Mobiles for Education Alliance
Seminar Series Summary Compendium

Since the official launch of the Mobiles for Education (mEducation)[1] Alliance in 2011, the mEducation Alliance Secretariat, managed by JBS International, Inc., worked closely with USAID and Alliance members to develop the mEducation Alliance Seminar Series. The Seminar Series was launched to promote an inclusive and innovative community dedicated to exploring the intersection between mobiles, education and development. mEducation Seminars focused on the use of mobile technologies (broadly defined)[2] to improve learning outcomes, particularly in low-resource environments. As such, this series of interactive presentations and discussions, organized and facilitated by the Secretariat, convened a wide range of stakeholders around specific topics or themes in order to promote cooperation and bring collaborating groups closer to achieving overall goals.

This compendium is a compilation of event summaries representing the broad range of Seminar Series events hosted by the mEducation Alliance from the initial implementation of the series until the completion of JBS International's role as the mEducation Alliance Secretariat in March 2014. The summaries were produced by JBS International Inc. in collaboration with featured presenters and/or host organizations where noted.

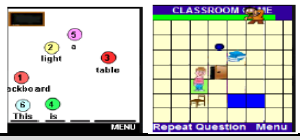
[1] formerly known as M4Ed4Dev

[2] The mEducation Alliance embraces a broad definition of mobile devices including, but not limited to: phones, e-Readers, tablet computers, flash memory, radio, micro projectors and other audio/visual devices. (Source: http://www.meducationalliance.org/sites/default/files/meducation_alliance_brochure_2013.pdf)

TABLE OF CONTENTS

Mobiles for Education for Development Seminar Series – December 2010

Mobiles for Literacy



The Idea

Mobile phones are being tested as a tool for promoting literacy skills among young people. Contextually appropriate, educational games on mobile phones could provide substantive educational opportunities to both in-school and out-of-school children. Early results indicate that these tools can have a measurable impact.

Why It Matters

According to the ITU World Telecommunication/ICT Development Report 2010, mobile cellular networks already cover close to 90 per cent of the world population and the number of mobile subscribers is likely to reach the 5 billion mark this year. The opportunity to utilize mobiles for development is enormously exciting for development practitioners, particularly for those of us looking at innovative ways to promote global literacy. In developing countries, over 73 million children are out-of-school. (EFA Global Monitoring Report, 2007). By developing contextually appropriate, mobile educational literacy games, an otherwise hard-to-serve population can be reached.

What We Know

Since 2006, Professor Kam (Carnegie Mellon University) and other researchers have worked through MILLEE (Mobile and Immersive Learning for Literacy in Emerging Economies) to develop mobile phones as a literacy platform. Specifically, MILLEE is researching the use of mobile gaming to develop literacy skills in English. English literacy skills are emphasized as learning English is itself an incentive for participation as it is considered an important element for future work.

Game development entailed iterative testing to identify *culturally appropriate gameplay* in both rural and urban settings. While the research was based on an after-school literacy program, Kam proposes that these same games might be integrated into an existing literacy curriculum.

Kam's research took place in India during a school semester (2007-2009). In the first study, twenty-seven students (ages 7 to 14) participated in a semester long program. Gaming sessions occurred in an after-school program at a private village school. Sessions occurred three times per week and lasted two hours per session. Students were screened prior to participation, and assessments were conducted before and after the study. Assessments were based on a standardized English exam already used in India. Upon completion, participants exhibited statistically significant gains based on pre and post testing. (Results summary) A second study looked at out-of-school youth in a rural community. Some of the lessons learned include:

Cultural context is critical for game design. Kam used field testing to refine effective gaming models. Initial models included notable Western-based biases that were non-intuitive to rural Indian children. Biases included role playing, character development, managing resources (eg, health points), and unfamiliar items (eg, money and armor). Design modifications were based on a review of 28 traditional Indian village games. One modification was to incorporate a graphic of a teacher to indicate that the game was, in fact, a learning experience.

Intervention design is critical. After a child's literacy skills are assessed, an associated intervention plan must be available. MILLEE uses a 'bridge curriculum' to address the literacy gap. This curriculum targets different levels of readers as identified via the literacy assessment and is based on Chall's stages of reading development. (Results Summary)

Learning to read is still about curriculum and content development, not application development. As with all technology, learning is first. The technology must be integrated into an effective learning agenda. Time spent teaching the tool (versus developing new literacy skills) should be evaluated. Appropriate interventions need to be available to address a learner's abilities and goals.

Parents want to learn too! While gaining parental consent, Kam was surprised to find that the children's mothers were interested in participating in the program. This suggests another target population might be young mothers who want to improve their literacy skills. A reading program in South Africa called m4LIT, discovered that their work was reaching an unexpected cohort as well.

More Information

PRESENTER	Matthew Kam, Assistant Professor, Carnegie Mellon University
USAID	Anthony Bloome, Education Technology Specialist, EGAT/ED, abloome@usaid.gov
ADDITIONAL READINGS	Kam's Presentation to ICTD (2009) Mobile and Immersive Learning for Literacy in Emerging Economies (MILLEE) iSTEP Project in TANZANIA (2009) BBC Janala (English Instruction on Mobile Phones in Bangladesh) mNovels m4Lit, YOZA (Reading & Writing in South Africa) UNESCO Mobile Technologies for Learning and Development Presentations mLearning (2010 GSMA Report) Tostan (see Jokko Initiative) Celedu (Cellular + Education) The World Bank ICT for Education Blog InfoDev - Education

About this Series

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Briefings are held at the second Thursday of each month at the Ronald Reagan Building, North Tower, 1300 Pennsylvania, Suite 700. Contact Anthony Bloome at abloome@usaid.gov for more information.

The presentation and information included in this brief do not represent a USAID endorsement of a specific project, individual or organization.

Next Briefing: Mobiles and Educational Assessment, January 13, 2011, 9:30am-11:30am

USAID FROM THE AMERICAN PEOPLE

Mobiles for Education for Development Seminar Series – January 2011

MOBILES FOR EDUCATION FOR DEVELOPMENT m4Ed4Dev

Mobiles for Classroom Assessment

The Idea

Mobile devices can support teachers by providing a minimally invasive and portable tool to assess literacy and numeracy skills. Mobiles for assessment could also help principals monitor classroom performance, provide teachers with effective and efficient tools for monitoring individual student achievement, engage students in their personal progress, and enable parents to become more involved in their child's advancement.

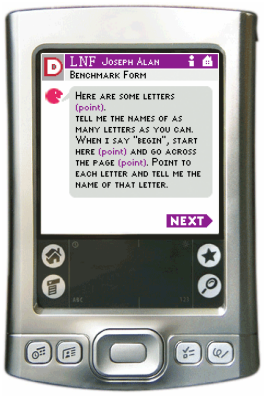
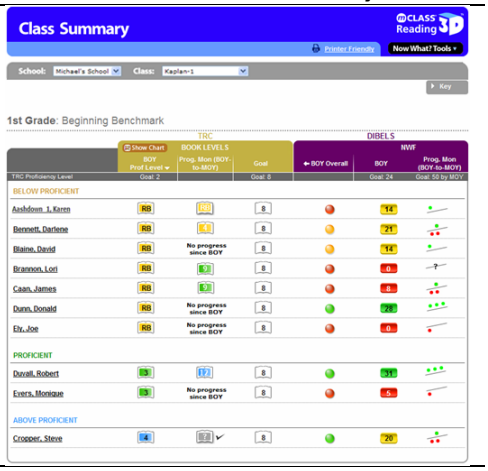
Why It Matters

Using mobile devices to automate testing and simplify assessments for literacy and numeracy benefits the teacher by minimizing assessment time and providing quality data to administrators in a timely manner. The ubiquity of mobile phones, and their decreasing costs, provides opportunities for new applications. In this approach, the mobile device is not primarily about instruction but rather a diagnostic tool that can support teachers in the classroom as well as provide timely, relevant and quality data for decision making throughout the educational system.

What We Know

Wireless Generation has developed a proprietary, software-based assessment tool that works on handheld mobile devices as well as laptops and netbooks. The tool supports multiple languages. This tool can simplify assessments, support adjustments in instruction, and provide a means to aggregate class, school, district and national level data.

In the screenshots below, the tool presents three compelling views how the mobile device is used. (Note: The details of the screenshots below can be more easily viewed by 'zooming' this Word Document from 150% to 200%.)

1. *Reading Assessment*	2. *Feedback*	3. *Class Level Summary*
		

1. Reading Assessment. The mobile device presents a guide for teachers to administer and score the test. The student is provided a paper copy of the assessment tool during the assessment. As the student reads

the passage aloud, the teacher (in subsequent screens) scores the effort. Each assessment is catalogued according to the individual student.

2. Feedback. This presents the assessment summary. Results are presented in multiple formats: by numeric score representing fluency as measured by the number of phonemes per minute, and through a graphic that can be used to share outcomes and improvements with students or parents. This graphic shows the student's score along a color-coded progress bar. This provides a visual tool that can be shared with a student or parent to give a sense of standing and accomplishment.

3. Class Level Summary. This is a classroom assessment that provides composite profiles of students within a classroom. The listing of students includes numbers and graphics to provide teachers and principals a quick summary of each student's current standing and progress over time. Further, the listing is grouped according to achievement level to support differentiated learning strategies.

Wireless Generation's tools are currently used by roughly 200,000 educators and approximately 3 million students. The tools are in use by large districts including Houston, Indianapolis, Boston, Detroit, Buffalo, Chicago and New York City. Indiana has implemented the tool statewide.

A number of lessons learned have supported incremental improvements. These include:

Students like to see their progress. As teachers conducted their assessment, students wanted to see their results. So, the tool was modified to include an easy-to-understand graphic that allowed learners to see how they performed or improved. Engaging students in their own learning provided an attractive incentive.

Parents want to see all the results. While the initial design provided limited information on their child's achievement, parents wanted to see more. The tool now supports an enhanced view for parents.

Identify disconnects between teacher perception and student performance. After using the tool, some teachers found that their own assessments were different from the tool's assessment. This helped teachers identify cases where student performance differed from teacher interpretation.

More Information

PRESENTER	David Stevenson, Wireless Generation
USAID	Anthony Bloome, Education Technology Specialist, EGAT/ED, abloome@usaid.gov
ADDITIONAL RESOURCES	An Analysis of Technology Assisted Progress Monitoring to Drive Improved Student Outcomes Research on mCLASS Handheld Platform Putting Data Into Practice, Lessons from New York City An American Examination System Wireless Generation

About this Series

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Briefings are held at the second Thursday of each month at the Ronald Reagan Building, North Tower, 1300 Pennsylvania, Suite 700. Contact Anthony Bloome at abloome@usaid.gov for more information.

Mobiles for Education for Development Seminar Series
February 2011

eReaders

The Idea

The eReader like the Amazon Kindle or Barnes and Noble Nook offers an intriguing approach to provide digitally based learning materials in developing countries. Current eReaders can store hundreds of books, download additional content wirelessly, require minimal power and are relatively simple to use. eReaders have the potential to provide vast digital libraries to underserved communities at a cost that would be unattainable using paper based books.

Why It Matters

Up-to-date, quality textbooks are hard to find in schools around the world. Not only are the costs of the books a barrier, but the delivery of books is challenged by distribution logistics and access issues. Digital libraries, in conjunction with wireless delivery (GSM and WiFi) to handheld devices, change the economics of delivering books to children and adults. With an established infrastructure and marketplace for digital content, eReaders provide the opportunity to bypass expensive and inefficient distribution systems and give learners access to vast stores of information.

What We Know

Worldreader.org is a non-profit organization with the goal of making "digital books available to all in the developing world." (Source: Worldreader website) Funded by USAID, private donors and in-kind donations, the Worldreader approach is to develop a sustainable ecosystem for delivering digital content to children in the developing world. In 2010, Worldreader launched a USAID-funded pilot in Ghana called iREAD.

The iREAD project has put eReaders in the hands of over 500 students and teachers in Ghana. Six schools – two each at a primary, junior high and senior high level – are part of this study. The study includes three cohorts – students without an eReader, students with an eReader, and students with an eReader and additional support activities. Student achievement is measured at the beginning of the year before eReaders are introduced, at the middle of the year, and at the end of the school year. Teachers are trained on integrating e-books into the curriculum, and students are trained in the use of the device. The pilot began in December 2010.

For the iREAD pilot, the eReader is the Amazon Kindle 3 with GSM and WiFi capabilities. Each Kindle includes a case and light. Approximately 80 books have been preloaded on this device. The teachers and students can use the eReader at school and at home. iREAD eReader users can also download additional content. While the inventory is continually expanding, the Kindle Store Worldreader library and Worldreader textbook list provide a catalog of currently available titles. The program presently subsidizes costs for selected, additional content.

The Worldreader model leverages existing technology with customized content. According to David Risher, co-founder and President of Worldreader, this provides "a library in a child's hand." (Source: Worldreader presentation) The device provides a number of intriguing benefits.

Power ..... A one-hour charge can provide up to 4 weeks of use. Field tests show that the device can be 80 percent charged with only one hour on a solar powered charger.

Capacity ..... The iREAD project includes eReaders pre-loaded with approximately 80 books, though eReaders can hold many more. The first generation Kindle could store approximately 200 non-illustrated books. The next generation Kindle 2 can hold nearly 1,500 non-illustrated books. (Source: answers.com)

Access ..... Beyond the device's storage capacity, the Kindle Store provides potential access to literally hundreds of thousands of books.

Distribution .....By delivering digital books via GSM and possibly WiFi, the distribution costs for additional content becomes a nominal expense. Although a sophisticated technical infrastructure is required, the incremental cost of book delivery falls to nearly zero.

Transparency.....Book distribution to schools is fraught with many challenges. Whether a library behind lock and key, or an opaque distribution system, the direct delivery of books to a student's handheld device provides a new level of accountability.

Measurement.....The iREAD project can provide additional insight into actual consumption of learning materials by tracking downloaded material. For example, 67 percent of students in the project have downloaded additional content. (Source: Worldreader presentation) In the future, there may be additional granularity as to children's reading habits.

Local Content .....Worldreader is working with local publishers to digitize local content.

Many open questions remain. Equity and access issues relating to student ownership of relatively expensive devices are one concern. Wireless access also cannot be taken for granted. The cost of digital books will remain a barrier. While presently subsidized through the project, the availability of new content will hinge on not only costs, but payment systems. Perhaps most important, this new tool must be integrated into the curriculum and support effective pedagogy.

The newness of this approach generates further questions including: Will the eReader perform in challenging educational environments? How and who will maintain it? Will different eReaders be compatible between book formats and hardware platforms? What risk does a project entail by locking in with a single vendor? Will the eReader work in no light and low light scenarios? How well do students learn and read from eReaders? Could the plethora of reading materials risk confusing students?

Moving forward, Worldreader expects the price of the eReader to continue to drop. Devices that initially cost over $400 only 18 months ago are now available for less than $150. (For the iRead Project, the Kindles cost $189.) This trend is likely to continue and provide an increasingly attractive cost model. Worldreader is also looking towards ruggedizing the eReader as part of a planned project in Kenya. Finally, they are exploring innovative ways to create sustainable models for new content. As part of the effort to incorporate local content, Worldreader is digitizing local material. In return, the publishers receive a portion of the sales price.

The World Bank is also conducting a separate eReader project in Nigeria.

More Information

PRESENTER	David Risher, Worldreader.org, February 24, 2011
USAID	Anthony Bloome, Education Technology Specialist, EGAT/ED, abloome@usaid.gov
ADDITIONAL RESOURCES	Brookings article: First Step to Literacy: Getting Books in the Hands of Children Stanford Social Innovation Review: What's Next Curling up with E-Readers It All Started in the Purple Church Research Concept Note: iREAD Project Follow David on Twitter @davidrisherWR

About this Series

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Briefings are typically held at the second Thursday of each month at the Ronald Reagan Building, North Tower, 1300 Pennsylvania, Suite 700. Please contact Anthony Bloome at abloome@usaid.gov for more information. The presentation and information included in this brief do not represent a USAID endorsement of a specific project, individual, or organization. **Next Briefing: Mobiles and Open Education Resources, March 17, 2011, 9:30am-11:00am**

Mobiles for Education for Development Seminar Series
March 2011

Open Educational Resources

The Idea

Open Educational Resources (OER) can provide the means to equalize access to knowledge for teachers and learners through the use of openly-licensed content and technology. Teaching, learning, and research content are digitized, made freely available in the public domain, and released under an intellectual property license that permits its free use and repurposing by others. OER are a cost-effective way to obtain access to educational content, to personalize teaching and learning, and to aggregate resources. It has applications in workforce development and teacher training as well.

Why It Matters

The prohibitive costs of educational materials can hamper school systems from ensuring access to high quality teaching and learning aids. Even when such materials are acquired, the pilot testing and feedback loops normally require a lengthy process involving editors and new editions from publishers. In many cases, the learning model positions the student as a passive recipient of information, with few opportunities for input, and if pre-existing barriers to learning exist, such as different mother tongue and language of instruction, the educator has few options for overcoming those barriers. Often the material is non-localized or out of date, which gives users the perception of it being irrelevant to the students' day to day lives.

What We Know

The William and Flora Hewlett Foundation is a private foundation dedicated to ameliorating social and environmental problems both at home and around the world (Source: The William and Flora Hewlett Foundation website). As the sixth largest foundation in the US, with roughly 6.8 billion dollars in assets, the foundation is renowned for improving institutional capacity by providing general operating support grants, as well as strategic and outcome focused grant making informed by logic models and cost benefit analysis. Its education program contains a component which focuses on open educational resources (OER), supporting the development of infrastructure, guidelines, and research to support OER grantees in their mission to make high quality education materials publicly available online.

Since it operates both digitally and in print and uses an open intellectual property license, OER is well positioned to address the quality and reach of learning materials in the developing world. It can radically reduce the cost of these materials. The CK-12 Flexbook program, for example, uses an openly licensed textbook that allows educators to select the pieces they would like to use, and through an on-demand printing company, print out copies for as little as 7% of the cost of a regular textbook. The open licensing of the material creates a continuous feedback loop allowing educators to see what works and adapt subsequent editions accordingly. In another example, the openly licensed education videos that the Khan Academy provides go further by using web analytics to pinpoint sections of the videos in which users lose interest. Videos are then subject to continuous improvement as these sections are replaced.

The continuous feedback loops created by OER allow for greater efficiency in learning. In Carnegie Mellon's Open Learning Initiative, students complete modules online and, based on their answers, the program either reviews the concept again or teaches the material in a different way until proficiency is reached. A study conducted on the program showed that students who took a statistics course with the addition of OER online modules were able to complete the course in half the amount of time, scoring just as well as students who just took the course without the modules.

Openly licensed material allows local actors to provide their input, increasing the accessibility, localization, and

personalization of the material. Dot sub for example, allows users to upload their videos, and a community of volunteers can subtitle the material in different languages. Teacher Education in Sub Saharan Africa (TESSA) localizes its publicly available resources by making materials available in four languages, and by customizing certain sections of each teaching module. The social studies module, for example, uses local geography and names to make the content contextually relevant. This allows educators to overcome pre-existing barriers like language by giving them an avenue to increase accessibility and to increase the relevance of these resources in the student's day to day life.

While OER helps to increase the quality and relevance of these materials, mobiles can provide the means to deliver the content in poor environments. The strength of mobile infrastructure in the developing world, mobiles' capacity to store media in audio and video formats, and the capability to instantaneously exchange information either through voice or SMS provide opportunities to amplify the benefits of OER. SMS and voice can become the infrastructure for the continuous feedback loops previously mentioned. Media stored in different formats, whether audio, video, or e-reader-friendly files can be collected into one site, providing mobiles with a free library of openly licensed content, which educators in turn can download for use in classrooms and provide feedback on their effectiveness. Mobiles can help to aggregate disparate sources of input for openly licensed material, creating a virtual community in areas that in reality are too remote to support face-to-face interactions.

There are a few examples of such synergies between OER and mobiles. Teachers Without Borders developed an evaluation system using a mobile platform for its certificate of mastery teacher training program. Teachers using the system can provide updates on their progress on the certificates, as well as provide feedback so that Teachers Without Borders can update and improve its training programs. Another example is the Text 2 Teach program in the Philippines, which uses mobile phones to download educational video broadcasts.

Greater still are the potential areas where OER and mobiles can synergize. The Text 4 Babies initiative in the US sends text messages to pregnant women, but any openly licensed content within 160 characters could be used to deliver not only health information, but education-related information as well. Open source software like Frontline SMS can be used to exchange information or answer questions. Other examples can include the migration of Interactive Radio Instruction from radios to mp3 players, giving learners greater flexibility to use the material at their convenience rather than at a specified time. In areas like Zambia, where the mobile infrastructure extends farther than the radio infrastructure, content could be delivered using mobiles, harnessing their ability to deliver audio and video content. A potential synergy also exists for an organization like Pratham, which currently provides basic literacy modules used to teach literacy in India. If e-readers like the Kindle are widely distributed in the future, these literacy modules can then be formatted as an e-book and uploaded into a library, similar to open textbooks freely available in the Connexions platform, which can be downloaded into the Kindle at the discretion of the end user. The GSM Association has expressed interest in developing a "mobiles for education initiative," and with its access to providers and their ability to scale, a private/public partnership with GSM could be fruitful.

More Information

PRESENTER	Kathy Nicholson, The William and Flora Hewlett Foundation, March 17, 2011
USAID	Anthony Bloome, Education Technology Specialist, EGAT/ED, abloome@usaid.gov
ADDITIONAL RESOURCES	Open Learning Initiative – Carnegie Mellon University; The Khan Academy; UNESCO Open Educational Resources; The GSM Association; Directory of OER Projects; Connexions; Teacher Education in Sub Saharan Africa; Teachers Without Borders; CK-12 Email: knicholson@hewlett.org

About this Series

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Briefings are typically held at the second Thursday of each month at the Ronald Reagan Building, North Tower, 1300 Pennsylvania, Suite 700. Please contact Anthony Bloome at abloome@usaid.gov for more information. The presentation and information included in this brief do not represent a USAID endorsement of a specific project, individual, or organization. **Next Briefing: One Mobile Per School, April 14, 2011, 9:30am-11:00am**

USAID FROM THE AMERICAN PEOPLE

Mobiles for Education for Development Seminar Series
April 2011

MOBILES FOR EDUCATION FOR DEVELOPMENT mEd4Dev

One Mobile Per School

The Idea

The use of mobiles in schools can accelerate access to materials and transmission of administrative information. Ninety percent of the world's population can access cellular services, and current cellular penetration and technology permits several different levels of access and administrative use, and new technology will provide many additional options in the future. Using resources that are readily available and low-cost enables school systems to improve efficiency, as well as to enrich the teaching and learning experience.

Why It Matters

Improving education administration is critical for increasing support for teachers in classrooms and achieving maximum efficiency in the education system. Adopting readily available, low-cost solutions will allow education systems to use resources more wisely and to be more accountable. In addition, expanding access to educational materials and services can be prohibitively costly. Using existing, available materials to supplement curricula and to enrich the learning experience has the benefit of making education more relevant and more engaging for students.

What We Know

A mobile phone offers an inexpensive way to support the education system. Phones are the most popular consumer device in Africa, far exceeding flash drives, MP3 players and other tools. Depending on the cost structures for mobile phone services (voice, SMS and data), educators, Ministries and donors may devise different support modules utilizing mobiles. Generally speaking, one can define three levels of interventions using existing technology and resources.

The first level of intervention assumes there is access to a phone with very basic functions, minimal money for services, little memory, intermittent electricity, and voice and SMS services only. In this case, the education department can broadcast messages to teachers and parents. Teachers can also transmit attendance figures to district education offices. Classroom activities are somewhat limited, but students can use the phone in groups for some activities. For example, teachers have had students use SMS dictionary lookup, MobileAudiowiki, and take part in SMS quizzes. If a speaker is available, then it can also be used as an audio device.

The second level of intervention requires a feature phone with a camera, slightly more money for mobile services, some memory, intermittent electricity, and GPRS mobile data coverage. This level also assumes that either voice or SMS services are very inexpensive (which depends on the pricing structure in the country). This level of intervention can increase the support options to include expanded use in the classroom. The camera allows students to take pictures for a biology class, and videos and audio can be shared via Bluetooth. For example, one private school teacher in South Africa had her class video frog dissections and share them with other less well-resourced schools for the Dissections for All project. Students can also access mobile versions of many websites to use as resources. The IM chat function allows for further interaction. Teachers and headmasters can use it to create networks of support. If students have access to their own mobiles, they can also access individualized assistance, for example, live tutoring on Dr. Maths on MXit.

The third level of intervention is the current ideal scenario, in which a smart phone is available, along with plenty of resources for mobile services, constant electricity, and 3G service. Ideally, use of phones for education would be subsidized so voice, SMS, and data are free or very low cost. In this scenario, with a Pico projector, a teacher can play videos through the phone, using something like the Text2Teach model. Teachers can download and share mlearning resources, such as the Khan Academy resources available on YouTube which can be shared with the whole class.. They have access to social networking tools and can have students collaborate with other schools in

projects through Facebook and other means.

There are currently several barriers to implementing these interventions. The most critical is cost, typically the ongoing service costs rather than the cost of the phone itself. There is uneven access, and few schools have acceptable use policies, in part because many educators do not understand how mobiles effectively can support the learning environment. There are also privacy concerns around the appropriate use of phones for education. Mlearning resources are expanding, but may not perfectly fit within a curriculum. And finally, constant electricity can be a problem, though most manage to work around that challenge.

In spite of current challenges, mobile phones represent exciting tools in the future of education. There are strengths and limits to any tool, and in the last few years mobiles have become powerful enough to have potential for change. Mobiles of the future will know their users and surroundings, interact with networks, learn what users like, sense local content and services, and see with augmented reality. The ecology of mobile devices is changing too, providing new opportunities. In addition to phones, there are e-readers, games, and smartbooks.

It is important to look at the tactical perspective, and that deserves about 90% of practitioners' attention, but the strategic perspective is key as well. Lessons learned from the introduction of computers into classrooms can be applied as well; one of which was how to engage every student all the time with computers as a scarce resource. The same dilemma exists with mobile devices as the delivery platform.

Mobile broadband devices will be able to enable learning anywhere at any time. Phones are now capable of recognizing things in their visible fields and can superimpose information on top of what exists in the real world. This has exciting potential for improving learning and engaging students. Broadband devices can also provide rich data on students' individual performance and preferences, which can enable customized instruction.

The 2010 National Educational Technology Plan is a possible source of ideas for programming. It focuses on five goals: learning, assessment, teaching, infrastructure, and productivity. Some of the material is not relevant for USAID-assisted countries in the short-term, but the information on assessments and some other topics is relevant now. The Plan also looks at how to situate learning throughout life, not just in years of formal schooling.

Education is broader than schooling. Our education system developed in an agricultural age and was transformed for an industrial age. It is now being transformed for a knowledge age, and the question is whether part of this process can be leapfrogged. The goal is to evolve into a distributed education system, but there are important barriers to developing such a system; some are technological, but the cultural and psychological factors are critical too.

More Information

PRESENTERS	Steve Vosloo, mLearning practitioner in South Africa Chris Dede, Timothy E. Wirth Professor in Learning Technologies, Harvard University Graduate School of Education	
USAID	Anthony Bloome, Education Technology Specialist, EGAT/ED, abloome@usaid.gov	
ADDITIONAL RESOURCES	Mobiles for Literacy Project The Khan Academy	Text2Teach National Education Technology Plan 2010

About this Series

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Briefings are typically held at the second Thursday of each month at the Ronald Reagan Building, North Tower, 1300 Pennsylvania, Suite 700. Please contact Anthony Bloome at abloome@usaid.gov for more information. The presentation and information included in this brief do not represent a USAID endorsement of a specific project, individual, or organization. **Next Briefing: Nokia, May 12, 2011, 9:30am-11:00am**

USAID FROM THE AMERICAN PEOPLE

Mobiles for Education for Development Seminar Series
May 2011

MOBILES FOR EDUCATION FOR DEVELOPMENT mEd4Dev

Nokia and Total Cost of Ownership

The Idea

There is quite a buzz about mobile learning; one might almost say a peak of inflated expectations. As a mobile phone manufacturer, Nokia has a role to play in separating reality from hype and promoting the practices that can be sustained over time. This session will examine some of the little-heeded obstacles to sustainability and introduce some of the concepts that have shown promise at Nokia. The presentation will also discuss the role of the mobile in informal learning and ask where we'll be in 2030, given the rate of change experienced over the last 20 years.

Why It Matters

Mobile devices are in the unique position of being the most accessible piece of technology in today's world. Their widespread popularity, relative low cost, and increasing ability to connect people make them a resource that can be utilized in the classroom as well as outside of it in non-traditional education settings. The general appeal of mobile phones serves the purpose of interesting and engaging learners in content, while allowing teachers to share resources in a cost-effective manner. The combination of falling device costs and widening network coverage represents an unprecedented opportunity to deliver valuable education to those most in need.

What We Know

The market and network coverage for mobile phones have increased greatly in the past ten years, changing the device from luxury item into a simple necessity all around the globe. Nokia has implemented various sustainable services and projects aimed at developing populations and examined some of the obstacles that keep mobiles from reaching their potential as tools for growth and advancement.

Over the past ten to fifteen years, there has been a 99% reduction in the cost of mobile telephones. Still, the factor most inhibiting the ubiquity of mobile communication relates to cost. High tariffs and imposition of luxury taxes in some areas are inhibiting access to users that would benefit from having a small, compact, inexpensive mobile device. Data costs, though slowly decreasing, can also prohibit quality uses of mobile technologies. Nokia hopes to encourage progressive policy at government level to achieve greater equity in this area. USAID and non-profit organizations can play a very important advocacy role in areas including: promoting affordable communications, encouraging the development of mobile educational applications and services in local languages, and promoting the growth of sustainable, local enterprises. Most importantly, lower tariffs will be of greatest benefit to the people in greatest need.

In order to apply development practices to its services, Nokia has developed Ovi Life Tools, a service for emerging market nations which offers users information on livelihood and life improvement. Topics include agriculture, learning and education, health care, and entertainment. It is available in 16 local languages in India, China, Indonesia, and Nigeria. For easy connection, GSM coverage is sufficient for service (GPRS is not necessary), and the service is offered on even the lowest model phones. To date, more than 9 million people have used Life Tools. Users in India, for example, submit their zip code and choose up to 3 crops/commodities of interest in order to receive information on market prices from 3 markets within a 60 km radius. The service also provides updates on weather and current events. The platform's health care service provides information about pregnancy and child care that is specific to the week of pregnancy and child's age. It also provides information on general health and wellness, symptoms of diseases and prevention tactics for endemic ailments. Where applicable, information provided is relevant to age group, gender and location. The learning feature of Life Tools provides services in English learning, modules that go along with the prescribed curricula of the countries, study tips, and a quiz at the end of each module. In addition, Nokia has a partnership with Indira Gandhi National Open University offering a

Certification for English learning.

Another project which Nokia is implementing is Mobile Maths. Upon request by the South African Vice President in 2008, Nokia executed a project testing the use of mobile phones in formal and non-formal education situations of mathematics. The project started with 10th grade math learners. Early on, participants showed increased motivation; two years later they showed improved competency in mathematics. One of the most surprising facts is that 82% of the platform use was outside of school time, during strikes and holidays over the period of one full year, despite occasional non-use by teachers. The service provides interactive materials aligned with the national curriculum based and links itself to the Mxit social networking platform already very popular in South Africa. The functionality of practicing and getting immediate feedback on all calibers of mobile device has been very well received overall. Teachers see how involved their students are and students can compare their activity with peers, motivating them to continue working and learning. The project is implemented either in class or at home; students can log on using their own mobiles, a shared phone, or from a Mobi-Kit phone (phones that can be lent to children in rural areas for a period of one year, comprising 28% of the users with shared mobiles.)

The project is successful for many reasons. Considerations of sustainability, affordability, scalability and adaptability have driven the concept design, and formative research results have played an important role in development. The focus is on the learner, and the service was and remains free to students and teachers. This is especially good for schools without Internet connection, as it does not put pressure on the existing computer infrastructure in schools. Similarly, the platform requires minimal teacher training, thus lowering the total cost of the technology required for using such a service. This project brings mathematics into the social networking space already used by youth, thereby leveraging the students' interests in existing mobile platforms to engage them with valuable educational activities.

Bridgeit (Nokia Education Delivery), a concept to deliver digital education materials to remote/rural schools via mobile networks, was originally conceived in 2003. Through the platform, teachers gain access to a library of digital resources which can be downloaded and used as part of the lesson or as part of teachers' professional development. The Philippines, Tanzania, and Chile and others are currently implementing the concept, with Colombia, Nigeria and Kenya starting soon. The results have been consistently positive so far, with gains in academic performance and improved attendance by students and teachers, as well as retention of girls in school. The infrastructure is also being used for community learning, such as preparation for natural disasters. By integrating mobile phones into education, learners' access to informational material is increased, teacher training is streamlined, and students have the greater opportunities to extend their learning outside of the classroom. The technology itself attracts students because it is relevant to the way they live their everyday lives. However, the key is to invest in teacher training in a way that provides support in mapping the devices into curricula while also assuaging teacher fears that they are being replaced by technology. The role of partners in these projects cannot be underestimated - Nokia's doors are always open for valuable collaboration.

More Information

PRESENTERS	Gregory Elphinston, Director of Corporate Social Investment, Nokia Riitta Vänskä, m-learning practitioner in Finland & South Africa Dr Arun Gowda, physician
USAID	Anthony Bloome, Education Technology Specialist, EGAT/ED
ADDITIONAL RESOURCES	Ovi Life Tools Mobile Learning for Mathematics

About this Series

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Briefings are typically held at the second Thursday of each month at the Ronald Reagan Building, North Tower, 1300 Pennsylvania, Suite 700. Please contact mobilesforeducation@gmail.com for more information. The presentation and information included in this brief do not represent a USAID endorsement of a specific project, individual, or organization.

USAID FROM THE AMERICAN PEOPLE

Mobiles for Education Alliance
Series October 2011

mEducation Alliance

Mobile Devices as Assistive Technologies

The Idea

As mobile devices continue to make inroads into educational environments in low-resource settings, it is ever more important that learners with disabilities be considered and included in the productive use of these technologies. Indeed, as innovations in mobile technologies continue to proliferate and lead to greater affordability, opportunities abound for providing these learners, long too often forgotten, with the tools and services they need in order to benefit from access to rich educational experiences. This session will explore innovative uses of mobile technologies for inclusive education efforts, including efforts by Cambridge to Africa in using mobile phones to improve education for deaf learners in rural Uganda.

Why It Matters

The World Health Organization and the World Bank recently estimated that there are more than one billion people worldwide with some form of disability. While this statistic covers a broad range of disabilities and includes data from resource-rich countries, it also represents the millions of disabled learners in low-resource environments of developing countries. For many of these learners, assistive technologies have long been unaffordable and unattainable. Many recent developments in assistive technologies are either costly, difficult to repair, or not designed for use in rugged and rural environments.

What We Know

Cambridge to Africa is a registered charity based in Cambridge, UK, and consists of a core team working with African communities both locally and abroad. In 2010, Cambridge to Africa implemented the second phase of their pilot project in Kabale, southwestern Uganda, which introduced text messaging to encourage the integration of deaf and non-deaf children enrolled at a rural school. The Kabale region is one of Uganda's most isolated, and also has an alarmingly high incidence of deafness. UNAD, the Ugandan National Association for the Deaf, speculates that part of the high incidence of deafness to the prevalence of malaria in the Kabale region.

"No one knows you're deaf when you're sending a text message" says Dr. Sacha DeVelle, Founder and Managing Director of Cambridge to Africa. The pilot at the Child Africa International School in Kabale provided mobile phones to six pairs of girl students, each pair consisting of one hearing and one deaf student. The students and teachers were given mobile phone training over the course of two weeks, as nearly all of the participants had never used the device themselves. Young deaf girls in particular face what Dr. DeVelle refers to as the "triple stigma" of gender, poverty, and disability discrimination.

The project used the FrontlineSMS platform to store the text messages sent through the phones, which were later analyzed by the Cambridge to Africa team in the UK to glean insight on the project's educational effect. The children participating in the project were not using the phones in normal class time, rather they were provided with SMS prompts for specific activities and text-based discussions designed to supplement the existing curriculum. These activities were designed to elicit the active involvement of both the students and the teachers, so as to promote participation and adoption of the SMS communication medium.

To understand the project's outcomes, the Cambridge to Africa team queried a range of students, teachers, parents, community members and education staff on what they perceived the effect of the project to be. The project's overall outcomes were positive, with respondents citing increased participation in the inclusive classroom, increased self-esteem, increased autonomous learning, and a heightened focus on future educational goals. Many also reported a heightened sense of empowerment, and interviews with participating deaf students revealed that the project improved the students' integration into the Kabale community, led to a raised status in home village, provided them a voice (via SMS), thus letting the students feel more equal and balanced with their peers.

Hearing and deaf students participating in the program in Kabale. (Images courtesy of Cambridge to Africa).

The Cambridge to Africa team was very pleasantly surprised by the speed with which the students took to using the phones, and also by the high level of signing ability amongst the hearing students. Linguistic analyses of the text messages revealed very low initial levels of language development, particularly amongst the deaf children. The open, chat-room style forum for exchanging discussion messages was not very well received initially – the students were more interested in using the phones for less formal and more personal peer-to-peer messaging. Other challenges came from unreliable network coverage (which would often suspend use of the phones for days on end), and the need to design learning activities for a wide age and ability range within the group of participating students. In spite of the challenges, Dr. DeVelle noted that Cambridge to Africa sees great potential for the project model, wherein deaf students' use of text language in discussion fora is carefully analyzed and used to develop and improve upon pedagogical practices.

Dr. DeVelle noted that the project would have benefitted tremendously from a productive partnership with one of the region's telecommunications providers, but that the project's efforts to solicit support from the providers had not yet born fruit. The project will continue its next implementation in Kampala, Uganda's capital, and will seek to engage more partners and support along the way.

More Information

PRESENTER	Dr. Sacha DeVelle, Founder and Managing Director of Cambridge to Africa. October 13, 2011
USAID	Anthony Bloome, Education Technology Specialist, EGAT/ED, abloome@usaid.gov
ADDITIONAL RESOURCES	http://www.cambridgetoafrica.org/index.htm http://www.frontlinesms.com/ Follow Cambridge to Africa on Twitter @C2Africa Follow the mEducation Alliance on Twitter @m Education

About this Series

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Seminars are typically held at the second Thursday of each month at the Ronald Reagan Building, North Tower, 1300 Pennsylvania, Suite 700. Please contact Anthony Bloome at abloome@usaid.gov for more information. The presentation and information included in this brief do not represent a USAID endorsement of a specific project, individual, or organization.

Updated: 14 October 2011

USAID FROM THE AMERICAN PEOPLE

Mobiles for Education Alliance
Series December 2011

mEducation Alliance

mWomen and mEducation

The Idea

In February 2010, the GSMA, in partnership with the Cherie Blair Foundation for Women, identified a gender gap in mobile phone ownership in the developing world – 300 million fewer women than men own mobile phones and the potentially life changing tools that they can provide, such as access to health services, banking, employment opportunities and educational tools. In October 2010, the GSMA mWomen Programme was launched by U.S. Secretary of State Hillary Rodham Clinton and Cherie Blair. The programme represents an unprecedented global public-private partnership between the worldwide mobile industry and the international development community - harnessing the power of the private sector to accelerate women's ownership of mobile phones, while partnering with the international development community to provide life changing services to underserved women.

Why It Matters

The Mobiles for Education Alliance strives to highlight best practices and improve knowledge sharing on the use of mobile technologies for improved learning outcomes in low-resource settings. In this regard, the unique partnership-building experiences of the GSMA mWomen Programme offer valuable insights on the ecosystem of relationships necessary for leveraging mobile technologies to meet development objectives. Additionally, as the GSMA mWomen Programme continues to reach out to mobile operators and the NGO community for partnerships, opportunities for linkages with mobile education efforts will continue to grow. Which areas are most ripe for collaboration between the mWomen and mEducation efforts? Where can the two initiatives cooperate, coordinate and operate in lockstep towards shared objectives?

What We Know

The GSMA mWomen Programme is an unprecedented global public-private partnership between the worldwide mobile industry and the international development community whose goal is to reduce the mobile phone gender gap by 50 per cent by 2014. By enabling an additional 150 million underserved women in developing countries to own and effectively use mobile phones, the GSMA mWomen Programme Global Development Alliance (GDA) will increase women's access to vital information, networks and services, thereby accelerating women's leadership potential and empowering them to improve their quality of life and that of their families and communities. Supporting the program is a unique blend of partners: USAID, AusAID (Australian Agency for International Development), GSMA and Visa, Inc.

Christopher Burns, in his discussion with the mEducation Alliance Seminar Series, noted that the GSMA mWomen Programme took root following the 2010 release of the Women & Mobile Report, which identified four principle barriers to mobile phone ownership by women in developing countries:

- Total Cost (handsets, mobile services and charging)
- Technical Literacy
- Cultural and Traditional Attitudes on Women Ownership of Mobiles
- Perceived Lack of Need by Women

Recently in Busan, South Korea, the three-year, scaled-up support for mWomen, through a GDA (Global Development Alliance), was announced. The GSMA mWomen Programme highlights both a commercial and social opportunity by bridging the development community and industry partners to create innovative business models, marketing campaigns and products that target women as mobile phone users and owners.

Mr. Burns also noted that the GSMA mWomen Programme continues to build strong relationships with more than 30 mobile industry partners in GSMA's mWomen Working Group.

Research is currently underway in Egypt, Uganda, India and Papua New Guinea to assess aspirations, needs and concerns of the world's poorest women within their communities and households. This research aims to identify areas where mobile phones could provide opportunities for improved livelihoods, and similarly provide detail on opportunities to lower access, usage and ownership barriers for these women.

The GSMA mWomen Programme will also provide grants to NGOs in 2013 to develop outreach and training programs for the productive use of mobiles by women in low-resource settings, including projects designed to address technical literacy and traditional beliefs around women owning productive assets such as mobile phones. Activities will also look at opportunities to bring women into the core business of the mobile industry so that solutions will be both scalable and sustainable. Leveraging the industry partners in the GSMA, NGOs will have the opportunity to be partnered with mobile network operators, and as such the GSMA mWomen Programme will enhance the overall ecosystem surrounding effective mobile use for under-represented women in the developing world. The mEducation Alliance will learn valuable lessons on leveraging mobile technologies through the GSMA mWomen Programme.

More Information

PRESENTER	Christopher Burns, Economic Growth and Agricultural Development Advisor at USAID
USAID	Anthony Bloome, Education Technology Specialist, EGAT/ED, abloome@usaid.gov
ADDITIONAL RESOURCES	http://www.mwomen.org Follow mWomen on Twitter @GSMAmWomen Follow the mEducation Alliance on Twitter @m__Education

About this Series

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Seminars are typically held at the second Thursday of each month at the Ronald Reagan Building, North Tower, 1300 Pennsylvania, Suite 700. Please contact Anthony Bloome at abloome@usaid.gov for more information. The presentation and information included in this brief do not represent a USAID endorsement of a specific project, individual, or organization.

USAID FROM THE AMERICAN PEOPLE

Mobiles for Education Alliance Series
February 2012

mEducation Alliance

A discussion with One Laptop Per Child (OLPC) on the new XO 3 tablet and learning

The Idea

Since 2006, One Laptop Per Child (OLPC) has aimed to provide each child with a rugged, low-cost, low-power, connected laptop. A non-profit organization born of MIT's Media Laboratory, OLPC has designed hardware, content and software intended to provide collaborative, joyful, and self-empowered learning. At present, roughly 2 million children and teachers in Latin America are currently part of an OLPC project, with another 500,000 in Africa and the rest of the world. Larger national OLPC projects include Uruguay (the first major country in the world to provide every elementary school child with a laptop), Peru (OLPC's largest deployment, involving over 8,300 schools), Argentina, Mexico, and Rwanda. Other significant projects have been started in Gaza, Afghanistan, Haiti, Ethiopia, and Mongolia. For OLPC, every school represents a learning hub, a node in a globally shared resource for learning.

Recently, OLPC unveiled their latest device design effort - the XO-3 tablet. This new design will feature an all plastic tablet screen which is semi-flexible and extremely durable. Just like the original XO, the display will be optimized in both transmissive and reflective modes for indoor and outdoor lighting conditions. The XO-3 will attempt to support many use scenarios to fulfill kids' learning needs: from horizontal book mode to portrait reading mode to multi-touch--so many hands can play and learn together on the same screen--to a full-touch keyboard and a back facing camera. (Read more from the full press release or download the high resolution pictures from Flickr.)

Why It Matters

The Mobiles for Education Alliance strives to foster an inclusive and innovative community dedicated to exploring the use of mobile technologies (broadly defined) to improve learning outcomes, particularly in low resource environments. The operating system developed and made freely available by OLPC, named 'Sugar', can be used and re-purposed as necessary for a range of devices and educational settings. Recently, the development and production of tablet computers has grown exponentially, and the devices themselves are increasingly being used in the many venues and settings in which learning can take place.

What We Know

Walter Bender is founder and executive director of Sugar Labs, a member project of the Software Freedom Conservancy, a non-profit foundation. In 2006, he co-founded the One Laptop Per Child, a non-profit association with Nicholas Negroponte and Seymour Papert. As director of the MIT Media Laboratory, Bender led a team of researchers in fields as varied as tangible media to affective computing to lifelong kindergarten. In 1992, he founded the MIT News in the Future consortium, which launched the era of digital news.

Bender spoke about the evolution of Sugar and OLPC explaining that MIT has spent more than 40 years exploring the role of technology in learning and starting by looking at one-to-one learning projects beginning in the early 1980s in Senegal, Pakistan, Colombia, and the United States. Other long-term efforts include Project Lighthouse in

Thailand and a long-standing collaboration with the Omar Dengal Foundation in Costa Rica. Bender noted that in these projects a major barrier to scaling up has been how to get technology into the hands of more children when cost is such a prohibitive factor and is often exacerbated in areas of the world without access to power. OLPC works by negotiating directly with governments (and increasing, public-private partnerships) to deliver the technology on a large scale so that there are no costs to the individual students or families. Bender spoke about some of the challenges the organization has encountered in this model, as many governments lack a strong figure driving leadership and the initiative from the top.

As the developer of Sugar, a Linux-based "learning platform", which is designed to encourage collaboration and to engage learners to become active doers, Bender provided an extensive demo for attendees of several programs: including Turtle Art, which opens the door to programming for even very young children and the Sugar portfolio, used for personal assessment and reflection. Bender stated that his goal is to "raise a generation of independent thinkers and problem solvers." He further stated his belief that "every single child should learn to program -- it's the best way to learn about debugging." Some examples of Sugar programs designed by students from around the world developed were showcased, demonstrating the ability of young learners to take ownership of the tools made available through the OLPC devices.

Bender brought several models of the OLPC devices for audience members to test, including the XO-3 tablet. The XO-3 tablet uses the same motherboard as the new XO-1.75, which was also on-hand for attendees to test. However, The XO-3 tablet laptop is not yet in production and, as such, not yet available for use. The most significant change in the third generation of the OLPC device is the significant reduction of the use of energy. The two-watt laptop can now run and charge from a low-watt solar PV cell. Additional improvements in each iteration also include more sensory inputs.

More Information

PRESENTER	Walter Bender, *Founder and Executive Director of Sugar Labs*
USAID	Anthony Bloome, Education Technology Specialist, EGAT/ED, USAID
ADDITIONAL RESOURCES	One Laptop Per Child http://www.sugarlabs.org/ Follow the mEducation Alliance on Twitter @m Education

About this Series

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Seminars are typically held at the second Thursday of each month at the Ronald Reagan Building, North Tower, 1300 Pennsylvania, Suite 700. Please contact the mEducation Alliance for more information: mobilesforeducation@gmail.com The presentation and information included in this brief do not represent endorsement by USAID of a specific project, individual, or organization.

Updated: 22 December 2011

Mobiles for Education Alliance
Seminar Series December 2012

"First, Do No Harm!"

Ethics in mLearning Interventions

The Idea

With the emergence of new, innovative practices and interventions in the use of mobile technologies for education and development, the mEducation community tends to focus primarily on advances in the field with groundbreaking initiatives. But how much attention do we devote to considering the ethics that underlie these endeavors? Education, development and technology are all separately powerful forces, ethically complex and even more so when they converge across different contexts and cultural groups and norms. Still largely uncertain of our roles and responsibilities, we infrequently stop and ask the question, "Will this cause harm?", and then "Who decides what constitutes 'harm'?". While we often worry about the nature of our duty to intervene, how often do we consider our right to do so?

Why It Matters

The Mobiles for Education Alliance strives to foster an inclusive and advanced community dedicated to exploring the use of mobile technologies (broadly defined) to improve learning outcomes, particularly in low resource environments. Understanding theories and applications of ethical practices are essential to comprehending the full impact of interventions across the field and various cultural contexts. Questions about how certain interventions are, or can be, ethically appropriate have created a contentious debate among the mEducation community and its critics and have yet to produce a consensus.

What We Know

John Traxler is a full UK Professor of Mobile Learning and Director of the Learning Lab at the University of Wolverhampton. In addition, he is a Founding Director and Vice-President of the International Association for Mobile Learning, and an Associate Editor of the *International Journal of Mobile and Blended Learning* and of *Interactive Learning Environments*. Traxler is now co-authoring two books, *Mobile Learning: the Next Generation*, due to be published in 2013, and *Key Issues in Mobile Learning: Research and Practice*. He has written 30 book chapters on mobile learning, and speaks and writes frequently on the nature and consequences of connectedness and mobility on learning, knowledge and societies.

One of the earliest advocates for the use of mobile technologies for education, Traxler has observed increased activity in this area over the past decade, and even more so within the past four years as interventions have increased in numbers and scale. Nonetheless, he observes that the development community doesn't seem to understand, nor at times consider, the role of ethics involved. Most organizations, universities, and agencies that work in this field do not have adequate formal ethics procedures in place that are able to consider all of the ethical implications involved. Working with abstract, complex and volatile technologies that are poised to change with new innovations and cultural understandings requires comprehension of how they will affect different cultures across various norms and societal issues such as joblessness, poverty, and rural isolation.

Interactions with mobiles phones are diverse and an important aspect is how they permeate people's private lives. Mobile technologies can be designed for certain purposes, but the ways in which they are actually used may diverge from these according to the context and users. Through the use of mobile technologies, new groups and

communities can form, characterized by different definitions of appropriateness, such as what is rude, inappropriate or embarrassing. Even subcultures, such as those within Facebook and Twitter, can create new cultural norms that transcend national identities and cross country borders. Consequently, it is important to recognize and examine peoples' different perceptions of technology within these groups before endeavoring to design interventions that might be wholly unsuitable for a particular population.

There are numerous ethical questions that must be asked when approaching mLearning initiatives, such as: What is the age of consent?; How might different technologies affect participants?; Is it a good procedure and will it have the desired effects?; What are participants' perceptions of mobile technologies?; What are the considerations for anonymity of participants, evidence, privacy, and cyber bullying?; And can we make decisions for people that come from cultures that are so different from our own? Subsequently, we also need to consider if we should, or even have the right, to intervene, how to proceed, and the kinds of ethics procedures that should be in place for all involved, such as teachers and professional educational bodies.

Even when ethical concerns are raised, they do not always take precedence over the priorities and goals of the institutions and individuals involved. Traxler spoke of his experience on ethics review boards that have frequently become sidetracked by issues related to public relations, such as how the project will look for the organization or funders. Within the fragile food chain of ethics, it is important that all participants involved consider the implications of mLearning interventions, not just for themselves, but for each other as well.

More Information

PRESENTER	**John Traxler,** Vice President & Founding Director, International Association of Mobile Learning; Professor of Mobile Learning and Director or Learning Lab, University of Wolverhampton
USAID	**Anthony Bloome**, Education Technology Specialist, USAID/E3/Education
ADDITIONAL RESOURCES	Read John Traxler's blog, "First, Do No Harm!" and the subsequent online discussion Follow Professor Traxler on Twitter @johntraxler Follow the mEducation Alliance on Twitter @m Education

About this Series

This presentation is part of the mEducation seminar series. For further information about the mEducation Alliance and/or the seminar series, please e-mail mobilesforeducation@gmail.com.

PREVIOUS mEducation Alliance events

- 2011 and 2012 mEducation Alliance Symposia
- Recent Publications by GSMA and Alcatel-Lucent
- OLPC XO3 Tablet
- Mobile Devices as Assistive Technologies
- Mobiles for Literacy
- Mobiles for Assessment
- Stanford University –Research Roundtable
- Open Education Resources
- Open Mobile Per School
- E-Readers
- mWomen and mEducation
- Harvard University- Research Roundtable

*For summaries of any of the above events, visit the mEducation Alliance website

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Please contact the mEducation Alliance for more information: mobilesforeducation@gmail.com. The presentation and information included in this brief do not represent endorsement by USAID of a specific project, individual, or organization.

Mobiles for Education Alliance
Seminar Series March 2013

Partnering with the Private Sector:

Perspectives from Orange

The Idea

Developing successful mLearning interventions requires collaboration and coordination among a diverse ecosystem of stakeholders. Funders, implementers, content specialists, technology manufacturers, and telecom companies all bring their own unique input to help develop projects and establish partnerships which are mutually beneficial.

Partnership building that is cognizant of each collaborator's specific needs is essential to the sustainability of mLearning projects and valuable insight can be gained from exploring the perspectives and lessons learned of mEducation Alliance community members. France Telecom-Orange, a major investor in emerging and developing economies, can offer valuable insight on how it has developed innovative win-win solutions that focus on the needs of local stakeholders while placing socio-economic development at the heart of its strategy in emerging countries.

Why It Matters

The Mobiles for Education Alliance strives to foster an inclusive and innovative community dedicated to exploring the use of mobile technologies (broadly defined) to improve learning outcomes, particularly in low resource environments. Exploring strategies for developing sustainable and mutually beneficial partnerships helps to inform the mEducation Alliance community of ways in how best to develop these partnerships for interventions in mLearning. Learn more about the Alliance and its goals at www.mEducationAlliance.org.

What We Know

Among the expert teams at Orange, Ralph Ankri, Ange Angeli and Erwan Le Quentrec, Project Managers for Orange Labs, support the telecom company's collaborative projects. Orange is exploring partnership opportunities to support local development in emerging country contexts while also establishing financially sustainable business models. Recognizing the need for increased solutions adapted to the local needs in developing contexts, especially in Africa and the Middle East where potential for growth is high but penetration is still low in many areas, Orange has focused its efforts on improving network coverage while exploring opportunities for information and communication technologies (ICT)-enabled solutions to promote local development. Now working in 19 countries, the team at Orange Labs has created innovative solutions by co-developing projects in partnership with local Orange stakeholders.

One of Orange's main goals is to help extend benefits of ICTs to as many people as possible. Though Orange's projects target a range of development issues, the telecom company believes that ICT can contribute to quality education and literacy in particular. Orange's strategy for improving education consists of facilitating the digital equipment of educational and cultural institutions, developing innovative ICT solutions and services for education and culture, addressing cultural and cognitive barriers through tailor-made solutions, and promoting the use of ICT for education.

During the experimental pilot phase, Orange Labs is able to contribute to different tasks such as:

- Collection of realistic user scenarios, needs and demands;
- Determination of end-users technical requirements and expectations in terms of applications;
- Determination of purchasing power of the users for different types of applications;
- Determination of potential metrics of evaluation of the social and economic impacts;
- Usage analysis with network data (call ticket analysis);
- Access to the Infrastructure Project Finance (excluding communication fee); and
- Development of Applications.

Orange is able to address three vital roles within the e-education value chain:

- **Connectivity:** Orange provides connectivity for educational institutions, such as universities, using high-speed and mobile connections to access education networks worldwide;
- **Digital Courses:** Orange provides mobile and web-based educational courses and apps in co-operation with French and African universities, and partners support commercial language courses, and supports professional training in ICT and massive open online courses (MOOCs); and
- **Digital Content:** Orange provides free access to Wikipedia for all Orange customers in Africa.

To demonstrate Orange's role in improving education in developing country contexts and building mutually beneficial partnerships, Mr. Ankri presented several education-focused, Orange-supported projects:

Niger: Tablets for Secondary Schools
In partnership with the French Development Agency (AFD), Aide & Action, Niger's Ministry of Education, the Orange Foundation, and international and local content editors, Orange supports the provision of tablets for secondary school pupils and teachers, along with Wifi through 3G and 2.5G mobile connections for participating schools. The one-year-pilot project will be evaluated in two schools (approx. 150 pupils). If successful, partners plan to finance expanding the program to nearly 5,000 students in several African countries.

Madagascar: Training Primary Teachers through Mobile Phones
Partnering with AFD and the Agence Universitaire de la Francophonie (AUF), the partners provide teacher training for primary school teachers in complementary through mobile phones and digital content. Orange deploys and experiments a wide range of services to support participating teachers including platforms for mobile payments, skills assessment, and advice and information. The one-year-pilot project will be evaluated in June 2013 and, if successful, could expand to support nearly 35,000 teachers in Madagascar, Niger, and/or the Ivory Coast.

Orange is exploring additional partnerships in education and highlighted a planned collaboration with Education Development Center (EDC) on their project in Mali, Stepping Stone. Scott Isbrandt, Project Director for Mobile Learning at EDC, shared insight on the project and process of establishing a partnership with Orange to incorporate their network and support the project's mobile kiosks.

Following the presentation, attendees and presenters held a lively discussion about Oranges' experiences, lessons learned, and effective practices in building partnerships.

When asked how Orange approaches developing a business model, Mr. Ankri explained that it largely depends on the project, partner and their needs and expectations. After identifying potential areas for collaboration, Orange and their partners consider ways to share costs between them while keeping costs for end users as low as possible and yet sustainable.

Another participant asked about ways in which telecom companies can leverage their reach and use what is already available in a specific context for distribution. Mr. Angeli described how Orange is sometimes able to identify and leverage discounts or subsidies for stakeholders within certain countries or regions. For example, sometimes they can create closed user groups so that users can call within their networks which reduce costs. He stressed that networks need to be sustainable. If there is something that one of Orange's partners needs to promote, the telecom company reexamines the business model and finds areas for further collaboration to create a win-win model with the partner while decreasing the price for the end user.

More Information

This presentation is part of the mEducation seminar series. For further information about the mEducation Alliance and/or the seminar series, please e-mail mobilesforeducation@gmail.com. These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. The presentation and information included in this brief do not represent endorsement by USAID of a specific project, individual, or organization.
For summaries of any of the mEducation Alliance events, please visit the mEducation Alliance website at www.mEducationAlliance.org.

Organization of American States

Mobiles for Education Alliance
Seminar Series May 2013

OER: Building Blocks and Policies

Written by: OAS

The Idea

Open Educational Resources (OER) became known through the open source and open education movements that started in the 1990's. OER present innovative and accessible building blocks for traditional and non- traditional educational systems to build upon. OER of various types can support different learning environments, such as mobile and distance learning, MOOCs or other online courses, or the traditional classroom.

A strong debate has developed around topics related to OER content, its quality, how licensing can benefit or hinder its development and implementation, and most importantly, whether its adoption in the traditional education system should be considered.

There is a need for an in-depth understanding of what OER represent. What are the benefits? What are the challenges we currently face or will face in the future? How can public policies be introduced for the development and implementation of quality OER content at the international, national, and regional levels?

Why It Matters

The Mobiles for Education Alliance strives to foster an inclusive and innovative community dedicated to exploring the use of innovative mobile technologies to improve learning outcomes, particularly in low resource environments. OER, as part of these innovative technologies, are becoming essential in education, particularly because educational resources, such as lessons and course content, are increasingly being accessed online. Therefore, OER are key to providing quality content for education in a sustainable ecosystem.

What We Know

Carolina Rossini is a Brazilian attorney with policy and practical experience including internet, mobile and telecom transactions, internet governance, human rights, and cyberlaw/intellectual property law and policy. Carolina previously worked for the Electronic Frontier Foundation as the Director for International Intellectual Property, and her career includes stints at SPARC, Wikimedia Foundation, the Berkman Center for Internet & Society at Harvard University, USAID, Diplo Foundation, and she founded and led Open Educational Resources Brazil for three years.

She has practical experience on community building and capacity building, trade negotiations and debates at WIPO, free and open source software and open content licensing, open educational resources community building and legislation, and university open innovation and technology licensing strategies. Carolina is a past-member of the Intellectual Property Global Agenda Council for the World Economic Forum (2011-2012), a past-board member of the Brazilian Internet Institute (2010-2012), and a current advisory board member for Open Knowledge Foundation Brazil, OER-Brazil and Boundless Learning. Carolina is also an international research associate at GPOPAI-USP and Law and on the Development working group at USP-Law School.

During this presentation, Carolina Rossini presented the main concepts for OER and the Open Education Movement, emphasizing the importance of collaborative production. She further discussed the opportunities OER presents, while also highlighting the challenges we currently face and how we can move forward.

To provide practical examples to the theoretical concepts presented, Carolina covered two examples: one of her home country Brazil, and the USA. She highlighted that in Brazil, the OER policies are being presented at the federal and municipal level as a way to provide open and public access to resources and materials for all that are otherwise highly expensive. Regarding the USA example, she mentioned the importance of reviewing and modernizing current policies for the evaluation and selection of instructional material, to be able to provide flexible use and control of content; make engaging, affordable and interactive material available on demand; and increase participation in content development. Overall, Carolina presented OER as a tool to build inclusive and cohesive knowledge societies and foster equal opportunities and innovation within these countries, but also globally.

More Information

PRESENTER	**Carolina Rossini,** REA Brasil
YOUR ORGANIZATION	**Educational Portal of the Americas, OAS** Cecilia Martins, Unit Chief
ADDITIONAL RESOURCES	View Carolina Rossini's website Follow Carolina Rossini on Twitter @carolinarossini Follow the Educational Portal of the Americas on Twitter @educoas and on Facebook Follow the mEducation Alliance on Twitter @m Education

About this Series

This presentation is part of the mEducation seminar series. For further information about the mEducation Alliance and/or the seminar series, please e-mail mobilesforeducation@gmail.com.

PREVIOUS mEducation Alliance events

"First, Do No Harm!": Ethics in mLearning Interventions
Recent Publications by GSMA and Alcatel-Lucent
OLPC X03 Tablet
Mobile Devices as Assistive Technologies
Mobiles for Literacy
Mobiles for Assessment
Open Mobile Per School
2012 Harvard University Research Roundtable
2011 Stanford University Research Roundtable
2011 and 2012 mEducation Alliance International Symposia

*For summaries of the above events see the mEducation Alliance events page.

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Please contact the mEducation Alliance for more information at mobilesforeducation@gmail.com. The presentation and information included in this brief do not represent endorsement by the Organization of American States of a specific project, individual, or organization.

Mobiles for Education Alliance
Seminar Series June 2013

"Be Still and Know"

Evaluating mLearning Interventions

The Idea

With the emergence of new, innovative practices and interventions in the use of mobile technologies for education and development, the mEducation community tends to focus primarily on advances in the field with groundbreaking initiatives. But how much attention do we devote to considering the evaluation that will produce the evidence and substantiate the effects of the intervention? One challenge of educational evaluation is how to evaluate life-changing events some decades after their possible cause. Another challenge of educational evaluation is that often only the education that happens inside schools can be captured, and not the education that occurs after or outside of schools. Thus, learning with mobiles – and most other activities that utilize mobiles – is difficult to measure and monitor. Moreover, learning with mobiles, at its best and most quintessential, is lightweight, spontaneous, opportunistic, informal and woven into everyday life, which can make it challenging to separate the various causes and effects. A further challenge is evaluation in different/distant communities. This is particularly important for the assumed connection between evaluation, evidence, and effects, and the possibilities of change in resources, policy, and priorities.

Why It Matters

The Mobiles for Education Alliance strives to foster an inclusive and innovative community dedicated to exploring the use of mobile technologies (broadly defined) to improve learning outcomes, particularly in low resource environments. The Alliance endeavors to sponsor a host of activities designed to convene a wide range of stakeholders to promote cooperation and coordination of efforts and knowledge in order to spur the innovation, affordability, and accessibility of mobile technologies for education and bring collaborating groups closer to achieving overall goals.

Understanding evaluation and the nature of evidence and the effects of mEducation interventions is essential to progress in sustainability and the wider involvement of the commercial and official sectors. Yet the lack of consensus as to what constitutes a "good" mEducation evaluation has caused evaluation, in many projects, to become an afterthought.

What We Know

John Traxler is a Professor of Mobile Learning and Director of the Learning Lab at the University of Wolverhampton. In addition, he is a Founding Director and Vice-President of the International Association for Mobile Learning (IAmLearn), and an Associate Editor of the *International Journal of Mobile and Blended Learning* and of *Interactive Learning Environments*. Traxler is now co-authoring two books, *Mobile Learning: the Next Generation* and *Key Issues in Mobile Learning: Research and Practice*, both due out in 2014. He has written 30 book chapters on mobile learning, and speaks and writes frequently on the nature and consequences of connectedness and mobility on learning, knowledge and societies.

Though there has been significant growth over the past few years in the number of new and innovative interventions using mobile technologies for education, there has been little growth in the methods used to evaluate these projects. Traxler's studies have shown that the majority of mLearning interventions continue to use focus groups, interviews, and written questionnaires as the basis for their evaluations, and to assume that the responses

received through these methods are true and accurate. Few evaluations use more than one or two of these techniques, and even fewer enlist the services of an independent third party to conduct a thorough evaluation. There is no consensus within the field as to what constitutes a "good" evaluation, and many questions remain regarding best practices for effectively measuring and substantiating the effects of mEducation interventions.

Bridging the divide between the ethos of a project and the ethos of the evaluation is imperative. To do so requires that a standardized and consistent evaluation method be used for mLearning initiatives across the board. An ideal evaluation should be rigorous, with trustworthy conclusions that are easily transferable to other areas, efficient in terms of cost, effort, and time, and appropriate to the specific learning setting of the project concerned. In addition, it should be authentic in addressing what learners, teachers, and stakeholders really feel and take note of any ethical concerns participants may have in relation to untried forms of provision. However, the time and resources needed to develop such a rigorous and appropriate project evaluation are instead often used to implement new project technologies, leaving an evaluation of the project's effectiveness, relevance, and impact as a time-dependent and budget-dependent afterthought. Furthermore, the methodology for mLearning evaluations is often imported from other related fields (*e.g.,* e-learning), without much consideration as to whether such methods are transferable and appropriate to the mLearning intervention at hand. The current lack of consistent, reliable, and transferable evaluation methods for these interventions remains a significant obstacle to the development and growth of a robust mEducation evidence base.

More Information

PRESENTER	**John Traxler,** Vice President & Founding Director, International Association of Mobile Learning; Professor of Mobile Learning and Director of Learning Lab, University of Wolverhampton
ADDITIONAL RESOURCES	Read John Traxler's blog. Follow Professor Traxler on Twitter @johntraxler Follow the mEducation Alliance on Twitter @m Education

About this Series

This presentation is part of the mEducation Alliance Seminar Series. For further information about the mEducation Alliance and/or the Seminar Series, please visit the Alliance website or e-mail mobilesforeducation@gmail.com.

PREVIOUS mEducation Alliance events

- 2011 and 2012 mEducation Alliance Symposia
- Recent Publications by GSMA and Alcatel-Lucent
- OLPC XO3 Tablet
- Mobile Devices as Assistive Technologies
- Mobiles for Literacy
- Mobiles for Assessment
- Stanford University –Research Roundtable
- Open Education Resources
- Open Mobile Per School
- E-Readers
- mWomen and mEducation
- Harvard University- Research Roundtable

*For summaries of the above events see the mEducation Alliance events page.

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. The presentation and information included in this brief do not represent endorsement by USAID of a specific project, individual, or organization.

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Mobiles for Education Alliance
Seminar Series July 2013

mEducation Alliance

Mobile Learning for Numeracy: Filling Gaps and Expanding Opportunities for Numeracy in Developing Countries

Written by: GIZ Numeracy Team

The Idea

Effectively describing the potential use of mobile learning for early grade numeracy in developing countries requires untangling a web of knowledge, theory, and experience from the domains of math instruction, early childhood education, ICT for development, and mobile learning. The study on *Mobile Learning and Numeracy*, conducted by RTI International on behalf of GIZ in 2012, untangled some of these issues, and examined how mobile learning could influence and improve numeracy education at early grade levels (ages 4-10), especially in low-income countries.

According to the study, there is no doubt that the increasing levels of "access" to mobile phones, even in the poorest and most rural communities, act as a powerful driver for mobile learning and offer a greater chance for longer term sustainability of interventions. Further, the review of research on early grade mathematics and developmental progressions of what children learn and how, and existing experiences from computer- and game-based approaches, has identified "pedagogical" drivers that make a case for mobile learning for numeracy. Because young children experience and explore not only mentally, but also physically, touchscreen interfaces are particularly suitable, as they offer the possibility of hands-on exploration, such as the ability to change the size and orientation of shapes. Mobile technologies also allow children to interact with their environment, supporting the seamless integration between life, play, and learning typical for young children.

Yet, there remain many unanswered aspects to this topic. Foremost, the body of reliable, rigorous data on outcomes and impact of existing initiatives is extremely limited. Thus, the study recommends developing and sharing a comprehensive research framework, both to ensure evidence-based use of mobile technologies for numeracy in low-income countries, and to design initiatives to generate critical data to inform scale-up and replication. The report also suggests that an enabling environment for adoption must include the availability of free and open content optimized for mobile devices and offered in many languages. It also suggests that international standards for educational content, such as file formats and communication protocols, need to be developed to allow content to be compatible with a wider variety of devices. Finally, existing initiatives seem to be driven by the availability of mobile technology, rather than by carefully analyzed education needs. The study thus recommends the development of a decision support framework to inform the conceptual design of projects and to drive decision-making based on tangible—and ideally measurable— learning gaps that mobile technologies can feasibly address.

Why It Matters

According to the 2012 UNESCO Global Monitoring Report, "around 250 million children either fail to make it to grade 4" or are in school but failing to learn the basics. These children do not master basic numeracy competencies such as measuring, estimating or simple operations. However, it is these very competencies – in addition to literacy - that form the foundation for all future learning and provide opportunities for children to

become active members of society. The internationally accepted Education for All (EFA) Goals set targets such that by 2015 the learning needs of all children are met, and "recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills".

The study presented in the webinar was commissioned last year by the **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ),** which works on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) to support the Global Partnership for Education (GPE) in its vision of promoting numeracy in pre-school and early grades.

Since so many children are in school but not learning, it is of urgent importance to explore new means of improving learning outcomes in numeracy. The usage of mobile devices could be a path one could explore to achieve this goal faster and more efficiently. Thus, presenting the results of the study to mEducation Alliance members broadens the discussion on the topic of using mobile technology for numeracy education. For more information on the activities of the GIZ Sector Programme Numeracy, feel free to contact numeracy@giz.de.

What We Know

Sarah Pouezevara has over 12 years of experience as an education and development specialist with the United Nations (UN), multilateral and bilateral donors, nongovernmental organizations (NGOs), universities, and foundations as a program evaluator, program manager, instructional designer, trainer, and technical writer. As a specialist in ICT in education and training, she applies new technologies to building professional and personal learning networks based on mutual support and sharing of experiences within a structured context, often crossing geographic and institutional boundaries through the use of eLearning. She promotes evidence-based, responsible and ethical use of technologies, including attention to health and environmental impacts. Specific areas of experience include mobile learning, facilitation of ICT-enabled communities of practice, teacher professional development, HIV/AIDS education, e-waste management, child protection and youth programs, NGO capacity building, and early grade literacy assessment.

Carmen Strigel is the Team Leader for ICT for Education and Training at RTI International. Her work focuses on building capacity, fostering stakeholder collaboration, and facilitating information-based decision-making and policy reforms. Ms. Strigel's core expertise lies in teacher professional development, evaluation of electronic teaching materials, pedagogic integration of ICT, organizational development, and ICT policy. Ms. Strigel leads the development of Tangerine® and Tangerine:Class, cutting-edge open source software optimized for mobile devices facilitating electronic data collection and continuous assessment in early reading and mathematics. Ms. Strigel authored a range of articles and book chapters on ICT and mobiles for learning and assessment, including Using Information and Communication Technologies to Support EGRA, in The Early Grade Reading Assessment: Applications and Interventions to Improve Basic Literacy, 2011, and was co-author of the Mobile Learning and Numeracy report developed by RTI for GIZ.

The webinar presentation discussed potential uses of m-learning for numeracy education for early grade learners. The first part of the presentation focused on defining the grounds of mobile learning, including different contexts of learning (formal v. informal), forms of mobility (device v. person) and varying degrees of collaboration supported by mobile learning.

Possible improvements in access, engagement and pedagogy were discussed as drivers of mobile learning worldwide. The use of mobile technology in measuring learning outcomes in early numeracy was brought up as a promising example. Mobile learning for numeracy education faces challenges and considerations similar to those faced by literacy education, including lack of infrastructure, lack of programs in local languages, and questions of business models and sustainability.

There is a need to enhance the design of mobile learning interventions based on the specific educational context and need. There is a need to rationalize the objective behind using mobile technology to achieve a desired set of goals. The biggest concern, however, is the lack of evidence supporting a correlation between the usage of mobile devices and improvement in learning outcomes. Thus, there is also a need to build an evidence base by exchanging information on the experiences of other actors working in similar fields.

The participants of the webinar contributed actively to the discussion. Some points raised during the discussion included the need to relate children's everyday knowledge and applications, like traditional games, to math. There were further discussions on RTI's 'Tangerine Class' application, a mobile technology-based assessment tool currently being tested in different countries, and how it compares to other existing assessment tools. Examples of clearing houses like MobileActive and the GPE Numeracy for Development Community of Practice were also mentioned. The need for the community of practice to come together to collect evidence and share experiences was strongly supported by all sides.

As an appropriate end/continuation to the active discussion, GIZ invited all interested stakeholders to join its new working group on the topic of '**Mobile Education and Numeracy,**' to be launched at the mEducation Alliance International Symposium, taking place October 15-16 in Washington, DC. GIZ understands the need to follow up this discussion with more concentrated efforts, networking, evidence building and collaboration, and the new working group shall provide all interested parties a platform to pursue exactly that. Even as multiple considerations and challenges still remain to be discussed, the webinar's active and impressive participation and great reception resounds our belief in the importance of the topic of mobile education and numeracy.

For more details on the working group on '**Mobile Education and Numeracy**', please feel free to contact numeracy@giz.de.

More Information

PRESENTER	**Sarah Pouezevara** eLearning Specialist RTI International spouez@rti.org **Carmen Strigel** Team Leader, ICT for Education and Training RTI International cstrigel@rti.org
GIZ	**Michael Hollaender**, Project Leader, Sector Programme Numeracy, GIZ
ADDITIONAL RESOURCES	Read the Study 'Mobile Learning and Numeracy: Filling Gaps and Expanding Opportunities for Early Grade Learning' Follow **Sarah Pouezevara** on Twitter @ **spouez** Follow **Carmen Strigel** on Twitter @ **ama_dablam** Follow the mEducation Alliance on Twitter @m__Education

About this Series

This presentation is part of the mEducation seminar series. For further information about the mEducation Alliance and/or the seminar series, please e-mail mobilesforeducation@gmail.com.

PREVIOUS mEducation Alliance events

- 2011 and 2012 mEducation Alliance Symposia
- Recent Publications by GSMA and Alcatel-Lucent
- OLPC XO3 Tablet
- Mobile Devices as Assistive Technologies
- Mobiles for Literacy
- Mobiles for Assessment
- Stanford University –Research Roundtable
- Open Education Resources
- Open Mobile Per School
- E-Readers
- mWomen and mEducation
- Harvard University- Research Roundtable

*For summaries of the above events see the mEducation Alliance events page.

These 5-minute digests are intended to promote information exchange in the use of mobile technology in education. Please contact the mEducation Alliance for more information at mobilesforeducation@gmail.com. The presentation and information included in this brief do not represent endorsement by GIZ of a specific project, individual, or organization.