

Introduction

By John Traxler

The first issue of this publication advocates and explores the increased use of mobile technologies to deliver, enhance and support informal learning and skills development with, for and amongst disenfranchised and disadvantaged people in the developing world. In a rapidly emerging and rapidly changing field, the focus on skills development and lifelong learning is however sometimes only implicit amongst the flurry of other mobile learning activities. The articles of this publication document different aspects of this work and make recommendations. This introduction looks at the bigger picture, the historical and conceptual frameworks.

The development of policy on mobiles and learning

To get a better sense of the context for the current publication and its recommendations, the policy documents and recommendations that have come from kindred organisations and agencies need to be considered.

In the last four or perhaps five years, many agencies, foundations, donors and ministries have noticed the potential of mobile technologies to deliver educational and humanitarian missions to those people, communities and regions who are distant, disenfranchised and disadvantaged. There has been increasing recognition of the potential for learning and training with mobiles, and sometimes including informal learning and workforce development, and understandably these organisations have looked at the literature and asked about the implications for scale and sustainability. They have looked at fixed-term small-scale subsidised pilots run by enthusiasts and visionaries seeking the basis for large-scale programmes to be run at a regional or national level. Now is the time to take stock of this process. This publication is in some senses a milestone, allowing us to critically review the conceptions, the expectations and the progress in this process.

Back in October 2010, the UNESCO Chair in e-learning in Barcelona held an international seminar that focused on mobiles, learning and development whilst about the same time, the GSMA, the trade association for the MNOs (mobile network operators), published *mLearning: A Platform for Educational Opportunities at the Base of the Pyramid*¹. This gave MNOs an initial sense of the business opportunity represented by mobile learning, followed in February 2011 when the GSMA *World Mobile Congress* in Barcelona sponsored the first of its annual awards for learning. In August 2011, USAID convened the *m4Ed4Dev Symposium* in Washington DC and then launched the *mEducation Alliance*² in early 2012. Meanwhile in the course of 2012, the International Training Centre of the International Labour Organisation in Turin produced a mobile learning toolkit³ for its staff in the field globally and both the Commonwealth of Learning and the World Bank, specifically *InfoDev*, became increasingly active. Earlier, in November 2011, the WISE Foundation debate in Qatar⁴ focused on *mobiles, education and the hard-to-reach*. Some of these developments are documented in later articles – here our objective is merely to highlight the gathering agency momentum. The roots of mobile learning do in fact go back further – the first mLearn conference took place in Birmingham, in the United Kingdom, in 2002 and featured contributions from two large-scale EU projects, *MOBilearn* and *m-learning*, that were already well underway. In the current context, *m-learning* is significant in seeing mobile technologies as a way of delivering and supporting literacy, numeracy and basic education for disengaged young people, some of whom were homeless and some of whom were North African immigrants landing in Italy.

In December 2011, UNESCO convened its *First Mobile Learning Week* in Paris⁵. The sessions focused, regionally and globally, on policy issues and teacher development, the latter seen as the optimal place to break into the educational cycle and thus to promote *education-for-all (EFA)*. In March of 2012, a further *International Symposium*

in Washington organised for UNESCO by the Consortium for School Networks, drew together emerging US practitioners, agencies, funders and stakeholders. The *mEducation Alliance Symposium*, in September 2012, entitled *Partnering For Scale And Impact*, illustrated the growing emphasis and direction of corporate and agency priorities. UNESCO was meanwhile releasing its *Working Paper Series on Mobile Learning*⁶, divided into two broad subsets: six papers examining mobile learning initiatives and their policy implications, and six papers examining how mobile technologies could support teachers and improve their practice. Within both subsets, there were five geographical divisions: Africa and the Middle East, Asia, Europe, Latin America, and North America. Each subset also contained a *Global Themes* paper synthesizing central findings from the five regional papers. Two additional *Issues* papers rounded out the Series. One highlighted those characteristics shared by successful mobile learning initiatives and identified supportive policies and another discussed how mobile technologies were likely to impact education in the future. The report, *Turning On Mobile Learning: Global Themes*, made the following mixture of observations and recommendations:

- mobile learning carries a stigma that can and should be overcome;
- existing education policies have yet to embrace the potential of mobile learning;
- mobile learning can help reach marginalized populations and improve education systems;
- questions of access and equity loom large;
- diverse partnerships are required to sustain and expand mobile learning initiatives.

Meanwhile, the *Policy Guidelines for Mobile Learning*, having argued the unique benefits of mobile learning, also made recommendations:

- create or update policies related to mobile learning;
- train teachers to advance learning through mobile technologies;
- provide support and training to teachers through mobile technologies;

- create and optimize educational content for use on mobile devices;
- ensure gender equality for mobile students;
- expand and improve connectivity options while ensuring equity;
- develop strategies to provide equal access for all;
- promote the safe, responsible and healthy use of mobile technologies;
- use mobile technology to improve communication and education management;
- raise awareness of mobile learning through advocacy, leadership and dialogue.

These were probably the first comprehensive sets of policy recommendations, covering the breadth of mobile learning activity, in the context however of the UNESCO mandate to work with member state education ministries.

The second UNESCO Symposium, included in its *Mobile Learning Week*, in Paris in February 2013, continued to align with wider objectives within the development community, specifically Millennium Development Goals, and with UNESCO priorities, namely, Africa, gender equality and teacher development.

At the same time, USAID through the mEducation Alliance published its major *Landscape Review: Mobiles for Youth Workforce Development*, making the following observations, advocating:

- Understanding how youth access information across different devices and designing content that can be accessed from different devices.
- Information on cost and levels of access need to be considered, especially for more marginalized populations, such as rural youth and young women.
- Educational media for instruction should be selected based on the ability to deliver a desired educational technique to the intended location at the most appropriate moment.

- Self-directed learning was shown to be effective with advanced students and learners but is not suitable for weaker students.
- Practitioners recommended designing for the lowest common denominator mobile technology in order to reach the greatest number of users. SMS, however, is not conducive to more complex hard and soft skills.
- Use of mobile devices during program implementation to collect information on user behaviours and skills acquisition can help program managers

The third UNESCO *Mobile Learning Week* took place in Paris in February 2014. It included a symposium devoted to exploring the relationships between policy makers, programme managers, officials and researchers in the mobile learning space. The resulting publication drew attention to some complex and unresolved issues, notably, working with marginal and indigenous peoples and the ethics of intervention; working with for-profit corporates and dealing with bias and pressure; the impact agenda, communication and dissemination; researchers, their careers, building capacity and funding; and working within existing levels of evidence, rigour and documentation.

The mEducation Alliance, supported by USAID, continues to make substantial contributions. *Mobile for Reading: A Landscape Research Review* published in June 2014 recognises the importance of the m4r, mobiles-for-reading, movement but also recognises the complex nature of literacy, as intrusive mobile technologies impact on the nature and balance of literacy and languages, especially within marginal and indigenous communities, at the same time as enhancing the acquisition of literacy. The Review recognises literacy as the foundation of both skills development and lifelong learning. The UNESCO *Reading without Books: 15 Projects that Leverage Mobile Technology for Literacy in Developing Countries* covers similar ground and features projects that address adult readers as well as those for children and young people.

These examples and remarks give a sense of the evolution of mobile learning in development contexts and obliquely of its significance for skills development and informal learning. For whatever

reasons, the agency and policy focus has, however, often been formal primary schooling within national education systems, delivering literacy and supported by teacher development. The current publication draws attention to other equally valuable parts of the educational ecosystem, reminding us that children and their teachers interact with elders, families, communities, businesses and civil society, each supporting the other.

The publications mentioned contained numerous examples and case studies, and numerous references and resources. The needs and expectations of the audiences for which the agencies involved publish should be noted, GSMA for MNOs, UNESCO for Member State governments, and it should be recognised that the process of compiling and collating these has not usually been scientific, objective, comprehensive or prolonged.

There were also significant reports to the World Bank, the *eTransform Africa Final Report*, and to the World Economic Forum, *Accelerating the Adoption of mLearning: A Call for Collective and Collaborative Action*, another one from GSMA, their *Transforming learning through mEducation* produced by McKinsey & Company in Mumbai plus more detailed studies in specific countries.

During this period, Western Europe saw the development of the notion of *digital literacy*, those skills, competences and attitudes needed to comprehend, communicate, create and critique in a digital world. The debates about the exact nature of digital literacy have been largely confined to the university sectors (though some aspects, for example *e-safety*, are manifest in schools and South Africa has been active in this respect). Our points here are that such debates should also be addressing the meaning of digital literacy in the vocational sector, the community learning sector and across society in general, that such debates should be taking place in developing as well as developed counties and communities, and that these debates should explicitly include mobile digital technologies, as the major component of the digital experience of most people, especially those in developing countries and regions. Digital literacy, implicitly or explicitly, is now the foundation of lifelong learning and skills development.

This period also saw the emergence of research communities devoted to ICT for development, ICT4D, and mobiles for development, m4d, documenting and analysing the transformative impact of digital technology on economic and social lives in developing countries. This work is important for establishing the evolving context for skills development and for informal learning. Richard Heeks, in analysing the development of ICT4D⁷, much of which is in fact mobile, theorises that ICT4D moves in generations, from the established ICT4D 1.0 characterizing the poor largely as passive consumers or recipients, at ‘the bottom of the pyramid’ to an emergent ICT4D 2.0 seeing them as active producers and innovators. Within ICT4D 2.0 he sees *pro-poor* innovation occurs outside poor communities, but on their behalf, *para-poor* innovation is done working alongside poor communities and *per-poor* innovation occurs within and by poor communities. Education and training can be seen in a comparable framework, with large-scale teacher-led initial education systems in the first category but skills development and lifelong learning enabled by mobile technology having the potential to populate the other two later categories, to work with and within poor communities.

There were increasing numbers of regional mobile learning trade shows and commercial conferences, in, for example, South America and South Asia, often with development and infrastructure themes. In Africa, *Balancing Act* continued to report on the development of the mobile sector, covering infrastructure, regulation and policy, and the *eLearning Africa 2012 Report* and the subsequent *eLearning Africa Report 2014* drew critical attention to mobile opportunities and to patchy progress. The latter featured an interview with Brahim Sanou, the Director of the Telecommunication Development Bureau of the International Telecommunication Union, in which he said,

“The telecom sector must approach this from a “shared value” perspective joining the notion of profit and social good, and not strictly from a corporate social responsibility or philanthropic angle which often lies at the periphery of firms. Working in collaboration with the ecosystem in building long-term financially sustainable business models using the companies’ core competencies and technologies is the only way e- and mLearning will truly be able to scale and

have a transformative impact on education in the developing world.

Government policy is largely needed and must be strengthened for e- and mLearning. Collaborative work amongst all the players to include governments and industry is necessary to help increase adoption and awareness.”

This represented a move away from ideas of cost-effectiveness and return-on-investment as the rationale for mobile learning and argued for different bases for scale and sustainability. There was increasing talk of the *triple bottom line* – financial profit, social good and environmental sustainability. Social enterprises are grass-roots manifestation of this ethos, often exploiting mobile technology and documented in the *m4d* literature. There was also increasing talk, as here, of *shared value*, a concept that focused on the connections between societal and economic progress. It involved reconceiving products and markets, redefining productivity in the value chain and enabling local cluster development, and had advocates in amongst Intel, Walmart, Google, IBM, Unilever, Johnson & Johnson, Alcatel, Nestlé and others. The Harvard Business Review of January 2011 gives an overview and contrasts the concepts of CSV, *creating shared value* with the prior focus of CSR, *corporate social responsibility*, hitherto the main source of corporate support for mobile learning for disadvantaged communities and developing regions, one that proved increasingly vulnerable in a worsening global economic climate.

Notions of development

Underneath many discussions have been assumptions about *development* that are not clearly articulated. This lack of clarity is common. The prevailing definitions and priorities are however moving away from a focussing solely on economic growth and away from solely addressing extreme material deprivation in the global South. These definitions and priorities are however still powerful and often portray development as modernisation, as *catching-up*. In the context of education, there is much talk of mobile technology enabling a process of *leap-frogging*, jumping over computer implementations and going straight to mobile implementations. These notions have consequences for skills development and lifelong learning since they imply specific and immutable

trajectories and objectives independent of local culture and customs, independent of local traditions about learning, knowing and finding out.

An alternative, the Capability Approach of the Nobel Laureate Amartya Sen, has gained considerable visibility,

“Development can be seen as a process of expanding the real freedoms that people enjoy.”⁸

and

Focusing on the “substantive freedom – of people to lead the lives they have reason to value and to enhance the real choices they have.”⁹

In this more holistic view of development, economic growth plays an important, but not exclusive, role. It sounds like a very inclusive definition, one that should include learning, especially informal and lifelong learning alongside training and skills development. There are, however, problems:

The first is uncontrollability: the structure of the ‘development industry’ is such that funders tend to be persuaded to commit resources based on the promise of pre-determined impacts, not by a promise that people will be empowered to make much less predictable choices of development outcomes. The second is practical applicability: even if one were to accept expansion of freedom, and thus freedom to choose, as the primary end and principal means of development (Sen 1999:36) then how can the conceptual richness of this approach be translated into an operationalisable modus operandi in development planning, execution and evaluation?¹⁰

Several things are apparent: the issue of ‘practical applicability’ is exactly the challenge faced by informal and community learning programmes and by education in general, and secondly the Capability Approach puts training in a more holistic context than merely mechanically servicing the needs of employers and the economy. And then, specifically in relation to digital technology,

Technologies become sources of unfreedom, for example, when first people who would like to use them in order to better lead the lives they value cannot access them, while others can; and second, when people feel or are forced to use technologies which do not reflect the lives they value. The challenge facing “information and communication technologies for development” (ICT4D) is thus twofold: first, to work toward a situation in which people can have access to information and communication technologies (ICTs) if they so wish and, second, to consider whether and how new technologies relate to the lives that people value, individually and collectively.¹¹

This discussion is important when the possible contribution of mobile technologies to lifelong learning and skill development is considered and there is a resonance with the commercial community discussion of *shared value*.

At a less conceptual level, the *Sustainable Livelihoods Framework (SLF)* adopted by the UK DFID amongst others offers a more rounded vision of development compared to earlier, purely materialistic ones and provides an analytical tool to understand systemically the elements influencing the lives of poor people. It addresses the issue of ‘practical applicability’ that afflicts the Capability Approach. The SLF includes the concept of an individual’s *capital portfolio* made up of five *capitals*: human capital, natural capital, financial capital, physical capital and social capital. Human capital is measured by formal education and health indicators. *Social capital* is more problematic but this is exactly where informal and lifelong learning operate, building social cohesion and education empowerment. Furthermore, in the SLF livelihood outcomes are defined *a priori*. In the DFID version, *more income* is listed at the top, even before *increased well-being*. The SLF offers a broad and systemic view of development but its set of capitals is limited and the development goals are predetermined; unlike the Capability Approach, they are not up to the individual to choose.

Mobile learning

Some fundamental tensions in how mobile learning is perceived should also be discussed.

Looking backwards, mobile learning is a continuation of e-learning, of learning with computers, something that took place only in schools, colleges and universities and in corporations, institutions with the expertise and resources necessary for working with scarce, expensive, fragile and difficult devices, to enhance and extend the existing curriculum and to support the existing education systems. Projects were often small-scale, fixed-term, subsidised and run by skilled enthusiasts. The first decade of mobile learning was often characterised by challenges of sustainability, scale and transferability. Seen from this perspective the responsibility for mobile learning rested with the ministries and authorities in formal education and the commercial opportunities rested with those companies with e-learning expertise and legacy.

Looking forwards, ownership and familiarity of mobiles is becoming widespread; mobiles becoming ubiquitous and pervasive, cheap, robust and easy to use, and ordinary people and communities using them to produce, share and discuss ideas, information, images and opinions; in effect taking learning into their own hands not only as learners but as each other's teachers. Seen in these terms, the responsibility for mobile learning should be more systemic and societal, not limited to one department or one ministry, and the commercial opportunities should extend beyond publishers, networks and broadcasters to the communities themselves, their centres and their people, their values and their concerns.

In both cases it should be recognised that for many communities and regions, mobile technology and network connectivity are the portal to online resources and online communities; looking backwards, these might be web sites, OER (open educational resources) repositories¹², institutional MOOCs (massive open online courses), institutional VLEs (virtual learning environments) and formal SIGs (special interest groups); looking forwards, these will be Facebook groups, blog-posts, podcasts, twitter feeds, YouTube videos and user group sites. These examples show just how potent and empowering skills development and lifelong learning can be once accessible through mobile technology. The role of the teacher and trainer becomes that of continually monitoring and selecting resources, communities and experiences that their learners can exploit, and equipping these learners with the critical skills to continue this on their own behalf subsequently.

In both cases, however, the mobile learning advocates and activists must provide the necessary examples and evidence to move these various stakeholders forward, to take mobile learning up their priorities, to allocate resources and to take some measured risks.

In the subsequent articles, our contributors tackle definitions of mobile learning, and indeed various other kinds of learning, from a variety of perspectives, unpacking the implications and illustrating the fluidity of the various concepts.

Endnotes

- ¹ Available at: www.gsmworld.com/documents/mLearning_Report_Final_Dec2010.pdf
- ² www.meducationalliance.org
- ³ www.itcilo.org/en/community/news/mobile-learning/image/image_view_fullscreen
- ⁴ www.wise-qatar.org/content/31-mobile-learning-hard-reach
- ⁵ www.unesco.org/new/en/unesco/themes/icts/m4ed/
- ⁶ All available at: www.unesco.org/new/en/unesco/themes/icts/m4ed/
- ⁷ Heeks, R. (2008). ICT4D 2.0: The Next Phase of Applying ICT for International Development. *Computer*, 41(6), pp. 26-33.
- ⁸ Sen, A.K. (1999). *Development as Freedom*. Oxford: Oxford University Press, p. 3.
- ⁹ Sen, A.K. (1999). *Development as Freedom*. Oxford: Oxford University Press, p. 293.
- ¹⁰ Kleine, D. (2011). The capability approach and the 'medium of choice': steps towards conceptualising information and communication technologies for development. *Ethics and Information Technology*, 13(2), p.119.
- ¹¹ Kleine, D., Light, A. and Montero, M.-J. (2012). Signifiers of the life we value? – considering human development, technologies and Fair Trade from the perspective of the capabilities approach. *Information Technology for Development*, 18(1), p. 43.
- ¹² See <https://oerknowledgecloud.org/content/why-open-educational-resources-are-needed-mobile-learning>

