Towards a Model for m-Learning in Africa

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Mobile learning (m-learning) is a natural extension of electronic learning (e-learning) and has the potential to make learning even more widely available and accessible than we are used to in existing e-learning environments. The role that communication and interaction plays in the learning process is a critical success factor. It is within this context that m-learning can contribute to the quality of education. It offers opportunities the optimization of interaction between lecturers and learners, among learners, and among members of communities of practice (COPs). Wireless and mobile technologies also make it possible to provide learning opportunities to learners that are either without infrastructure for access (example rural learners) or continually on the move (example business professionals). This article shares the latest developments regarding a m-learning project in Africa and proposes a model for the implementation of m-learning in higher education in developing countries.

The development and adoption rate of mobile technologies are rapidly increasing on a global scale. Mobile learning (m-learning) is consequently an emerging concept as educators are starting to explore with mobile technologies in teaching and learning environments. Already, there are numerous applications for mobile technologies in education – from the ability to wirelessly transmit learning modules and administrative data, to enabling learners to communicate with lecturers and peers on-the-go.

The success and impact of m-learning does not, however, solely depend on the technological developments and the possibilities they provide. The ability of educators to design and develop pedagogical sound m-learning opportunities and environments that enhances learning is also imperative. It is therefore not only important to understand contemporary learning theory, but also to identify those applications of mobile technologies that contribute to the optimization of teaching and learning in the new learning environment.

LEARNING IN NEW AND CONTEMPORARY EDUCATIONAL PARADIGMS

Traditionally, teaching and learning focused on the learner's mastery of particular identified content. Lecturers were seen as the most significant source of knowledge and their role was to transfer their knowledge to the learners. In contrast, teaching and learning during the past few decades, were not focused on the mastery of content per se, but rather on the production of new knowledge – a constructivist approach. Lecturers form merely one spectrum of the sources of knowledge and their role is to facilitate learning and to assist learners in producing new knowledge.

The knowledge economy and the accompanying commoditization of knowledge and available information, brought along a further step in the process. Nyiri (2002) quoted Marshall McLuhan: "The sheer quantity of information conveyed by press-magazines-film-TV-radio far exceeds the quantity of information conveyed by school instruction and texts" (p. 2). Not even mentioning the magnitude of information freely available on the Internet. Therefore contemporary educational paradigms do not only focus on the production of knowledge, but are beginning to focus more and more on the effective application/integration/manipulation/ and so forth, of existing information and knowledge.

A new type of literacy is also emerging, namely information navigation. Brown (1999) describes this as follows:

> I believe that the real literacy of tomorrow will have more to do with being able to be your own private, personal reference librarian, one that knows how to navigate through the incredible, confusing, complex information spaces and feel comfortable and located in doing that. So navigation will be a new form of literacy if not the main form of literacy for the 21st century. (p. 6)

Constructivist approaches are now also making way for social constructivism. Communities of Practice (COPs) are evolving and beginning to play a significant role in teaching and learning environments. The focus is on the effective and productive use of existing, social, and natural resources for learning. The real expert is not the lecturer, or any other person for that matter, but the COP.

Brown (1999) argued that: "If we could find a way to support and tap the community mind we might have a whole new way to accelerate learning and to capture and structure knowledge assets in the making..." (p. 10).

The implications of these new developments in educational paradigms are that educational institutions should not focus on providing only content to learners. We should focus on how to enable learners to find, identify, manipulate, and evaluate existing knowledge, integrate this knowledge in their world of work and life, solve problems, and communicate this knowledge to others.

The role that communication and interaction plays in the learning process becomes a critical success factor. It is within this context that electronic learning (e-learning) and m-learning can and should contribute to the quality of education because of the rich communication and interaction environment it provides.

NEW AND CONTEMPORARY LEARNING ENVIRONMENTS

It is a well known fact that the classical distinction between contact and distance education is disappearing as contact and distance education practices are being integrated. Although for some learners conventional contact tuition is the dominant mode of education, effective use is made of new information and communications technologies (ICTs) to enhance teaching and learning. Other, particularly adult, learners want to be freed from the limits of time, place, or pace of learning. They are life-long learners in full-time employment who require more flexible learning environments.

Optimal delivery is likely to be multi-modal or blended, where elements of contact tuition are combined with elements of resource-rich (including ICT) academic support. ICT plays an important role in the integration of contact and distance education and enables us to create appropriate flexible learning environments for both synchronous and asynchronous learning. ICT continuously offers new opportunities for the optimization of interaction and communication between lecturers and learners, among learners and of course among members of COPs.

It is within this environment and context that e-learning and especially m-learning can and should contribute to the quality of education because of the rich communication and interaction environment it provides. In terms of flexible learning, Abernathy (2001) said the following: "Mobile learning should prove to be a useful tool for blended training that employs face-to-face and remote methods" (p. 1). Nyiri (2002) states that: "Communication is the source from which m-learning emerges" (p. 1).

THE EMERGING CONCEPT OF M-LEARNING

Due to the enormous growth and development of the Internet over the past decades and the experimental use of the World Wide Web (WWW or Web) and e-mail in education, e-learning emerged as an educational concept during the 1990s and has grown into a globally accepted, even necessary mode of delivery in most educational institutions. Web-based Learning Management Systems such as WebCT, Blackboard, and others are already widely used across the globe.

Further, Internet developments over the past decade brought about a greater need for wireless connections and the development thereof. Wireless

communication received enormous boosts when mobile phones reached the market. By 2000, landline telephones and wired computers were beginning to be replaced by wireless technologies. The whole world was literally going mobile as the turn of the millennium approached. Apart from mobile phones, other wireless and mobile computational devices such as Laptops, Palmtops, Personal Digital Assistants (PDAs), Pocket PCs, Smartphones, and Tablet PCs also rapidly entered the market – some devices with more success than others for particular markets.

Recent statistics as provided by Keegan (2003) have shown that China is the country with the most mobile phones at 170m in mid-2001, closely followed by the United States and Japan. Industry analysts, including Nokia and Gartner, anticipate more than 1 billion mobile devices in use by 2004, with about 65% of them data enabled and about 500 million people using them to access the Internet. Currently 1 billion mobile phones are in use throughout the world, compared to 400 million Internet users (Chapter 9).

It is only since the turn of the millennium that educational institutions started to experiment with wireless and mobile technologies and that the concept of m-learning started to emerge. Desmond Keegan (2003) recently published his latest book called: *The Future of Learning: From eLearning to mLearning*. In Chapter four of this book, Keegan presents and analyses no less than 30 m-learning initiatives across the globe in 2001. In these initiatives much has already been done about the experimental use of wireless technologies (including wireless Internet environments and wireless classrooms) and various mobile devices for teaching and learning. Advantages, disadvantages, and recommendations to enhance learning in mobile learning environments are also provided. In further chapters, Keegan continued to discuss m-learning possibilities – including the capabilities and limitations of mobile devices. With his book, Keegan demonstrated the emergence and growing importance of m-learning.

M-LEARNING VERSUS E-LEARNING

Over the past decade we have become familiar with the term e-learning and now m-learning is emerging. What then, is the relation between m-learning and e-learning?

The following comprehensive definition of Urdan and Weggen (2000) provides a sufficient basis to distinguish between m-learning and e-learning:

> The term e-learning covers a wide set of applications and processes, including computer-based learning, Web-based learning, virtual classrooms and digital collaboration. We define e-learning as the delivery of content [and interaction] via all electronic media, including the Internet, intranets, extranets, satellite broadcast, audio/video tape, interactive TV, and CD-ROM. Yet, e-learning is defined more narrowly than distance

learning, which would include text-based learning and courses conduct-
ed via written correspondence. (p. 8)

Where does m-learning fit into the picture?

M-learning is a subset of e-learning. E-learning is the macro concept that
includes online and mobile learning environments. In this regard the fol-
lowing simple definition of Quin (2001) is very useful: "M-learning is e-
learning through mobile computational devices: Palms, Windows CE
machines, even your digital cell phone." (p. 1)

To get even a better picture, Figure 1 visually portrays the relation
between m-learning and e-learning. Please note that although the diagram
illustrates the subsets of flexible learning as distinct delivery modes, these
delivery modes are in practice very much integrated or blended.

Thus m-learning is a subset of e-learning. E-learning is in turn a subset of
distance learning, which is in turn a subset of flexible learning.
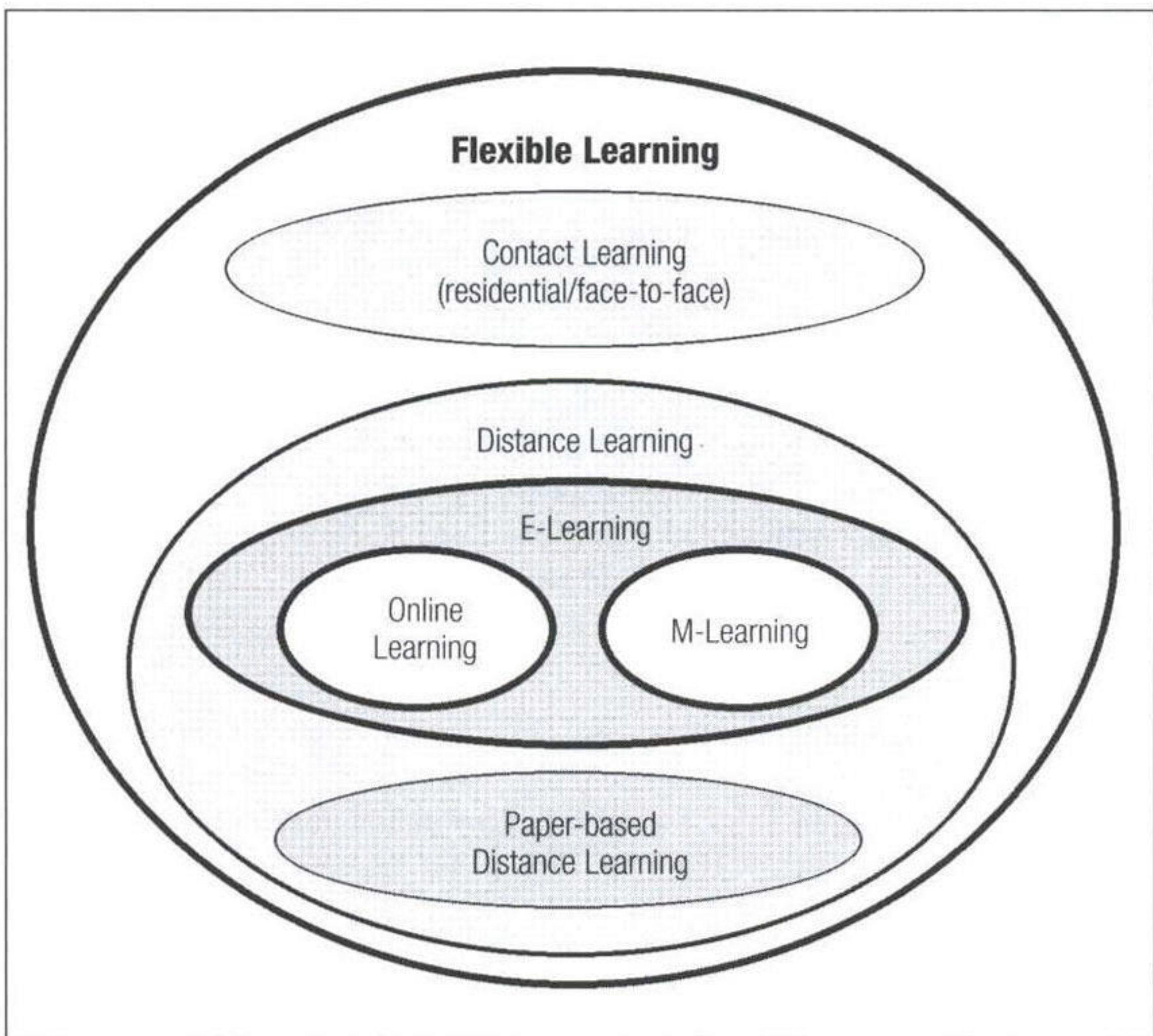
Figure 1. The subsets of flexible learning

APPROACHES TO M-LEARNING

These discussions and definitions, however, do not distinguish between the different approaches to the use of electronic technologies yet. One should keep in mind that, within any e-learning environment, technology can be used with either a content approach (providing content itself or access to available content) or communication approach (providing communication facilities or access thereto). It is also important to note that technologies can either be networked or stand-alone. The mind map in Figure 2 illustrates this very well.

The strength of m-learning lies in a communication approach rather than a content approach. This statement by no means implies that m-learning can not have a content approach. Mobile technologies and mobile devices can and will, more so in the future, be used with a content approach, but the real advantages of m-learning lie in the communications domain as will be discussed further on in this article.

Why then all the fuss about m-learning if it is merely a subset of e-learning?

Part of the answer lies in the overwhelming statistics concerning mobile users and the potential target market for m-learning. The following statistics from Empowering Technologies Incorporated (http://www.empower-ingtechnologies.net/mobile.htm), cited by Kristiansen (2001) give an indication of the rapid growth in the use of mobile technologies and possibilities for m-learning:

- Over 50% of all employees spend up to half of their time outside the office.

- More than 525 million web-enabled phones will be shipped by 2003.

- Worldwide mobile commerce market will reach $200 billion by 2004.

- There will be more than 1 billion wireless internet subscribers world-wide by 2005.

- Multi-purpose handheld devices (PDA and telephone) will outsell lap-top/desktop computers combined by 2005.

- Most major US companies will either switch to or adopt wireless net-works by 2008. (p. 5)

Do not miss the first bullet of these statistics. This is a major market: life-long learners in full-time employment. Shepherd (2001) stated that: "The mobile workforce is growing along with the power and proliferation of mobile devices. In fact, according to IDC, the population of mobile and remote access workers in the USA alone will grow to 55.4 million by 2004" (p. 1).

Gartner (2002) reported that Short Messaging Service (SMS) is already used more than e-mail in Europe with the following statistics from their research in 2002:

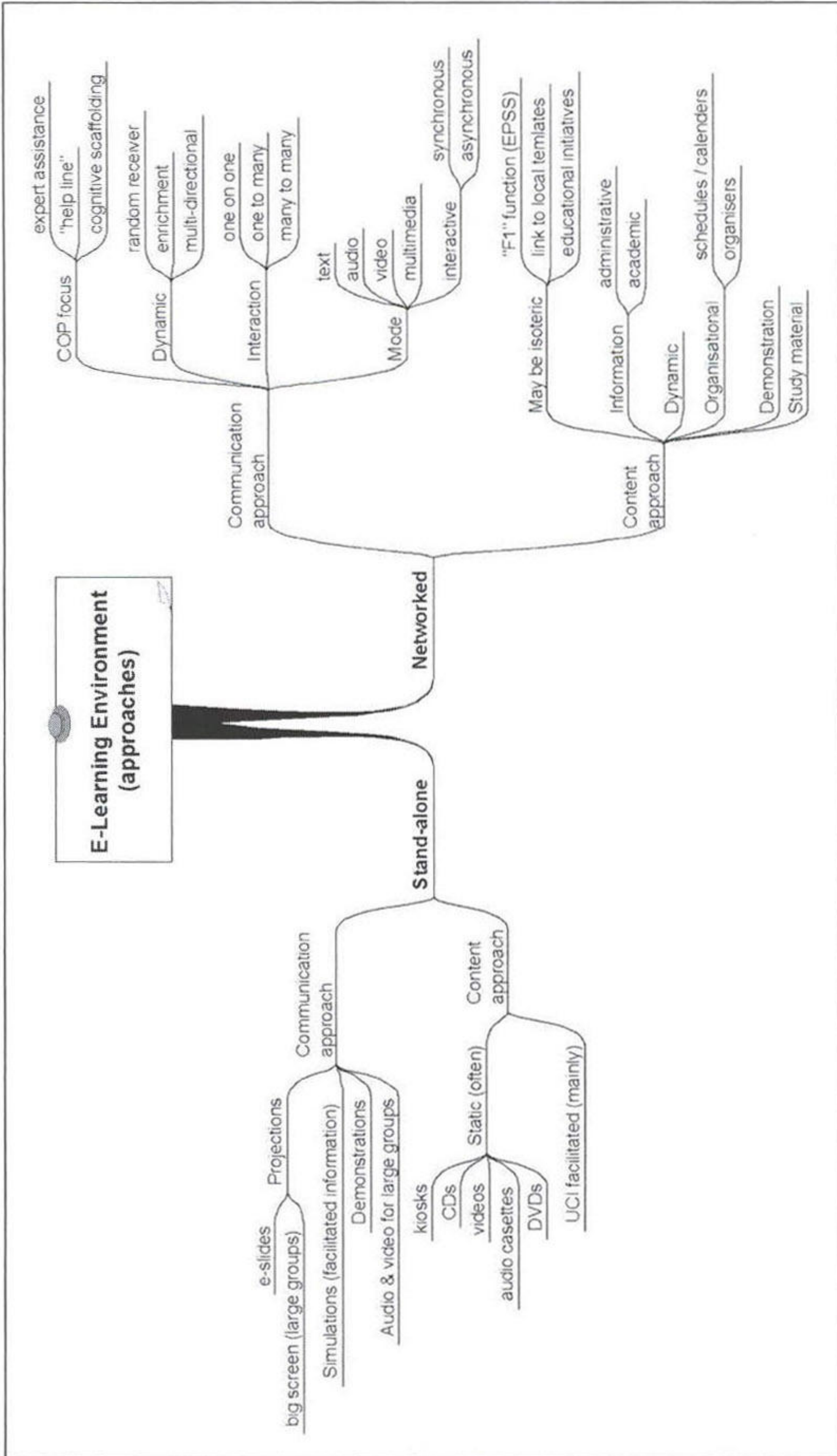- Around 62% of all adults across the major European countries now use

Figure 2. Approaches in e-learning environments (Mindmap by TH Brown & AB Steyn, 2003)

a mobile phone, according to the research.

- Currently, 41% of European adults use SMS, compared to 30% that use the Internet/email.

- SMS is particularly popular in the UK where 49% of adults use it, compared to 39% who are online.

- In Germany, 43% of adults use SMS as opposed to 29%of adults who use the Internet/e-mail. In France, 30% use SMS compared to 25% who go online.

These statistics indicate that mobile communication in the USA and Europe, is already gaining significant ground against online communication. Bates (2002) argued that: "It is quite likely that m-learning in one form or another will have a far greater impact on learning than what is currently available through e-learning" (p. 1).

The other part of the answer to the question, why all the fuss about m-learning, lies in the rich possibilities and benefits that m-learning provides.

THE BENEFITS AND FUTURE OF M-LEARNING

The primary uses of ICTs in education is obvious, namely access, support, and communication – something which certainly applies for the subset of mobile technologies. When it comes to access and support, m-learning makes learning available anywhere, anytime. With regards to communication, as mentioned earlier in this article, ICTs, including mobile technologies, offer opportunities for the optimization of interaction and communication between lecturers and learners and among learners and members of COPs. M-learning thrives within the contemporary social constructivist paradigm because of its richness in terms of communication and interaction, both synchronous and asynchronous. Kristiansen (2001) acknowledged this as follows: "I see potential related to communication in teams, collaboration and problem solving through discussions with others at a distance" (p. 11).

Mobile technologies enrich learning possibilities even more and take it further. Kossen (2001) argued as follows:

> Because mobile devices have the power to make learning even more widely available and accessible, mobile devices are a natural extension of e-learning. Imagine the power of learning that is truly 'just-in-time,' where you could actually access training at the precise place and time on the job (go) that you need it." (p. 2)

M-learning provides more mobility, flexibility and convenience than online learning. Life-long learning demands learn while you earn which is possible through e-learning. M-learning takes it further and makes it possible to learn while you earn on-the-go.

In their research report on the use of palmtop computers for learning,

Savill-Smith and Kent (2003) provided five reasons why palmtop computers should be used for learning. They argued that palmtops are relatively inexpensive, offer the possibility of ubiquitous computing, promote the development of information literacy, offer the possibility of collaborative learning and offer the possibility of independent learning. (p. 4-8)

Mobile devices have certain capabilities that can be delivered with greater ease than other electronic devices. Clark, as cited in Shepherd (2001), pointed out that: "The mobile phone also has one facility that makes it better than most PCs. It has been designed to deliver audio. You can listen to, or even talk with, a real person. It is this mix of audio and text that makes the delivery of certain types of learning content possible" (p. 2). It is also important to stress that currently, mobile technologies such as mobile phones allow for synchronous audio communication with much greater ease and at relative lower cost than online technologies, especially in areas where bandwidth is still a limitation.

The latest developments in mobile technologies, for example, General Packet Radio Service (GPRS) that allows for multimedia messaging (Multimedia Messaging Service = MMS), in stead of the well-known short messaging (Short Messaging Service = SMS), makes it possible to deliver and receive multimedia content such as audio, images and video sequences. The integration of mobile phone, PDA and Global Positioning Systems (GPS) technologies (including Smartphones) will become leading devices in the near future. Interoperability with e-mail and the Internet are key to new developments and everyone is already talking about the future Supranet that will have no restriction to any one channel. The Supranet will line up the optimum technologies without the user having to select or intervene.

Kristiansen (2001) envisaged a future service network (such as the Supranet) that is Internet Protocol-based (IP-based) and provides the following type of services and applications to end users:

• a personalised user interface, service portfolios and terminals,

• convergence of applications (telecom, multimedia and internet services) through access independence and

• end-user integrity and security in relation to protection of personal data and privacy. (p. 8)

It will not be long before m-LMSs (Learning Management Systems for m-learning) start to emerge and even become the preferred e-learning environment. Singh (2003) talks about mobile learning system components which include:

• authoring tools for content capture and conversion for mobile delivery,

• mobile game and simulation templates,

• mobile learning management, which registers and track mobile learning use,

- mobile learning content management systems that download and manage a repository of mobile content, and

- enterprise application tools such as CRM and HRIS. (p. 4)

Integrating Electronic Performance Support Systems (EPSS) into the mobile environment will take m-learning even further: m-learning with on-demand access to information, tools, learning feedback, advice, support, learning materials, and so forth.

These technological developments and the rich capabilities of mobile technologies, together with the growing demand to provide learning opportunities on-the-go, spells out a great and rapidly growing future for m-learning.

Kristiansen (2001) made the following statement about the expected growth of m-learning: "Trend analysts expect mobile terminals to be the main device for accessing the Internet before 2003. Considering the enormous influence the use of Internet has had and will increasingly have on learning, there is no doubt that mobile Internet will be important in future learning" (p. 4).

Keegan (2003) ended his book with the words: "The mixing of distance learning with mobile telephony to produce mLearning will provide the future of learning" (Chapter 9).

WHY M-LEARNING IN AFRICA

One's first impressions and perceptions when thinking about the ideal target market for m-learning would probably look like this:

- A first world learner population

- that is already highly ICT literate and

- is either in full-time employment or

- merely prefers studying at their own pace, place, and time.

This description does not fit the majority of learners in Africa though. Why then m-learning in Africa?

Well, the answer is quite interesting. Because of the lack of infrastructure for ICT (cabling for Internet and telecom) in certain areas in Africa, the growth of wireless infrastructure is enormous – even more rapid than in many first world countries.

Shapshak (2002) reported that the adoption rate of mobile technologies in Africa's developing countries is among the highest rates globally and forecasts estimate almost 100 million mobile users in Africa by 2005. Between 1997 and 2001, the number of mobile phone subscribers in Africa annually had a triple-digit growth rate.

The East African (July 8, 2002) reported that: "...the communications sector in Uganda is growing rapidly. Nua Internet Surveys (July 15, 2002)

reported that, according to the National Information and Communication Technology Policy, the number of mobile phone subscribers in Uganda grew from 3,500 in 1996 to a total of 360,000 in 2002."

Wachira (2003) reported the following about Kenya:

> When Vodafone UK sent Michael Joseph to Kenya in July 2000 to set up Safaricom, a cell-phone service operator jointly owned by Telkom Kenya, he did not expect the subscriber base to grow beyond 50,000 connections. Today, both Safaricom and rival KenCell Communications (partly owned by Vivendi) have nearly *1.3 million* cell-phone subscribers. This set-up is deeply rooted in the traditional African communal mode of living, which many urban dwellers haven't abandoned.

Thus, mobile technologies are alive and kicking quite strongly in Africa. We can therefore differentiate between two ideal target markets for m-learning: learners that are either without infrastructure and access or learners that are continually on the move. In other words:

- first world learners who are the workforce on the move with state of the art mobile devices and

- third world rural or remote area learners who have mobile phones.

TOWARDS A MODEL FOR M-LEARNING IN AFRICA

To assist in developing a model for m-learning in Africa, it is very useful to have a look at an existing m-learning project in Africa.

The University of Pretoria started using mobile phone support during 2002 in three existing programmes of the Faculty of Education, namely:

- BEd (Hons): Education Management, Law & Policy

- ACE: Education Management (ACE = Advanced Certificate in Education)

- ACE: Special Needs Education

This m-learning pilot project was launched based on the fact that more than 99% of the 1725 learners enrolled for these three programmes by the end of October 2002, had mobile phones. The profile of these learners was as follows:

- 100% are full-time employees (teaching)

- 77.4% are English second language speakers

- 22.6% are English first language speakers

- 83.8% are between the age of 31– 50

- 13.9% are younger than 31

- 66.4% are women

- 97.3% are non-white

- 0.4% have access to e-mail

• 99.4% have a mobile phone

The majority of these learners live in deep rural areas with little or no fixed line telecom infrastructure.

During the period November 2002 to February 2003, bulk SMS was used to provide basic *administrative support*. Five SMS messages were sent, to each of the learners. The messages focussed on reminders of important dates for activities like contact classes, examination registration, examinations, as well as notification of study material distribution, etc. The five SMS messages are shown in Appendix A.

The advantages and successes have already been significant.

• In response to a reminder for registration for contact sessions, 58% of the learners registered before the closing date compared to the normal expected percentage of below 40%.

• In response to a reminder of the contact session dates, 95% of the learners that registered for the contact sessions, attended.

• Learners respond in mass and almost immediately on information provided in SMS-messages.

From a quality and financial point of view, the successes are also significant.

• Using print and the postal service to distribute the necessary information to learners would have been more than 20 times the cost of the bulk SMSs.

• While the SMSs provide immediate and JIT (just-in-time) information, the posted information would have taken between 3 and 18 days (depending on the remoteness of the learner) to reach all the learners.

A workshop was held during February 2003 to identify and establish enhanced possibilities for the use of mobile phones and SMS, also for *academic purposes*. The results of this workshop lead to a number of important action plans and recommendations for m-learning including the following:

• The establishment of a university-wide taskforce to develop a corporate management plan for m-learning with two immediate priorities:
  - A corporate policy for m-learning, including regulation, norms and standards for m-communication and the
  - establishment of a M-learning Management System and SMS-portal.

• Aims and objectives for administrative as well as academic m-learning support with a number of recommended applications for SMS support also to enhance learning quality.

• Conditions and provisos for the use of SMSs and other mobile communication.

• The importance of accurate and correct information when using bulk SMS.

The implementation and impact of these action plans and recommendations will be reported in due course and as the project progresses.

Lessons learned from this project lead to the establishment of a few important *premises for m-learning in Africa* which can be summarised as follows:

- M-learning is a supportive mode of education and not a primary mode of education.
- M-learning provides flexibilities for various learning- and life-styles.
- The most appropriate mobile device for learners in Africa is a mobile phone.
- Possibilities and latest developments in mobile technologies must be tested against practicality, usability, and cost-effectiveness.
- The use of multimedia on mobile phones must be tested against the envisaged leaning outcomes.
- The major focus of m-learning should be more on communication and interaction than on content.

Keeping these premises in mind, we can continue further towards a model. However, an important base to establish at this point before we continue is that the author's reference to Africa is on the premise that the majority of African learners have little or no access to the Internet. Due to circumstances, they are mostly part-time learners in rural areas where the infrastructure is poor or nonexistent.

With this in mind, the following models, one for 2003 and a more developed one for 2007, are proposed:

A model for m-learning in Africa by way of mobile phone – 2003:

- Learners only have periodic access to the Internet via PCs at learning or community centres. During these periods of access, the focus is on:
  - ICT literacy
  - downloading of content
  - access to articles/study materials/other resources
  - e-mail/bulletin board/chat room (communication and interaction)
- Learners use mobile phones on a regular basis.
- Academic support for learners through SMS communication and interaction:
  - with educational institution
  - with peer learners and study groups
- Administrative support for learners through SMS:
  - administrative information (reminders, notifications, urgent information, etc.)
  - access to examination and test marks through mobile service number

A model for m-learning in Africa by way of mobile phone - 2007:

• Learners only have periodic access to the Internet using PCs at learning or community centres. During these periods of access, the focus is on:
   - downloading of content
   - access to articles/study materials/resources/and so forth
   - e-mail/bulletin board/chat room (communication and interaction)
   - working through multimedia and /or simulations on CD-ROM
• Learners use mobile phones on a daily basis.
• Academic support for learners through SMS, MMS, and Wireless Application Protocol (WAP):
   - communication and interaction from and with educational institution
   - communication and interaction with peer learners and study groups
   - browsing e-learning course material
   - downloading study guides/manuals
   - receive tutorial letters
   - complete multiple choice assessment with immediate feedback
   - send template based multimedia messages to institution (templates designed and provided by institution)
   - generic feedback on assignments and examinations
   - motivational messages
   - tutor services
• Administrative support through SMS, MMS, WAP, and EPSS, integrated with the Internet:
   - downloading of material (sections of learning materials, assignments, letters, etc.)
   - receive course schedule and calendar
   - administrative information (reminders, notifications, urgent information, etc.)
   - access to institutions M-portal on the Web
   - access to examination and test marks by way of mobile service number or M-portal
   - access to financial statements and registration data by way of mobile service number
   - daily tips

It can be expected that, within the next few years, wireless and mobile technologies will develop beyond what we currently expect. The seamless integration of online and wireless technologies, with accompanying m-LMSs, user friendly interfaces, and innovative mobile devices, will bring new meaning to our understanding and implementation of e-learning and m-learning.

A model for m-learning in Africa might look far more advanced by 2010

than what is proposed for 2007. We should keep in mind though that issues such as the cost of mobile and wireless technologies to the user and ICT literacy will probably still restrict some learners in Africa to the use of mobile phones for a few years. The cost of more advanced mobile technologies will eventually decline as the technologies continue to develop, but m-learning in Africa will be through mobile phones for quite a while.

CONCLUSION

M-learning has already started to play a very important role in e-learning in Africa. It should be noted that m-learning has brought e-learning to the rural communities of Africa – to learners that we never imagined as e-learning learners just a few years ago.

M-learning is the gateway to e-learning for most learners in Africa as the rapidly growing wireless infrastructure increasingly fulfils their access needs. Africa is actually leapfrogging from an unwired, nonexistent e-learning infrastructure to a wireless e-learning infrastructure. The statistics in this regard are already significant proof of this process.

The role of m-learning in the future of e-learning in Africa should not be underestimated. M-learning in Africa is a reality that will continue to grow in form, stature and importance. It will become the learning environment of choice.

As educators, we should embrace the rich learning enhancing possibilities that m-learning already provides and will provide even more so in future. M-learning environments are ideal for contemporary social constructivist approaches where interaction and communication between lecturers and learners, among learners and among members of COPs is needed. M-learning also fulfils the growing demands for life-long learning opportunities that enable you to learn while you earn on-the-go.

The challenge is to design and develop relevant learning environments, based on sound *pedagogical principles* that will ensure the optimization of learning in the m-learning environment.

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APPENDIX A

M-learning Project at the University of Pretoria

EXAMPLES OF SMS MESSAGES

SMS MESSAGE	PURPOSE	RESULT
Dear Student. Your study material was posted to you today. Enquire in time, quote your tracking number: PE123456789ZA, at your post office. UP	• Students do not visit their rural post offices very often and this leads to many returned packages • If students know about a dispatch, they make an effort to fetch packages timely	• Significant drop in returned packages and accompanying costs
If you have not submitted Assignment 2, due to late dispatch of study material, you may submit before 19 Sept. Do this urgently to help you pass your exam. UP	• Extension of assignment submission date due to a late dispatch of study material • Encouragement to complete the assignment	• Normal assignment submission statistics
ACE Edu Management contact session block 1 from 7-9 July for modules EDM 401 EDO 401 ONLY changed to Town Hall Main Street KOKSTAD. New letter posted. UP	• Urgent notification of a venue change for a specific contact session	• All the students arrived at the correct venue (as far as we know)
Dear Student. We have not received your registration for the Oct exam. Please fax registration form or letter not later than Thursday 31 July. UP	• Encouragement for exam registration • Notification of the deadline for exam registration	• Increase in the number of exam registrations compared to previous exams
April exam proved that students attending contact sessions are more successful. Please attend July contact session. Register per fax before or on Friday 6 July. UP	• Encouragement for contact session registration • Notification of the deadline for contact session registration	• 58% of the learners registered before the closing date vs the normal rate of below 40%