student and stakeholder orientation
7. Quality commitment
8. Decision-making, Judgment , Critical Thinking
9. Innovation and creativity.

These identified competencies were judged as relevant to the three academic performance areas: i.e. Teaching and Learning, Research and Academic Citizenship. Although these competencies are important in distance education, they are generic and they can apply to any academic working in any other higher education institution. Distance education, by nature is different from other forms of education in that students are physically and socially separated from their lecturers, their peers and the institution. As a result the traditional teaching techniques which emphasises the delivery of content in a lecture-based format is not as effective if the delivery has to be mediated through technology.

In identifying the roles and competencies of distance learning professionals, Thach and Murphy (1995) reported that communication and technical skills play a critical role in distance education. Other areas that are critical in distance education and that were not identified by the JEPA project are:

1. Courseware design and development;
2. Facilitation of learning via ODL (assessment);
3. Collaboration/Teamwork
4. Writing skills
5. Project management skills
6. Knowledge of distance education field
7. Basic technology knowledge

(Dooley, Linder, Richards, 2003; Egan and Akdere, 2005; Thach and Murphy, 1995; Van Koller, 2003)

Egan and Akdere (2005) clustered all the competencies identified by distance education practitioners in his study under four broad themes:

:

Communication and interaction	Management and administration	Technology	Learning and instruction
interpersonal communication; facilitating collaboration and teamwork; feedback skills Writing skills	Planning skills Collaboration/Teamwork Organisational skills Knowledge of basic distance education field Project management	Basic technology knowledge Technology access knowledge Computer networking	Knowledge of support services Skills in development of student-focused learning Facilitation skills Consulting skills Assessment skills Feedback

The implications for these studies show the competencies required for a distance education practitioner provides guidance and structure for formal and informal training for distance education practitioners. It is therefore important that competencies that are considered essential in carrying tasks in distance education should serve as a construct for the development of courses.

2.1.2 Competencies of online teaching

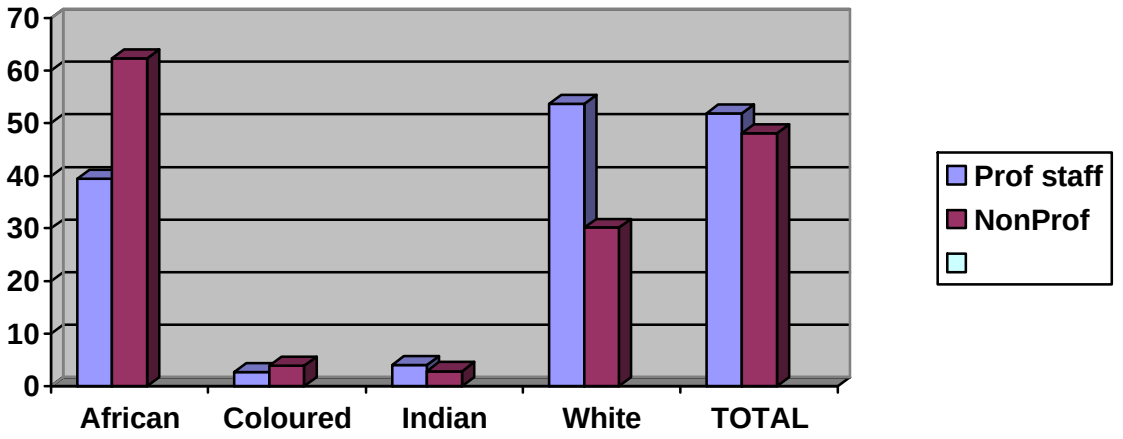
With the changes brought on by new technologies, distance education institutions find themselves in a position where they need to train and develop their staff in new ways of teaching. Although most teachers are competent in teacher-controlled learning environments, they find it difficult to teach technologically savvy students. Unlike earlier studies that emphasised communication as the most important competency in distance education (Thatch and Murphy, 1995), Egan and Akdere (2005) found that participants in their study prioritised technology as a major competency in distance education. This shows the impact of new technologies in distance education. Therefore there is a need to develop competencies that will address this need.

Teaching online, according to Queiroz (2003) requires a change in the educational paradigm from teacher-centred approach to student centred approach. Its pedagogical approach places the student at the centre of the learning. Effective learning depends on the teachers' ability to create new learning pathways that are situated and encouraging collaborative learning. However, this approach challenges the notion of teaching as an activity of transferring knowledge to the student. The new type of teaching offers a more interactive education encouraging critical thinking, communications skills, and flexibility for both students and teachers. This requires teachers to become facilitators of the learning process.

Therefore facilitators have to have to competent in the following areas:

- Student-centred instruction (McQuiggan, 2007).
- Collaborative and team work skills
- Providing structure for student but allowing for flexibility and negotiation (Smith, 2005)
- Feedback skills (McQuiggan, 2007; Smith, 2005).
- Manage student expectations (Smith, 2005)
- Developing content for online delivery
- Teach students about online learning (McQuiggan, 2007; Smith, 2005)
- Creating an effective online syllabus (Smith, 2005)
- Promote active learning
- Managing of information in the technological era
- Education technological skills

3. The UNISA context



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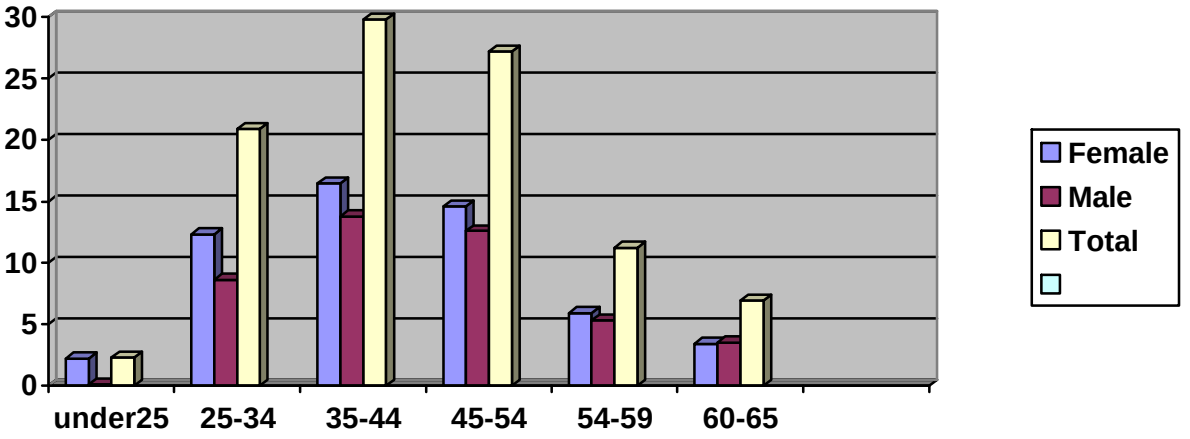

There are a total number of 4417 staff members at Unisa and this does not include the number part-time or contract workers. Of the 4417 staff members, 2296 (51.9%) are Professional staff that are made up of 62.3% of academics; 30.4% of specialist/support professional and 7.2% of Unisa staff are in executive and management positions. The non-professional staff are 2121 (48%) out of 4417 and the great majority of them 77.8% are administrative employees. These statistics will look completely different in conventional universities. In distance education academic and administrative systems are heavily integrated whereas academic and administrative systems are separate in conventional universities. The growing number of academics is in the 25 to 44 age group and people who are under 35 grew up in a technological era. Most of them are what Prensky (2004) refers to as digital natives. It therefore it may not be difficult to convince this group about the potential of using the latest technologies such as cellphones in their teaching and learning.

2.4.1 Data collection and analysis

To get a better picture of the type of knowledge and skills that Unisa staff require to perform effectively in ODL, data was collected from 66 out of 87 training representatives (academic, professional and administrative staff); 23 academics who were participating in the young academic programme and 41 learner support personnel. The staff members were initially given a survey and later there was a discussion about their needs. Both academics and administrative staff selected the following competencies as necessary for them to carry out their activities.

ACADEMICS	**ADMINSTRATIVE/PROFESSIONAL SERVICES**
1. Course design and development skills 2. Knowledge on systems and processes in ODL 3. Teaching strategies in ODL 4. Skills in developing or enhancing student centred learning environment 5. Understanding of different learner support services 6. ODL assessment strategies 7. ODL facilitation processes 8. Writing and editing skill 9. Usage of technology in ODL 10. Multimedia knowledge 11. Collaborative and teamwork skills 12. Data analysis 13. Evaluation processes and strategies	1. Knowledge on ODL systems and processes 2. Systems and technology training for administration staff 3. Customer service training 4. Communication and interpersonal skills 5. Study material tracking systems 6. Management of information 7. Web 2 training 8. Planning in ODL 9. Online development learning 10. Blended learning

Academics expressed the need for skills in teaching and facilitating learning in ODL environment, especially in the South African higher education landscape. They pointed out serious concerns about their ability to teach effectively within the constraints of ODL in the South African context. The findings emanating from discussion classes revealed that academics in general expressed the need for university systems to be improved, because problems related to support systems had a detrimental effect on their ability to complete their daily tasks. The administrative and the professional staff pointed out that the digitization of information resources has forced them to change how they have been functioning. As a result, there is a need on skills training on technology.

The implementation of mobile learning requires careful planning and commitment from all stakeholders. This can be achieved if the government formulates policies and frameworks to guide the implementation of mobile learning at a national level; institutions of higher education should also consider adopting the use of ICT in enhancing student learning; and teachers need to explore various teaching methods for effective design of instruction using mobile technologies. The South African White Paper on e-Education (2004) views "ICT development as a process that takes teachers and learners through learning about ICT, learning with ICT and learning through the use of ICT" (3). This can only be possible if teachers are equipped with the necessary knowledge and skills that they require to integrate ICT into their curriculum to support the delivery of study material. Teachers should be prepared for shifts in the way they teach and students should also appreciate the different ways of learning. This study is meant to look at ways in which teachers can be empowered with the necessary skills in order to maximise the use of these new technologies into teaching and learning.

Pedagogical imperatives of using cellphones

The nature of mobile technology is such that the role of the lecturer shifts from being primarily a content expert to being a learning process facilitator. However, it is important to note that the competencies needed for facilitating learning using mobile technologies should be built on the knowledge and skills base of other competencies that academics already have. The implications are that these competencies (both old and new) will provide guidance and structure for formal and informal training for distance education practitioners who will be using mobile devices in their teaching. The biggest challenge of ODL institutions is to come up with ways in which teachers can

be empowered with the necessary skills in order to fully utilise the affordances of mobile technology to engage students in the learning processes. Cellphones can be used as a tool to provide both synchronous and asynchronous support to learning. The former can be utilised for the facilitation of discussion while the latter can be used by the teacher to stimulate discussion amongst students by sending a question via SMS. What emerged from Makoe (2007) study is that students need non academic support that will address the problem of isolation. The character of good distance education, according to Holmberg (1981), resembles guided didactic conversation study material which simulates a face-to-face conversation between tutor and student. The structure of the educational program and the quality of the interaction between the teacher and the learner determines academic performance, according to Moore (1993). In his transactional theory, he argued for the relationship between dialogue, structure (teaching strategies and evaluation methods), and learner autonomy. However, it is important that dialogue in distance education does not rest with course design and delivery or even with the media technology selection, but it should recognise that students are key agents in their learning (Evan & Nation, 1989). Therefore students should be encouraged to participate in an active and challenging way in a learning process.

The mediating role of mobile technology to support active and collaborative learning is based on Vygotsky's, 1930/1978 socio-cultural perspective where he argues that students' development is determined by social interaction through problem-solving under the guidance of a teacher or in collaboration with capable peers. The most significant attribute of mobile technologies, according to Kukulsa-Hulme and Traxler (2005) is their ability to support situated learning. Social interaction is a critical component of situated learning – learners become involved in a community of practice which embodies certain beliefs and behaviours to be acquired (Lave & Wenger, 1991). It is a negotiation of identities between individuals in a given context. The context (that is, something that lies outside of the individual with physical and cultural elements) tends to have a significant impact on the learning experience and it is influenced and affected by many communities. Therefore, the application of mobile technology use in education should be based on the context in which learning occurs. Sharples *et al* (2005) argues that mobile learning is more strongly mediated by its context than the content of the study material. This implies that mobile devices can be used in a variety of situations as they are not restricted by physical space.

In arguing for activity theory which has been used extensively in mobile learning, Sharples, *et al.* (2005) says learning involves the subject (learner), an object (the task or activity) and tool or mediating artefacts. Tools that are available in the pedagogic activity system include curriculum, learning/teaching resources, political influence, human and intellectual resources (Robertson,

2008). This framework is appropriate in mobile learning because it analyses learning as a cultural-historical activity system, mediated by tools that both constrain and support the learners in the goals of transforming their knowledge and skills (Sharples *et* al. 2005). Human behaviour is situated within this social context that influences their actions. According to the activity theory, the teachers' disposition towards the use of technology is fundamental towards the adoption of a particular technology (Robertson, 2008).

The experience of young people or digital natives on using cellphones has a major implication for pedagogy. This demands that instructional strategies and content should be designed to adapt to students' needs (Jacobs & Isaacs, 2008). However, activities that aim to change practice should recognise the influence of established expectations and norms as well as provide examples of the new pedagogy (Robertson, 2008). The main focus of the learning process should be based on a particular theory that helps to explain the functioning people and institutions. Each theory of learning leads to an adoption of specific teaching and learning process. Learning is understood as the process of changing our frames of reference or mind sets to generate a new or revised interpretation of our beliefs and experience as a guide to future action (Kolb 1984; Mezirow, 2000). When looking at what is expected of teachers in responding to the new knowledge systems, "it becomes obvious that they have to gradually bring about change in the relationship to knowledge" (Bélisle, 2007, p.13). It therefore, becomes necessary that change in the teaching practice should be guided by one or many theories mentioned above. Sustainable change in teaching practice can only occur if professional development programmes require practitioners to engage in dialogue about practical theories of teaching and learning in order to subject them to review and revision.

The use of mobile technologies

The multimedia functionality and its simpler and user-friendly interface make cellphones easier to be used by people who may be uncomfortable with using other technologies such as computers. Since 2002, The University of Pretoria have been using SMS messages to provide administrative and motivational messages to their students. (Hendrikz, 2006). Traxler (2005) used cellphones to facilitate social interaction through asynchronous communication where a student can receive and view the message at their convenience rather than in real time. He found that that students from Kenya, showed interest in using (SMS) texting messages for learning purposes. He recommended that SMS texting can be used to support and encourage learners in a variety of ways. It can also be used to remind students about assignments, assessments or meeting as well as to deliver content such as hints, tips, revision etc. He also encouraged students to collaborate with each other on

projects. South African students who participated in the study conducted by Nonyongo and her colleagues also reported that SMS messaging is not only efficient, it is also convenient and reliable and they would prefer to get SMSs at least weekly. In evaluating the effectiveness of SMSs to support undergraduate students, Garner et al. (2002), found that students perceived the system to be immediate, convenient and personal.

Since cellphones are used for social interaction informally, they have the potential to reduce the formality of learning experiences by allowing students to engage socially in their learning experiences. Synchronous communication via cellphones platforms such as MXit were also explored in some studies (Anderson, 2007; Butgereit, 2007; Makoe, 2009). MXit is a cellphone instant messaging software where text messages are sent between participants to facilitate the process of real-time communication between individuals and groups. MXit, being a South African company is fortunate in that all the cellphone operators offer data traffic at a far lesser price than SMS traffic (Butgereit, 2007). It runs on low-cost GPRS communication system, is freely downloadable onto cellphones. Unlike SMSs that costs at least 50 cents depending on the service provider, MXit costs about 2 cent. The low cost factor of MXit makes it very attractive to young people. It has a registered user base of over 7 million people all over the world and the great majority of them are in South Africa. It has about eleven million log-ons per day and over 210 million messages sent/received per day. The number of MXit users is greater than the total number of landlines installed in the entire country. More than 80 percent of its users are between the ages of 12 and 25. The potential for using MXit is enormous considering that it is affordable, available and accessible.

MXit, as a social network, introduced a different form of language and communication. The implication is that “today’s teachers are challenged to communicate in the language and style of their students” (Prensky, 2001). However, this does not mean changing the meaning of what is important but it means understanding our students better. Vygotsky (1930/1978) argues that tools, language, and other sign systems are important not simply as representational systems, but as resources in action. He saw these tools as cultural artefacts that form the basis for patterns of social activity. In this social network, individuals were able to share common set of signs, language and behavioural norms. People who participated in this social network prefer to use pseudonyms. The anonymity nature of this network allowed shy students who may be embarrassed to ask for help in face-to-face encounters engaged freely in virtual conversations (Butgereit, 2007). This social network allowed people to belong to groups based on their underlying needs and interests without discriminating through their clothing or the way they look.

The benefit of using this social network is that it supports learning experiences that are collaborative. Through MXit, Unisa students were able to work in groups. By so doing, "students were able feel immediate identification with others in their group and so lose feelings of isolation and over anxiety" (Thorpe 1998:84). Social software such as MXit has the potential to open the distance educational discourse beyond the closed world of student-tutor dialogue (Anderson, 2007). Besides being affordable and accessible, the use of MXit provided an opportunity for Unisa students to work and support each other. Therefore, distance education providers will do well by developing guides and programmes aimed at empowering students to help each other. Supporting self-directed study groups will build communities of practice which embodies certain beliefs and behaviours to be acquired (Lave & Wenger, 1991). Using mobile devices to facilitate this is even more appropriate in this context because in most black South African cultures, group interaction is a strong factor determining values and social interaction. It is therefore important that ODL institutions recognise some of the structures that are valued in African cultures and incorporate them in the support system programme. Students can only develop their potential if they are given assistance that is appropriate and addresses their needs.

Prensky (2004) believes that mobile technologies can provide students with knowledge, skills, behaviours and attitudes that will help them succeed in their schools, their jobs and their lives. There are many learning processes that can be done though cellphones. Ford and Leinonen (2009) found that cellphones can be used to disseminate ideas and lesson plans to teachers by creating slide shows of lessons with audio narrations in all 11 of South Africa's languages. Through the development of the concept of mobile audio Wikipedia, Ford and Leinonen (2009) used SMS and text-to-speech technologies to enable access to information using voice. Through the mobile audio Wikipedia, the user would search for a term using SMS message to the server and the server calls the user and the speech synthesiser will read the article found in the Wikipedia (Ford & Leinonen, 2009). This concept is much more appropriate in Africa because of limited access to both print-based and electronic information. Students who participated in this study were able to capture information; take photos; compile slide presentation; record and store information. Despite limitations of cellphones such as screen size, young people are already inventing ways to use their phones to learn. "The differences between the digital natives' student and the digital immigrant teacher lie at the root of a great many of today's educational problems" (Prensky, 2001). He believes that instead of removing cellphones as tools of distraction and delivery devices of illicit information, educators need to figure out how to teach "in the way that fits into our students' digital lives – and their cellphones" (Prensky, 2004).

Implications for Practice

In the absence of competencies that may be required to perform this task, I drew on the roles and competencies of ODL professionals and those of e-learning practitioners. The nature of the mobile technology is such that the role of the lecturer shifts from being primarily a content expert to being a learning process design expert. The latter includes the management of learning technology; course design and development of instructional material; facilitation of mobile learning; skills with internet tools for instruction; and media attributes knowledge (Aragon & Johnson, 2002). However, it is important to note that these competencies should be built on the knowledge and skills base of other competencies that academics already have. The implications are that these competencies (both old and new) will provide guidance and structure for formal and informal training for distance education practitioners who will be using mobile learning.

Teaching using new technologies requires different set of skills and different types of pedagogies which are different from what most ODL academics are familiar with. For many years, ODL academics have relied heavily on using prepackaged study material. The assumption is that students learn best through printed material. Thorpe (2001) argues that "course materials prepared in advance of study, however learner-centred and interactive they may be, cannot respond to a known learner" (4). The ubiquitous nature of mobile learning promotes active and collaborative learning. It is important that cellphones are perceived as delivery tools used to enhance collaborative learning where students are encouraged to work together on group projects. It is through collaborative activities that students adopt a communal approach to learning by sharing responsibility for reading and explaining course material (Lentell & O'Rourke,2004). It becomes necessary that distance education providers need to explore and use new tools such as MXit to support social interaction amongst their digital native students.

Despite studies showing the benefits of using mobile technologies, Aubusson *et al*, 2009, found that teachers are not convinced about its potential to develop new ways of teaching and learning. Part of the reason may be that most teachers are digitally incompetent even though they are not admitting to it. "The shift towards the sophisticated usage of mobile devices for purposes other than personal communication may be a generation of teachers away" (Aubusson, *et al*, 2009, p.238). It is therefore important that training should focus on changing the mind-set of academics. This could be done through marketing the training not only as how to use the technology rather it should show academic staff how technology can be used to aid teaching and learning processes (Salmon, 2000). "Introducing changes with technology can only succeed if the concerned actors

have reflective understanding of their actions, their goals and their underlying processes" (Bélisle, 2007, p.6). It is therefore important to acknowledge the existing teachers' beliefs and their assumptions about the processes of learning; their established expectation and norms; notions about good teaching practices; competencies, and their understanding and commitment to practice. "Any training of teachers needs to be truly professional development, that involves, beyond skills training, changes in teachers approaches to learning, in their attitudes, values, beliefs and meta-cognitive understanding" (Bélisle, 2007).

The basic level of training should focus on how cellphones can be used to freeing the teacher to spend more time on innovative ways of improving his or her practice than spending time on administrative issues. The majority of lecturers at Unisa complained bitterly about the increasing workload on administrative functions, thereby taking valuable time from doing research and improving teaching and learning practices. It is therefore important that training must address issues of concern as well as attempt to break the teachers' unfamiliarity with the technology as they are gentle exposed to the potentials of using mobile technologies for teaching and learning. The strength of this device is that it offers learning that is intimate, spontaneous, situated and versatile. It is only when academics are familiar with the device would they be convinced of its potential and educational value that they will use it. However, "the overwhelming belief in the transformative power of technology is nowhere as important as it is in the curriculum content of training for digital competency and literacy" (Bélisle, 2007, p.10). "The justification of what we know and believe, our values and our feelings, depends on the context of biographical, historical, cultural in which they are embedded" (Mezirow, 2000, p.3). It is therefore important to consider these contexts when developing professional development programmes aimed as at facilitating the process of change. Mobile learning should not only be seen in terms of the device that students are using but in terms what students do with the device as they are learn. (Laouris and Eteokleous, 2005). Teachers' practice can only change in a fundamental way if teachers engage in self-reflection and self-awareness in relation to their practice.

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