



The Fifth Pan-Commonwealth Forum on Open Learning

13-17 July 2008, University of London, UK

MOBILE LEARNING: REACHING THE DISADVANTAGED

G. S. Ntloedibe-Kuswani, University of Botswana
ntloegs@mopipi.ub.bw

PhD Student
Department of Instructional Design, Development & Evaluation
School of Education, Syracuse University, NY

MOBILE LEARNING: REACHING THE DISADVANTAGED

ABSTRACT

Business and leisure have long benefited from the use of mobile devices, such as mobile phones, but research in the use of mobile phones in learning is recent (Alexander, 2004; McNeal & van't Hooft, 2006). The aim of this paper is to explore the on-going research on the possible effects of using mobile phones to support learning, especially as a way of creating access for the disadvantaged people. The paper defines mobile learning within the context of distance learning, but with the emphasis on the mobility of information communication technology devices that can be used to support or reach (mobile) learners anytime, anywhere. Further, the paper defines the disadvantaged by giving examples of groups of people who do not benefit directly from the mainstream or conventional education institutions. The paper, argues that the more access is extended and participation increased in education, the many people are equipped and empowered with information and skills to participate in their own development as well as of their communities and nations. The educational development of people themselves, not only bridge the education gap, but it as well bridges the power relation divide, especially between rural communities of the developing economies.

Key terms:

Mobile learning, the disadvantaged, mainstream, empowerment, participation, development

Introduction

The ubiquity of emerging mobile technology devices has resulted in debate and research on how it can benefit teaching and learning, as much as it benefits business, industry, and other social activities. The advantage of mobile learning is the two-way communication between communities and their schools or educational institutions. The two way communication brings community resources into the classroom through learners and takes the classroom resources into the community through the teacher-facilitator (Hiple & Fleming, 2006). Mobile learning, therefore, has the potential of reaching a wider audience than the classroom, especially where cellular infrastructure and network have been highly developed. Alexander (2004) concludes that because the technology is untethered, but instead mobile, students too become mobile or nomads – carrying conversations anytime, anywhere. Apart from students or learners in the traditional sense, mobile learning can cater for anyone, anytime, anywhere who is in need of information for the betterment of their lives. Those in need of information can as well be defined as the disadvantaged. For instance, many developing communities need specialized information on pertinent issues such as health, agriculture, global warming, to mention but a few.

Today mobile communication, such as telephoning is more desirable than ever before because of the global interconnectedness and the need for efficient, effective and emergent business, leisure, education and other social activities. The current demand in communication technologies drives new inventions in digital technologies, some of which are mobile phones. For instance, the phoning industry has used this demand to develop advanced mobile phones (Nokia N95, iPhone, Blackberry, etc), which have multiple functions for e-mail, texting, internet browsing, photographing and video; as tools to create, access and communicate information (McNeal & van't Hooft, 2006). So how can institutions of learning tap into these kinds of inventions in order to open access and increase participation?

Mobile learning (m-Learning)

Mobile learning is discussed in this paper within a broad context of distance learning (d-learning). Georgiev, Georgieva, Smrikarov (2004), explain m-learning as an evolving feature within e-learning and d-learning. Mobile learning can be in short defined as the use of mobile or wireless devices for learning on the move. Some sources differentiate m-learning from e-learning and d-learning in the sense that mobile learning is the delivery of instructions through mobile or portable technologies to learners who are not keeping a fixed location.

Geoff Stead (2006) explains mobile learning from two contrasting perspectives: *safe learning* and *disruptive learning*. First, it is safe learning, because it can provide access to a) learning contexts that may not be easily reached by other forms of instructions, and b) time, place and computer access is no

longer a barrier in places with highly developed cyber infrastructure. Second, mobile learning is disruptive learning because it is a frightening peek into a future where the students are also in control as collaborators rather than as passive consumer of teacher's knowledge (Alexander, 2004; Stead, 2006). Stead's first explanation of mobile learning as a safe learning resonates well with the argument of this paper, as mobile learning provides access to people that other forms of learning were not able to reach, a they were marginalized by the mainstream conventional education. But disruptive learning becomes necessary for the disadvantaged people in order to engage and empower them through collaborative learning and facilitate their participation in power roles of education and development.

Collaborative Learning

Collaborative learning has been identified as a core characteristic of mobile learning (Alexander, 2004; Stead, 2006). Collaborative learning draws its strength from the social learning theory, which represents a philosophical perspective known as social constructivism. Social constructivist philosophy is characterized by the belief that knowledge or reality is socially constructed rather than discovered and as such any one can participate. Therefore, in collaborative learning, meaning can be negotiated from multiple perspectives (Smith & Ragan, 2005); suggesting all perspectives (including students and the disadvantaged) are equally viable. It is common knowledge that the disadvantaged powerless are continuously marginalized, even in pertinent issues regarding their development. Literature reviewed indicates that collaborative learning democratizes and empowers learners to equally participate (Ormrod, 2004). Through mobile learning, many disadvantaged people might be brought into the center from the margins of society to participate in development processes.

Reaching the disadvantaged has been identified by several studies as one of the reasons for exploring the use of mobile or wireless devices in learning. As distance education remains a strategy for increased access in education because of its broad constituency (Garrison and Shale, 1990), mobile learning enriches d-learning by making learning more flexible to reach people other learning approaches cannot reach, such as the disadvantaged homeless, immigrants, powerless women, people with disability, the rural poor and many others.

Studies in mobile phone learning

The paper reflects upon four (4) studies of mobile phone learning; two from Britain, one from the United States of America (USA) and the other from South Africa (SA), in order to demonstrate how mobile learning has been engaged to reach out for some disadvantaged students or people in different situations and places. Although almost all the studies acknowledged some difficulties experienced by participants such as the slow processing power of the mobile phones, they report the potential of mobile phone use as a teaching-learning tool because of its portability, convenience, ease and appeal to young people; hence they strongly recommend future research in mobile learning (Horowitz, et al. 2006). The studies further report participants suggesting expanded curriculum for future mobile phone learning programs.

1. **Hard to engage students:** Geoff Stead (2006) in his article "Mobile Learning: Transforming the future of Learning", reviews a project on emerging technologies for learning, and presents mobile learning as one of the ways of reaching people who have not benefited from mainstream education in Britain. The objective of the project was to understand how using mobile tools and approaches can transform learning. "Many of our trials have focused not on schools and universities, but on learners who were hard to reach, hard to engage, or hard to access – for example young offenders, traveler communities, disengaged teenagers and work-based learners in difficult contexts" (Stead, p. 12). Stead further indicates that, contrary to the assumptions that most young people are skilled users of ICT, their findings reveal that many young people in socially disadvantaged groups lacked confidence and actively avoided ICT. He indicates that it was after several trials and steps that a massive shift in confidence, autonomy and motivation was developed among the socially disadvantaged.
2. **Homeless with poor literacy:** Another study, also in Britain, "Mobile technologies and learning", targeted young adult learners with poor literacy. At least 32% learners of the study participants were unemployed and/or homeless (Attewell, 2005). The Project predicts that if the processing power of some sophisticated third generation (3G) mobile devices such as *smartphones* and camera phones are further developed, soon many people would prefer mobile phones over personal computers.

3. **Poor family:** “The Ready to Learn Cell Phone Study” (Horowitz, et al. 2006) in US assessed the effectiveness of cell phone-delivered video clips for preschoolers aged between three and four, and its impact on participants from different economic demographics. Video-enabled cell phones were given to 80 parents – 50% living below the poverty line and 50% living above the poverty line - as tutors for their children’s video clips of alphabets. The findings of the study revealed that all children improved their knowledge of the alphabets; 75% success was reported from families below the poverty line, who were defined as non-white, younger, unmarried & less educated, as compared to the 50% success, which was reported on the other side.
4. **Remote rural areas:** “The case for using SMS technologies to support distance education students in South Africa” (Viljoin, du Preeze & Cook, 2005), at the University of Pretoria, provided basic administrative support to adult distance learners most of whom were from remote rural areas. Out of the 9 2000 students surveyed about 0.8% had e-mail access, while 97% had cell phone entry level. The study noted the mobile network in the country could provide 95% coverage. The study concluded that m-learning support tools could support student populations previously excluded from the traditional e-learning environment.

Conclusion

To continue to be relevant and accessible, higher education must be creative in and receptive to alternative approaches to education [Care and Scanlan 2001].

The future is more mobile, more connected and more personalised. New generations of learners will expect this as the norm. They will be connected with many different devices, and demand equality, inclusion and always-on access wherever they are (Stead, 2006).

Distance education, as a technology-mediated strategy, can play a dual role of bringing the education technology gap that exists between the disadvantaged peoples and others. Brown and Brown, (1994), referring to learning at a distance, state that the concluding decade of the 20th century was a time of change from the institutional based learning structures of the past few centuries to open architecture education that will occur at a time, place, and in a configuration suitable to the learner than to the teacher or administrator. However, the big question is how is this ‘true’ for developing economies such as the Southern Africa Development Community (SADC)? The South African Rural Development Framework/SARDF defines development as

The ‘improvement of people’s lifestyles’ and one of the prime ingredients of development is information and how that information is disseminated between people ... Rural development is helping rural people set the priorities in their own communities through effective and democratic bodies, by providing the local capacity; investment in basic infrastructure and social services. Justice, equity and security; dealing with the injustices of the past and ensuring safety and security of the rural population, especially that of women (1997, p.9).

For instance, the 2001 population census in Botswana indicates that about 70% of people live in remote rural areas. As a result national development in Botswana should be measured through programs that promote rural development (Osborne, 1976). Such can be supported through information and communication technology, which can be facilitated by the ubiquity of cellular networks and mobile phones in Africa (Towards an African e-Index, 2006) because

Experience has shown that traditional methods of education and training cannot adequately address the scope and scale of massive expansion of learning needed to achieve national, regional including the Millennium Development Goals (COL, 2006, Foley, 2003). These goals would need open and distance learning which can meet such expanded needs. The development agenda for Botswana such as for instance, access to primary, secondary and tertiary education; quality basic education; gender equality; poverty reduction through the education of women, are candidates for the use of open and distance learning (Tau, 2006, p. 4).

Generally, increased access and participation in education is a prerequisite for development, because learning is all about change and a process to skill and re-skill the human resource division of any

economy. But through mobile learning, even the disadvantaged people who cannot afford to give up their jobs for fulltime studies; cannot pay for fulltime studies unless working and cannot be away from family or social responsibilities, they can receive education and participate in development at the same time. Therefore, the potentials of mobile learning calls for our attention as instructional designers and educators to rethink strategies that can facilitate the use of mobile devices as support for learning as they might be the tools we have all been looking for, especially for developing economies, where fixed cyber infrastructure is very low.

Reference

- Alexander, B (2004) Going Nomadic: Mobile Learning in Higher Education. *EDUCAUSE Review*, September/October 2004. 39(5),28-35. Retrieved 6th February 2007. <http://www.educause.edu/pub/er/erm04/erm0451.asp>
- Attewell, J (2005). Mobile technologies and learning: A technology update and m-learning project summary. Learning and Skills Development Agency, London. Retrieved 14th February 2007. <http://www.m-learning.org/knowledge-centre/m-learning-research.htm>
- Brown, F. B & Brown, Y (1994) Distance Education around the World. In Barry Willis (ed.), *Distance Education: Strategies and Tools*, New Jersey: Englewood Cliffs
- Care, W. D & Scanlan, J. M (2001) Planning and Managing the Development of Courses for Distance Delivery: Results from a Qualitative Study. In *Online Journal of Distance Learning and Administration* (OJLDA), Vol. IV, Number 11, Summer 2001, State University of West Georgia, Distance Education Center. (<http://www.westga.edu/~distance/ojdla/summer42/care42.html>)
- Garrison, D. R & Shale, D. (eds.) (1990) *Education at a distance: From issues to practice*, Malabar, Florida: Robert E. Krieger Publishing Company
- Georgiev, T., Georgieva, E., & Smrikarov, A.(2004). M-Learning - a New Stage of E-Learning, International Conference on Computer Systems and Technologies. Retrieved 27th February 2006. <http://ecet.ecs.ru.acad.bg/cst04/Docs/sIV/428.pdf>
- Hiple, D., & Fleming, S., (n.d.). Models For Distance Education in Critical Languages, University of Hawai'i at MÅnoa. (Retrieved 10th February, 2007). <http://nflrc.hawaii.edu/networks/tr25/TR25-1.pdf>
- Horowitz, J. E., Sosenko, L. D., Hoffman, J., Jaclyn Ziobrowski et al. (2006) Evaluation of the PBS Ready to Learn Cell Phone Study: Learning Letters with Elmo. Retrieved on April 10th 2007. <http://www.pbs.org/readytolearn/research/cellphones.html>
- McNeal, T & van't Hooft, M (2006) Anywhere, Anytime: Using Mobile Phones for Learning. *Journal of the Research Center for Educational Technology*. Retrieved 6th February 2007. <http://www.rcetj.org/?type=art&id=79575&sid=208831&iid=4607&stid=0>
- Ormord, J. E (2004) *Human Learning* (4th ed.). Upper Saddle River, NJ: Pearson Education, Inc. ISBN 0-13-094199-0
- Osborne, A. (1976) *Rural Development in Botswana: A Qualitative View*. In *Journal of Southern African Studies*. Vol.2. No.2,198-213.
- Smith, P.L & Ragan, T.J (2005) *Instructional design* (3rd ed.). Hoboken, NJ: John Wiley and Sons.
- Stead, G (2006) Mobile Technologies: Transforming the future of learning. In *Emerging Technologies for Learning, British Educational Communications and Technology Agency*, ICT Research, Coventry. pp. 6-15, Retrieved 7th February 2007. <http://publications.becta.org.uk/display.cfm?resID=25940&page=1835>
- Tau, O (2006) 'Structure and Process in Dual-Model Institutions: Implications for Development', Distance Education Unit, University of Botswana, a paper presented at the Commonwealth of Learning Conference, Nov 2006, Jamaica.
- Towards an African e-Index SME e-ACCESS AND USAGE across 14 African countries, 2006. Retrieved, February 8 2007) http://www.researchictafrica.net/images/upload/SME_book-Web.pdf
- Viljoen, J., Du Preez, C & Cook, A (2005) *The case for using SMS Technologies to support distance education students in South Africa: Conversations*. In *Perspectives in Education*. 23(4), 115 – 122

