Lifelong learning

By Alastair Clark

In this article, the importance of lifelong learning will be explored, and in particular, the ways in which hand-held digital communication devices can be used as effective ways for adults to learn. Mobile Learning offers some very significant potential benefits to adult learners. Our challenge is to ensure that, educators, policy makers and learners themselves can all play their parts in ensuring that these new ways of learning really do make a positive difference to people's personal and professional lives.

Learning

Learning taking place at any time in a citizen's life can rightly be described as lifelong learning and the UNESCO Institute for Lifelong Learning indicates that it 'encompasses learning **at all ages** and subsumes formal, non-formal and informal learning.'[1] However, the term is commonly used to focus on the learning that takes place after a period of initial education. Lifelong learning can be pursued for both personal and professional reasons. Indeed some advocates have dismissed the validity of making a clear divide between these two types of learning. They argue that non-vocational learning can often produce learning outcomes which are beneficial in the workplace and conversely vocational training can often satisfy broader individual needs for personal fulfilment.

Learning throughout life will have a range of functions for different people and at different stages at their lives. For instance, lifelong learning provides a vital opportunity for adults to 'catch-up' on elements of their initial education and training that they have missed. It can also prepare adults for a new life stage, for example: new employment, preparation for retirement or accepting new family or civic responsibilities[2]. Lifelong learning can also play an important part in helping adults to define and shape their own identities by exploring their past biographies and framing their aspirations.

UNESCO convenes the Confintea world conferences on adult education every decade. The priorities for action set at Confintea VI in Belem, Brazil in 2009 provide an indication of key global policy trends. These priorities are:

- to push forward the recognition of adult learning and education as an important element of and factor conducive to lifelong learning, of which literacy is the foundation;
- to highlight the crucial role of adult learning and education for the realisation of current international education and development agendas (EFA, MDGs, UNLD, LIFE and DESD)[3]; and
- to renew political momentum and commitment and to develop the tools for implementation in order to move from rhetoric to action.

Learning can include the acquisition of knowledge, skills and values and this is especially true of lifelong learning and can be characterised as, what you know, what you can do and what you believe in. Learning itself can take place in so many different ways and it has become common to recognise a distinction between Formal, Non-Formal and Informal Learning. These distinctions are used widely in policy and there have been some bold attempts to offer formal recognition for the outcomes of informal and non-formal learning. Although there are some variations in the detailed definitions that are used, the following descriptions offer a useful indication of how the terms 'formal', 'non-formal' and 'informal' are commonly applied to education and learning.

Formal education: the hierarchically structured, chronologically graded 'education system', running from primary school through the university and including, in addition to general academic studies, a variety of specialised programmes and institutions for full-time technical and professional training.

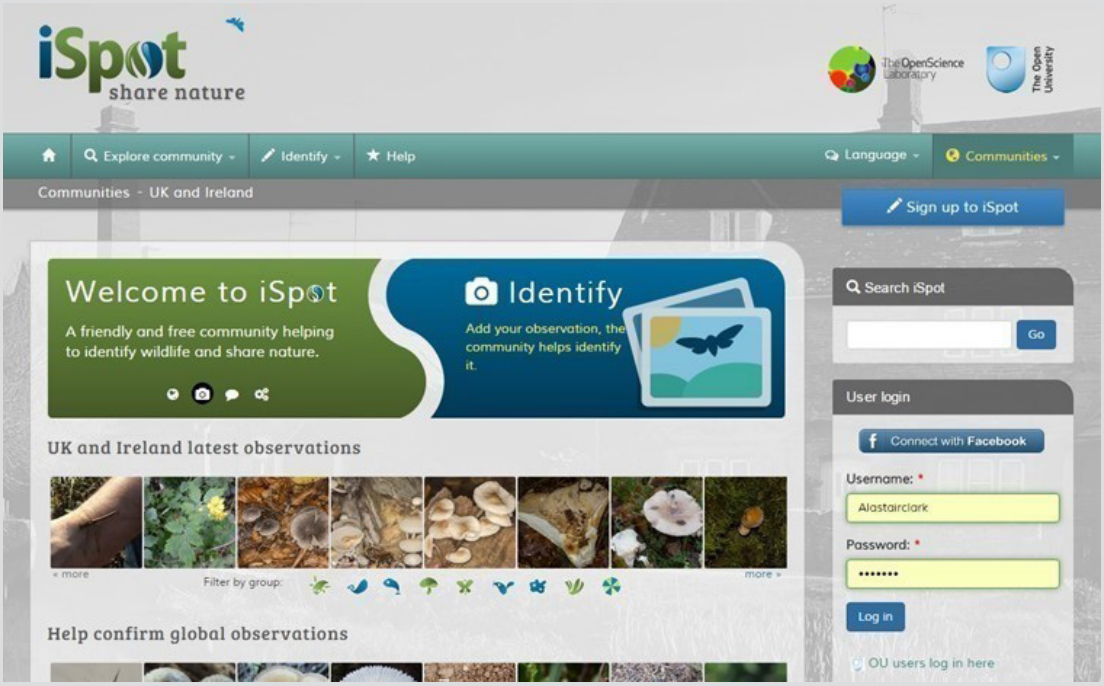
Non-formal education: any organised educational activity outside the established formal system – whether operating separately or as an important feature of some broader activity – that is intended to serve identifiable learning clienteles and learning objectives.

Informal education: the truly lifelong process whereby every individual acquires attitudes, values, skills and knowledge from daily experience and the educative influences and resources in his or her environment – from family and neighbours, from work and play, from the market place, the library and the mass media.[4] It is often added that a substantial element of informal education may not even be conscious on the part of the learner or may be understood or implied without being specifically stated (tacit learning). Non-formal learning has many manifestations but examples would include village-based literacy classes for adults and training of coaches in a sports club. The iSpot Nature web site offers an online example of self directed and collaborative learning where users learn to identify and appreciate flora and fauna through sharing information on an online community (Box 1.1).

As seen from the priorities set at Confintea VI, ensuring that citizens have access to learn throughout their lives has become an object of policy and has been associated with efforts to create a more just world. Beyond the formal

Box 1.1: iSpot Nature

The Open University iSpot website works well on mobile devices and provides a platform for anytime, anyplace, informal learning. The collaborative features of the site enables a community of over 33 000 users world-wide to share their knowledge. Nearly a quarter of a million images of flora and fauna have been uploaded to iSpot and the species have then been identified by one or more fellow users. Images have been submitted to iSpot from over 140 countries and can be uploaded directly from a mobile device. The community of users includes students and enthusiastic amateurs as well as teachers and academics.



iSpot is a Citizen Science project run by The Open University in the UK but used worldwide. It was originally developed as part of the Open Air Laboratories (OPAL) project 2008-12.

Photo credit: iSpot. www.ispotnature.org/

structures of UNESCO and national governments, the Non-Governmental Organisations have raised their voices in support of lifelong learning in the name of social justice. The International Council for the Education of Adults identifies this key role of adult learning in promoting positive changes. The Council has as its mission:

> *to promote learning and education for adults and young people in pursuit of social justice within the framework of human right in all its dimensions, to secure the healthy, sustainable and democratic development of individuals, communities and societies.*[5]

This role for lifelong learning resonates with the approach to critical pedagogy championed by the influential Brazilian educator, Paolo Freire who challenged the notion that learners were like empty bank accounts waiting for deposits from the teacher but instead advocated the co-creation of learning. This notion of co-creation was central to the foundation of the Workers Educational Association in the UK that set out in 1904 to ensure that 'teachers would be learners and the learners would be teachers.' The *Folkbildning* movement of the Nordic countries has had a world-wide influence on approaches to lifelong learning with its strong on the value of self organised Study Circles and the principles have also been applied to online learning circles too.

Participation rates in formal and non-formal adult learning vary greatly. Even in the countries of the Organisation for Economic Cooperation and Development (OECD) the range is from 60 per cent of adults in Sweden and New Zealand to just 15 per cent of the adult populations in Greece or Hungary[6]. Informal learning is far harder to measure but the World Wide Web is being used extensively to seek instant answers to 'just in time' questions through search engines and topic based user-forums.

Global learning challenges

The ability to create and to read communication using the written word remains vitally important skills. Without literacy skill, doors are closed to further learning and to full participation in civil society. It is therefore of real concern that UNESCO has identified that 774 million adults across the world cannot read or write and that two out of three of these people are women. Even more challenging is the fact that this figure only dropped by 1 per cent between 2000 and 2011, and UNESCO predict that, at present rates, it may not be until 2072 that 'the poorest young women in developing countries achieve universal literacy!

Seeking to address the need for reading materials in local languages, the World Reader WRM app is available in 53 countries and gives access to reading material in 43 languages (Box 1.3).

The problem may not even be solved through the current initial education system as UNESCO has also identified that around 250 million children are 'not learning the basic skills, even though half of them have spent at least four years at school'. It follows that there is huge need to raise the skills and effectiveness of the current teaching work force.[7]

Whilst work on literacy in some countries may be focussed on the widely used colonial languages, there are also shrill calls for new technologies to play their part in strengthening and celebrating the position of traditional and indigenous languages.

South African teachers have shown the effectiveness of using local languages to make audio recordings on mobile phones of key learning points from science lessons (Box 1.4).

The 2013 *UNESCO Education for All Monitoring Report* sets improvements in quality of teaching as one of its six goals. Indeed the reports suggest that 'in a third of countries the challenge of training existing teachers is worse than that of recruiting and training new teachers'. Examples of good practice exist of use of mobiles for in-service training for teachers and school leaders.

In addition to the need to improve literacy levels and to address the closely-related issue of in-service teacher training, there are further global issues that should call upon mobile learning to meet the challenges. The English in Action project in Bangladesh addressed the need for teacher training by deploying small memory cards containing training materials which could be accessed through mobile phones equipped with speakers (Box 1.2).

There remain gender disparities in accessing the benefits of education, with only 38 per cent of

Box 1.2: In-service training for effective language teaching in Bangladesh

The English in Action seeks to raise the English language attainment levels in Bangladesh schools through in service training for teachers. The primary method is to distribute videos of actual Bangladeshi teachers, employing active 'communicative' techniques in their own classrooms.

The training materials, developed by the OU and local partners in Bangladesh, are stored on tiny SD (secure digital) memory cards, supplied to the teachers pre-loaded on mobile phones with external speakers.

The project wanted to use widespread available technology to get high-quality audio and video learning materials to teachers, even in remote rural areas, but without depending on costly, unreliable mobile internet access or intermittent electricity supplies.

English in Action was developed at the request of the Bangladeshi Government, and funded by the UK Government Department for International Development's UK Aid programme. It is delivered in partnership with development consultants BMB Mott McDonald.

Box 1.3: World Reader

The World Reader WRM app is available in 53 countries and gives access to reading material in 43 languages including Hindi, Yoruba, Kiswahili and Twi. The World Reader organisation provides over 6 000 digitised books including newly published African authors and existing material donated by top trade and textbook publishers.

Support is offered locally to promote reading on mobile devices and World Reader also offers training for local project managers and teachers as well as e-reader repair training for local businesses.

Source: West, M. (2014). *Reading in the mobile era: A study of mobile reading in developing countries*. Paris, UNESCO. Available at: http://unesdoc.unesco.org/images/0022/002274/227436E.pdf Accessed 20 Nov. 2016.

countries in the world having achieved gender parity of access to secondary education.[8] Whilst there may also be some parallel gender disparity in access to mobile technologies, there has been some very encouraging work in use of mobile phones to extend literacy material to women.

Changes in global climate are increasing the need to learn how this is happening and what can be done as a result. Whilst UNESCO declared the *Decade of Education for Sustainable Development* from 2004 - 2014 there remains an ongoing and increasingly vital task of raising the understanding of the science along with the social and economic consequences of changes in climate and other environmental changes. These in turn are fuelling a growing demand for new skills and new technologies to support 'green industries'.

Another challenge is presented by the very technology of mobile, learning itself. As the world becomes increasingly connected, there is a need to understand the social and political implications of these connections. Many countries across the globe are recognising the need to develop strategies and learning programmes (often informal and non-formal) to minimise the disparities between those who have and those who do not have access to information and opportunities to exercise freedom of expression. It is right and fitting that mobile learning will play its part in delivering learning in Media and Information Literacy.[9]

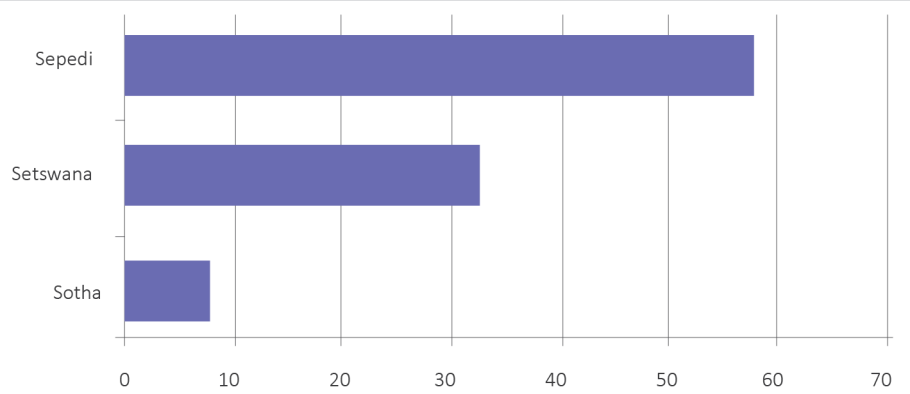
When it comes to skills related to specific jobs, the World Bank has identified that:

Box 1.4: Mobile learning through indigenous languages in South Africa

South African secondary school physical science learners used mobile phones to create audio notes of their learning. The notes were in a mixture of English and indigenous languages and were uploaded onto a mobile learning system where they could be retrieved later for revision purposes (Figure 1.1).

The content of these notes was composed from their own individual knowledge gathered from their daily physical science lessons and other sources of electronic and non-electronic learning resources including their text-books.

Figure 1.1: Languages used by learners to create clips (in addition to English)



Source: Jantjies, M. and Joy, M. (2013). *Mobile learning through indigenous languages: learning through a constructivist approach*. In: 12th World Conference on Mobile and Contextual Learning (mLearn 2013), Doha, Qatar, 22-24 Oct 2013. Published in: 12th World Conference on Mobile and Contextual Learning (mLearn 2013), Volume 2013 (Article number 14). Available at: http://www.qscience.com/doi/abs/10.5339/qproc.2013.mlearn.14 Accessed 19 Nov. 2016.

> *"... the share of firms worried about inadequate worker education and skills averages about 25% in the Organization for Economic Cooperation and Development and in Europe and Central Asia, 40% in Sub-Saharan Africa, and 50% in East Asia and the Pacific."*[10]

Mobile learning has a distinct and powerful role to play in initial vocational training, but also in supporting the mix of learning methods and styles that help to keep a workforce flexible and innovative.

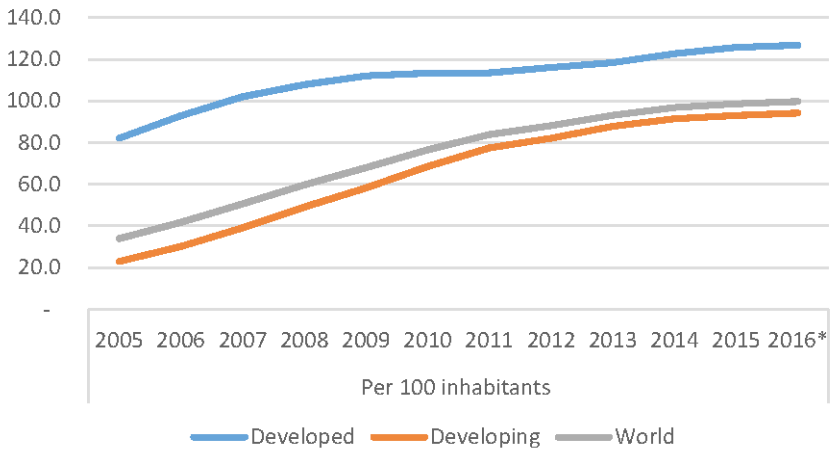
Charles Jennings[11] has famously proposed the 70:20:10 ratio suggesting that for most jobs, 70 per cent of the skills, knowledge required are learned on the job, 20 per cent from other people and 10 per cent from formal training. Whilst the exact figures will vary, this does remind educators that formal training must be of good quality and relevant and that communication methods are available for people in employment to seek advice from co-workers including those who are not co-located.

Lifelong learning as mobile learning

When facing these global educational challenges, the rapid increase in access to mobile technologies cannot be ignored. To illustrate this recent growth in access to mobile devices Figure 1.2 shows how mobile phone penetration has changed since 2005 and how this has been most marked in developing countries where there has been more than a four-fold increase from 2005 to 2013.

Of course, some users have multiple accounts so these figures cannot be taken to equate directly to the proportion of a population that has phone access. However, this rapid rise appears set to continue and does indicate a vast increase in the number of mobile devices in circulation.

Figure 1.2: Mobile-cellular subscriptions per 100 inhabitants, 2005-2016



Source: ITU. (2016). *Key 2005-2016 ICT data for the world, by geographic regions and by level of development.* Available at http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx Accessed 18 Nov. 2016.
* Estimate for 2016

These devices will have a variety of levels of functionality and connectivity, and we illustrate in Table 1 examples of the range of functions which can support learning. In addition to simple mobile phones, 'Feature Phones' have more functionality, but smartphones with a computer style operating system are becoming more widely used as their price reduces. Beyond mobile phones, other handheld mobile electronic devices are also deployed for learning. These currently include tablets, video and audio recorders, games machines, GPS units and industry specific devices, but the market is dynamic and innovative. New devices with new combinations of functions are being introduced regularly.

Following the 2012 Paris declaration on Open Education[12], there is a renewed commitment from publicly funded content providers to ensure that the materials they create are licensed as Open Educational Resources (OERs) and thus freely available for others to use, adapt and share.

Our citizens deserve the best from mobile learning

Throughout the world, access to good quality and relevant education is recognised as playing a key part in supporting economic and human development. The work of UNESCO and others have shown how much still needs to be done to ensure that all citizens have a basic education on which they can build the skill, knowledge and attitudes for successful economic and civic participation. The opportunities to enhance learning presented by the rapid growth in access to hand-held communication should be seized.

In order to gain the maximum benefit, it is recommended that:

- strategies for improving literacy should include use of appropriate mobile technologies to provide high quality learning experiences;
- policies should be developed for use of mobile technology to develop and celebrate the use of indigenous languages;
- mobile learning should be employed as one method in the initial training of teachers and Continuous Professional Development so that all educators can experience the benefits and develop the necessary technical and pedagogical skills to make best use;
- voluntary civil society organisations should be given technical and pedagogical support to deploy appropriate mobile learning techniques in their delivery of non-formal learning;
- communication providers should promote their networks as gateways to new knowledge and to seek both to stimulate and to satisfy the curiosity that motivates informal learning;

- mobile technology should be presented in policy statements as a tool for all, offering a window on a wider world of knowledge to women and men, all ages, all abilities and to rich and poor alike. Ambitious but achievable goals should be set for widening access to learning for all through technology.

Table 1.1: Examples of range of learning-related functions that can be used on mobile devices

Information delivery	Information provided by phone call Information provided by SMS text Text made available to read on the device Instructional video provided through the device Instructional audio provided through the device Location-specific content delivery through QR codes and Augmented Reality
Collaboration	Use of SMS message boards Web based collaborative tools Voice connection to individuals or conference calls
Assessment	Assessment test / quiz activity undertaken on the device Feedback to learners via voice or SMS Recording of skill performance by video or audio Collecting evidence of a finished product of learning (eg photo, video, audio)
User-generated content	Video Audio Text Geo-specific information collection

This is non exhaustive, as one of the significant features of this area of technology is rapid change and innovation.

Endnotes

1 UNESCO Institute for Lifelong Learning. (2010). *Lifelong Learning*. Available at: http://www.uil.unesco.org/lifelong-learning-0 Accessed 16 Nov. 2016.

2 Schuller, T. and Watson, D. (2009). *Learning for Life - Inquiry into the Future of Lifelong Learning*. Leicester: NIACE.

3 EFA: Education for All, MDG: Millennium Development Goals, UNLD: UN Literacy Decade, LIFE: Literacy Initiative for Empowerment, DESD: Decade for Education for Sustainable Development.

4 Combs, P.H., Prosser, R.C. and Ahmed, M. (1973). *New path to learning for rural children and youth*. New York: International Council for Educational Development.

5 International Council for Adult Education. (2013). *About Us.* Available at: www.icae2.org/index.php/en/about-us/mission Accessed 16 Nov. 2016.

6 OECD. (2013). *Education at a Glance 2013: OECD Indicators.* OECD Publishing. Available at: http://www.oecd-ilibrary.org/education/education-at-a-glance-2013_eag-2013-en Accessed 16 Nov. 2016.

7 UNESCO. (2014). *Education for All Global Monitoring Report 2013/4*. Paris: UNESCO. Available at: http://en.unesco.org/gem-report/allreports Accessed 16 Nov. 2016.

8 Ibid.

9 UNESCO. (2013). *Media and Information Literacy Policy and Strategy Guidelines*. Paris: UNESCO. Available at: http://unesdoc.unesco.org/images/0022/002256/225606e.pdf Accessed 20 Nov. 2016.

10 World Bank. (2010). *Stepping up skills for more jobs and higher productivity*. Washington, D.C.: International Bank for Reconstruction and Development/The World Bank. Available at: http://documents.worldbank.org/curated/en/2010/06/12515032/stepping-up-skills-more-jobs-higher-productivity Accessed 20 Nov. 2016.

11 See Charles Jennings' Blog: http://tinyurl.com/pm4sq9x

12 Available at: http://tinyurl.com/kzfmtqg