How mobile technology can benefit learning for development[1]

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The growth of mobile telecommunications has been spectacular. When it reached the consumer market in the late 1980s, the mobile phone was an exotic technology – expensive and inaccessible to all but a few. By the mid-1990s, mobile communications had started on a growth phase that has created a whole new paradigm of communication. With about 5 billion subscribers of mobile telephony in the world in 2011, up from some 500 million in 2000, mobile communications have increased in an unparalleled fashion.

Since the middle of 2011, there has been a noticeable uptick in interest among international development organisations in applications of mobile telephony. The UN's Food and Agriculture Organization (FAO) and the Global Forum for Agricultural Research ran global online discussions on mobile telephony in agriculture. UNESCO organised a two-part mobile learning week in December 2011. There have also been a number of national conferences. The for-profit sector has been a prominent stakeholder in all these conversations.

A set of key concerns has emerged in these consultations. To make mobile communications effective as a support in development, especially in learning for development, we need greater independence from specific devices (such as standard or smart phones or tablets) and from specific services of telecom companies. Another concern is that a number of recent initiatives, in both the non-profit and for-profit sectors, focus on building specific apps for devices such as iPads, iPhones and other tablets and smart phones. In developing countries, these are expensive to buy and own and are often tied to long-term contracts with specific service providers. Another problem is the apparent lack of interest in the use of simple text and voice as key media in mobile communications for learning and development. Given the persistent illiteracy and lack of experience of classroom-based schooling among hundreds of millions of people in many parts of the world, new developments that ignore simple texting and voice messages will limit the options for many people to participate in the mobile learning paradigm.

An equally famous example of the spectacular growth of a technology that affects the daily lives of many is the World Wide Web. Sir Tim Berners-Lee, inventor of the protocol that underlies the web and the first web browser, affirmed that the rapid growth of the web was due primarily to its open character. Entry barriers to the web for developers were non-existent, which spurred the development of literally millions of web-based applications that have touched millions. The World Wide Web Foundation, chaired by Sir Tim, advocates the merging of the open standards of the web with 'simple' voice and text protocols of mobile telephony that are still open to developers.

The LIVES mobile communications application, developed by the Commonwealth of Learning (COL) in partnership with the University of British Columbia, is an example of such synergy. LIVES+ is a more advanced version of this mobile application that is currently in a set of field trials in different linguistic regions of India. LIVES enables any learning organisation, be it a formal educational institution or a community-based organisation, to deliver voice messages to any interested user. The user is prompted to answer questions based on the delivered voice message and the application records and tracks the score individually. The learner's progress can be tracked unambiguously. The advantage is that the learner can use any phone device or any service provider that is most affordable or convenient. In many plans, incoming calls are free. Earlier trials involved hundreds of active women farmers and shepherds in one part of India, and in Jamaica and Kenya. LIVES+ trials now include three regions in India, taking the number of learners to 8,000.

There are several applications that proceed along this direction. The Voice Krishi Vigyan Kendra (vKVK) farm science centre uses a sophisticated server-side set-up to enable experts and farmers to interact with each other for group-specific, highly customised and interactive messaging, using only voice. This is device- and carrier-independent. vKVK enables the expert, with access to the web, to carry out structured analyses of farmers' queries and answers, and to form highly focused groups on demand. This has been tried out in 40 centres in three linguistic Indian states, covering 15,000 farmers in three seasons, and is set for scale-up across all of India. There exist applications that allow mobile telephony voice messages to be used in community radio broadcasts. The number of such applications can and will grow, and the global development community needs to encourage and take advantage of them. This is important to keep learning-for-development processes free from a potential lock-in with a device vendor or a service provider.

The higher education community has been excited about the rapid advances in both mobile telephony and tablet computing. The New Media Consortium (NMC), in its 'NMC Horizon Report – 2012 Higher Education', for example, identifies these two technologies as capable of large-scale adoption in the span of a year. The recent development of low-cost tablet computers (in a price range of US$70–110) augurs well for the developing world. It brings together the advantages of mobile telephony with tablet computing in an affordable way. These devices use a version of the android operating system and provide a seven-inch display with reasonable memory (upwards of 4GB) and processor power. They

are capable of doing word processing and essential calculations, are able to play short video clips, and connect using Wi-Fi. All of them provide a USB port to connect a flash drive or USB modem (or 'dongle'), thus enabling standard GPRS or 3G mobile connectivity as well. This development in the market is very recent and is still to catch the imagination of the learning-for-development community. Given that the price of basic mobile phones is in the range of $45–75 in many developing countries, the tablet computers in this price range are introducing a possible new dimension in the use of mobile telephony. There is a need for neutral, international expert groups to consider and promote meaningful uses of this fusion.

Endnote

[1] This contribution is based on a blog authored jointly by Venkataraman Balaji and Sir John Daniel.

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