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Rethinking Development and the Use of Mobile Technologies: Lessons from Bangladesh

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Abstract: Examples of mobile technologies enhancing teachers' and pupils' English language proficiency in developing economies like Bangladesh is uncommon. English in Action (EIA), a project designed to contribute to the growth of Bangladesh by providing English language as a tool for better access to the world economy, piloted a number of teacher professional development initiatives that have transformed English language teaching. We present preliminary findings that demonstrate significant changes in classroom practices through the use of mobile technologies and a substantial increase in the amount of English language used by teachers and pupils. We argue that incorporating mobile technologies, particularly audio, within a programme of work-based teacher professional development presents new opportunities for teachers and pupils to acquire English to levels that enable them to participate more fully in economic and social opportunities. This research challenges current assumptions around the use of mobile technologies for development. In conclusion we describe the next phase and scale of EIA's teacher professional development and considerations for the use of mobile technology within a large-scale teacher education and development programme.

Background

English in Action (EIA) is a 9-year project, starting May 2008, designed to assist 25 million people in Bangladesh improve their English language skills. The project was originally requested by the government of Bangladesh, and subsequently funded (£50 million) by the United Kingdom's Department for International Development (DfID). The project is an international partnership, led and managed by BMB Mott McDonald, The Open University (UK) and The British Broadcast Corporation (BBC) World Service Trust. Additionally, EIA works collaboratively with local organisations including the Underprivileged Children's Educational Programme (UCEP) and Friends in Village Development Bangladesh (FIVDB).

EIA aims to raise the Bangladesh's economic and social profile by providing English language as a tool for the population to access global opportunities. In this paper we describe The Open University's involvement in EIA which centres around targeted ICT-enhanced teacher professional development and the introduction of a variety of audio and visual learning materials using mobile technologies (media players, smart phones, laptops, etc.). Importantly, these materials are closely aligned with the country's English language curriculum and textbooks used in government schools entitled *English for Today*, published by the Bangladesh Textbook Board. The learning resources (print, audio & visual) were developed to improve pupils listening and speaking skills by providing audio, audio transcripts and visual resources to reflect content in the textbooks. Through face-to-face and ICT-enhanced self-learning modules, teachers learn how to use these resources in their individual classroom contexts. EIA's ICT-enhanced teacher professional development provides films and podcasts on handheld media players encouraging teachers to change their classroom practice alongside with cyclical (12 month) face-to-face English Communicative Language Teaching (CLT) training. EIA is currently working across three phases since 2008:

- I. Developmental Research (2008 – 2011): is being carried out with 700 teachers from government schools across Bangladesh, as well as some 60 teachers from non governmental organisations (NGOs). Two thirds of the teachers teach in primary schools, one-third in secondary. 80% of all EIA project schools are in rural areas. The purpose of the developmental research phase is to determine the most effective, scalable and sustainable models of supported open and distance learning for English language teachers in Bangladesh, and the most appropriate forms of mobile technology to support this. The research during this phase has focused on three key areas:

- the *reach* of the training provided (e.g. the extent of training, tools, and resources, and the numbers of teachers, pupils and schools participating), and the participants' perception and evaluation of that reach;
- the classroom *practice* of teachers and pupils participating in the project; and
- the English language *competence* of teachers and pupils in the project.

Within each of these areas, there has been a large-scale study involving more than 500 teachers and a parallel smaller scale study, to understand the findings and issues raised by the larger study. Additionally, six baseline studies¹ were completed to identify the contexts in which the project was beginning, including: large scale examinations of teachers classroom practice; teachers' and pupils' competence in speaking and listening in English; pupils' and communities' attitudes and motivations towards English language learning; the materials and training programmes currently used in Bangladesh for teaching and learning English; and the communications technologies and power supplies used and/or available within schools and communities.

- II. Upscaling (2011 – 2014): will draw on the Phase I and take the most effective & cost effective model of teacher professional development forward at scale. During this phase, The Open University will provide teacher professional development and mobile technology kits to at least 8-10,000 teachers from five national districts in Bangladesh. 80% of these teachers will come from rural schools.
- III. Embedding (2014 – 2017): will draw on Phases I and II and design teacher professional development programmes which will be available across Bangladesh through locally supported open & distance learning. It is anticipated that the final phase programme will require Public Private Partnership (PPP) to provide up to 90,000 teachers with mobile technology 'toolkits' that include audio, visual and print classroom resources and teacher professional development materials delivered through community networks and increasingly ubiquitous ICT access.

Mobile technologies and development

It is evident, from the research, that mobile technologies offer increased opportunities by providing more choice in when, where, and how teachers teach and how pupils learn (for example see Naismith et al., 2004). Technology-enhanced teacher-professional development on mobile phones in emerging economies, like Bangladesh, is a promising field whose applications are context specific and largely absent from the literature. Unlike many other funded development projects specific to mobile phones and often driven on making the various technologies work to ensure learning happens and satisfies funding conditions in the present (SAIDE, 2008), EIA—a 9-year project—intentionally addresses issues of scale, embedding and quality for the present and future across rural and urban contexts. Largely, research on mobile technologies in emerging economies generally focuses only on the use of mobile phones and/or internet-based interventions. This research tends to provide anecdotal, rather than qualitative evidence of the technologies impact on teaching and learning (see SAIDE (2008) for examples from South Africa & ADB (2010) for examples from Asia & South East Asia). EIA is different as its mobile resources are primarily audio files designed to assist both teachers and pupils in acquiring English on low cost mobile phones in its second and third phases. In what follows, the paper describes current technology based initiatives in Bangladesh. Then it presents EIA's model of ICT-enhanced teacher professional development; an initial mobile technologies kit pilot, resulting critical issues and how we are currently addressing those issues. We also illustrate how EIA's use of mobile technologies presented new opportunities for teachers and pupils to use communicative English.

Mobile technologies and development in Bangladesh

Currently there are a number of relevant initiatives, studies and research where ICT and mobile technologies are being leveraged to improve people's lives and their acquisition of English in Bangladesh. These include large-scale government initiatives as well as innovative community based efforts.

¹ To access the 6 baseline studies see <http://www.eiabd.com/eia/index.php/publications/baseline-studies>

Access to Information A2I

With technical assistance from the United Nations Development Programme (UNDP), Bangladesh aims to ensure the appropriateness of new initiatives and programmes for ICT for Development within the context of national priorities through the Access to Information (A2I) Programme at the e-Government Cell of the Prime Minister's Office of Bangladesh. This programme supports the development of new projects and programmes for ICT for Development and provides technical assistance for monitoring and evaluation. This programme aims to prioritize and mainstream ICT into the national development policies. It also assists in the development of a national e-Governance Vision and strategy that can harness digital opportunities for development in consultation with stakeholders by identifying emerging opportunities for ICT for Development initiatives in support of national priorities in the context of Bangladesh's national e-Governance Vision. As part of its national development strategy, the current government of Bangladesh took office with the vision of creating a 'Digital Bangladesh' by 2021. The National ICT Policy of 2002 gives importance to the issues of e-Governance, declaring that "the Government shall use ICT systems within the public administration to improve efficiency, reduce wastage of resources, enhance planning and raise the quality of services" (Prime Minister's Office, 2010). English in Action (EIA) is working to make 'Digital Bangladesh' a reality for teachers and students in primary and secondary government and non-government schools through its programmes.

BBC Janala

EIA's managing partner the BBC World Trust launched *BBC Janala*, a partner project that works with BBC Learning English on an educational initiative to significantly increase the number of people able to speak English across the country. The project was informed by two studies conducted by the Research & Learning Group² in 2005; one was on audience motivation to learn English in Bangladesh and the other focused on the new media landscape in Bangladesh. Both studies key findings' reflect a strong desire by Bangladeshis to acquiring English language skills alongside the strong belief becoming communicatively proficient in English is a pathway to economic success. The *BBC Janala* website (www.bbcjanala.com) was launched in November 2009. It is a unique multi-platform project that harnesses multimedia technology to provide affordable English education to millions (potentially) of people in Bangladesh and the wider international diaspora. *BBC Janala* offers an innovative way of learning English on mobile phones, the internet and television. Being the first project of its kind in the world, it aims to provide high quality English learning tools to millions of people, many of whom live on less than £2 a day. *BBC Janala* allows users to dial "3000" on their mobile phone to access hundreds of English language audio lessons and quizzes. The English lesson lasts three minutes and costs less than the price of a cup of tea from a Dhaka tea stall (or 3 pence). By December 2009—a month after launching the initiative—they received over 750,000 calls. Through a dedicated website, users can also access free content by participating in online communities of learners. So far over 12,000 people have registered for this growing virtual community that allows users to access learning content for free, upload their online profiles and interact with other learners. Additional audio and video content is also available on Facebook and YouTube. The television component, "BBC Buzz" is a weekly targeted youth entertainment show that places English at the centre of young people's everyday lives. Young and attractive bilingual presenters showcase aspirational individuals from Bangladesh and the Bangladeshi diaspora in both Bangla and English. Since its launch in October 2009, it is estimated the TV show has more than five million viewers. EIA is working in partnership with the *BBC Janala* to develop and English Language Learning for Teacher (EL4T) programme using both organizations resources to be available on mobile devices.

² The Research and Learning Group is a leader in the field of media and international development research. Established in 2005, it aims to be the premier global resource for research on using media for development, serving the media and development community worldwide.

D.Net

The Development Research Network (D.Net) is a non-profit organization dedicated to using information and communication technology (ICT) to improve the economic development of Bangladesh. D.Net's overarching mission is to use ICTs for poverty alleviation, economic growth and peace. D.Net's Computer Literacy Program (CLP) promotes the knowledge and usage of computers among underprivileged youth across Bangladesh. Through Computer Learning Centres (CLC) they provide a structured hands-on curriculum and the development of training manuals for teachers and pupils. This in turn creates a cadre of trained teachers who are provided with the required technical support and monitoring to ensure the smooth operation of the computer labs. Each computer lab is equipped with a minimum of four computers, one printer, necessary voltage regulator/stabilizers and other accessories. It is reported that they have established 114 CLCs and 37 Associate Centers in selected rural areas of 51 districts in Bangladesh. D.Net also launched a programme known as Bangladesh's "Infoladies". With this project, Infoladies ride from village to village on bicycles (Aljazeera, 2010), carrying netbooks and mobile phones. They set up "infoboosts" where they use net-gathered information to provide context-specific lessons on hygiene, childbirth, and even agricultural problems on rural families' doorsteps. Each "Infolady" is making essential—even lifesaving—information available in a cheaper and effective way. In Bangladesh, rural villagers often lack information that can help improve their livelihoods. The poor do not generally have access to current information resources. They do not own TV or radio and they cannot afford to buy newspapers. The idea of the Infoladies or "mobile ladies" was created to provide a comprehensive and responsive platform that bears a human-friendly interface, networks community people and fosters accessibility and interactive communication. EIA is currently in discussions with D.Net to set up strategic partnerships where we can possibly use the CLCs to access more teachers, pupil and adults and provide them access to communicative English teacher training as well EIA's classroom-based audio resources.

Shidhulai Swanirvar Sangstha

Shidhulai Swanirvar Sangstha, founded in 1998, assists the communities in Chalanbeel to develop sustainable livelihoods through increased access to education. Remarkably, this was achieved by constructing a fleet of flat-bottomed boats that make their way through the shallow rivers and canals of the Chalanbeel, bringing a range of educational services and renewable energy supplies to rural families (FYSE, 2009).

The boats use solar PV modules to generate all the electricity they need to provide a range of services including almost daily classes in primary education for children, libraries, training in sustainable agriculture, health advice, mobile phone and Internet access and battery charging facilities for solar home systems and solar lanterns. On some boats the PV supply is used mainly for lights, computers, DVD/CD players and video projector whilst on others the PV energy supply is used mainly to charge batteries for the solar home systems and solar lanterns distributed by Shidhulai. (Ashenden, 2009)

The boats provide PV-powered Internet and telephone access to Bangladeshis, who would otherwise, not be able to communicate with relatives as well as news from other regions of the country and internationally. These unique boats also provide valuable information in regards to health care and agriculture. Paramount to this project are the portable lanterns that provide nighttime lights for children and young people to study and adults to complete craftwork to earn additional income. Because there are up to 20 million people living in rural areas only accessible by boat, the Shidhulai solar powered boat project is an innovative way to provide education; training and sustainable products to millions of families who remain otherwise isolated (without any electricity) during much of Bangladesh's rainy season. Drawing on this project's success, EIA is field testing the use of solar power panels in to schools in order to charge the mobile devices (MP3 players and mobile phones) teachers use to play audio files in the classroom.

EIA's ICT- enhanced teacher professional development

EIA developed an innovative ICT-enhanced programme of teacher professional development drawing on key findings from their Baseline Study 3, *An Observation Study of English Lessons in Primary and Secondary Schools in Bangladesh* (EIA, 2009). The baseline study of classroom practice found that traditional or structural (grammar-based) methods of formal English instruction were widely used across the country. English language teachers

standing at the front of the class characterize this approach where they read from texts and ask closed (recall) questions of individual pupils or choral responses. Research indicated an absence of visual resources using this approach, with the exception of the blackboard being utilised to teach spelling and/or grammar. Pupils had few opportunities to speak or listen to English for communicative purposes during class time.

In response, programmes of ICT-enhanced professional development and work-based learning (supported by the Open University's open-distance learning methodologies) were developed for primary and secondary school teachers to empower them to change their classroom practice by adopting a CLT approach to English language teaching and learning. EIA's teacher professional development, or the 'trainer in your pocket', supports and encourages teachers to adopt new classroom practices alongside the use of a comprehensive range of audio, visual and print classroom resources³. EIA's first pilot provided the audio and video resources played on the portable Apple iPod Nano (primary) and Touch (secondary). Teachers were also provided with portable, rechargeable speakers. These mobile media players were chosen for the pilot only to test out possibilities of introducing audio materials to supplement the national curriculum alongside ICT-enhanced teacher professional development. In addition to the audio resources and the portable media players, a set of professional development resources to support primary teachers' own learning was also provided. This included 18 video clips and 4 audio recordings exemplifying a range of correct and incorrect English CLT classroom practices. The secondary teachers can access 46 audio files (podcasts) dedicated to teacher professional development on their iPod Touch.

EIA's model of ICT-enhanced teacher professional development is comprehensive and designed to provide professional development to 90,000 Bangladeshi teachers by the end of the project in 2017. At the core of the ICT-enhanced teacher professional development is the mobile phone or 'trainer in your pocket'. Additionally, there are twelve Bangladeshi teacher development coordinators (TDCs) who received extensive English CLT and pedagogical training. Two TDCs are solely responsible for the materials and resource development and produced 355 audio files (primarily dialogues, then songs) for the primary classroom. For the secondary classroom they produced lesson plan cards, maps, and photos. The other ten TDCs work continuously in the field training teacher facilitators (TFs), who work in pairs, out of one school, to collaboratively provide professional development for teachers in their Upazilla (district). Each TF has an iPod touch with audio and film-based professional development resources specifically designed to assist them in encouraging and assisting teachers with CLT strategies.

460 primary teachers have iPod Nanos with teacher professional development films and audio files that compliment the national curriculum in English at their grade level. 230 secondary teachers possess the iPod Touch with film-based and audio professional development resources. All primary teachers have EIA-produced Activity Guides at each of the 5 grade levels with complimentary visual (posters, flash cards, figurines) and print resources (audio transcripts of the dialogues). Secondary teachers receive a teacher professional development package entitled, *English for Today in Action*, that presents 12 CLT modules that they can adapt and use to teach English as a foreign language. Figure 1. is an example of the 'trainer in your pocket'. The film entitled, 'Doing pair-work' was developed by The Open University. It is intended for teachers to use on their own and it models the incorrect (red x in the lower right hand corner) and correct (green check in the lower right hand corner) ways to introduce and implement pair work in an English CLT classroom.

³ For examples, see <http://www.eiabd.com/eia/>



Figure 1. ICT-enhanced Teacher Professional Development on the iPod Touch

Primary teachers' iPod Nanos came preloaded with audio resources specifically produced to match every lesson in the national textbook series *English for Today* (National Curriculum & Textbook Board Bangladesh, 2002) at their year level (Levels 1-5). The iPod Nanos also provide teachers with songs for the beginning and end of every lesson, and a range of supplementary songs, poems and other readings. Secondary teachers each received an iPod touch, preloaded with audio podcasts, enhanced with synchronized text and images, which was the core of their the ICT-enhanced teacher professional development materials.

EIA's blended model of ICT-enhanced and face-to-face teacher professional development actively promotes and supports peer learning, with two teachers participating from each of the 310 schools currently involved in the project. These two teachers work through the materials together, with support from TFs, to plan new CLT classroom activities and share their experiences. The audio-based mobile technologies and accompanying pedagogical resources support them in introducing new classroom practices. EIA's model of professional development is supported by high levels of peer support, including monthly cluster meetings with other project teachers that are facilitated by the TFs, who also visit teachers in their schools, and facilitate the sharing of challenges, strategies and achievements. The following case study exemplifies the kinds of activities EIA teachers began to experiment with after the first 2-3 months of their participation in the project.

Case Study 1: Communicative English Language Teaching

In a small rural primary school with no electricity, the teacher begins the lesson with the 'good morning' song, played on the iPod Nano and rechargeable speaker (Figure 2). Important in this example is the change in the teachers' pedagogical practices as he adopts a more pupil-centred communicative English language focus that is closely aligned to and enhances the English lesson from the national curriculum and textbook.



Figure 2. Teacher Using an iPod Nano and rechargeable speaker in a rural classroom

Using an EIA developed warm-up poster activity; several individual pupils are called out to lead the English lesson from the front of the class (Figure 2). Pupils are then instructed to work in pairs on the modeled communicative dialogue from their seats. Afterwards, three pairs of pupils modeled the dialogue to their peers. This is followed in turn by the class reading/practicing (choral) additional dialogues from the textbook, with three more pairs of pupils reading the passage aloud to their class. Unlike, largely grammar-translation teacher led activities observed in the baseline study, within the first 15 minutes of this lesson; all pupils have sung a song and read aloud a passage in English. And exactly half of the pupils (18 of 36), individually or in pairs, have participated in communicative English language activities, involving modelling dialogues and receiving peer feedback from the whole class. On interview after the lesson, the teacher summed up his impression of how his ICT-enhanced teacher professional development (that promoted CLT principles), had changed in his English lessons shortly after his participation (3-4 months) in EIA:

“Before there was no difference...no distinction...the English class was the same as the Bangla class. If you walked in, you would not have been able to tell which was which. But now we can differentiate...we are speaking English much more now...the pupils are using English with their families too, outside school...their pronunciation has improved...they are using English confidently.”



Figure 3. A primary pupil taking part in the ‘warm-up’ activity. The pupil is asking her classmates ‘Who is this?’ as she points to different characters on the poster. Other pupils respond in chorus ‘This is...’

Challenges to sustainability

As with any project using mobile technologies in a developmental context, EIA encountered numerous challenges in piloting its ICT-enhanced teacher professional development. One major problem revolved around the audio files and making them accessible and audible in classrooms with more than 60 pupils in remote rural areas that had no, or limited electricity. This proved to be a significant challenge because the original speakers chosen, large portable Block Rockers (ION iPA03), were difficult for teachers to transport to and from a reliable electricity source. If not charged regularly for at least 2 hours, the recharging cell became damaged and they were susceptible to additional harm in certain damp climates (South Eastern Bangladesh). Due to their large size they were vulnerable to damage from everyday knocks as they were transported between locations. Additionally, a batch of iPod Nanos purchased were defective from the start and replacing them in a country like Bangladesh, which does not have an Apple Authorised Service Provider, was difficult as they had to be replaced individually via Singapore. This was labour, time and cost ineffective.

EIA knew from the start that the iPod Nano and Touch were not sustainable for Phases II and III of the project, but would provide evidence of the usability and effectiveness of delivering ICT-enhanced teacher professional development and classroom-based audio resources simultaneously to many rural contexts without a reliable supply of electricity. In 2009, the Apple products offered mobile technologies well suited to EIA’s needs and project goals and could be leveraged accordingly. As we scale up, we are drawing on studies that indicate EIA’s preliminary

findings and sourcing low cost mobile phones currently available in Bangladesh that can deliver EIA teacher professional development and classroom-based resources.

Preliminary Findings

We report here on two research studies carried out six months into the teachers' participation in EIA. The first was a large-scale study of the classroom practices of primary and secondary teachers after their teacher professional development, with a particular focus on teacher and pupil talk-time, and the organization of that talk. The overall findings of the first study indicate significant changes in teachers' pedagogical practices in relation to those observed in the baseline studies. The second is a smaller study that explored the perceptions of teachers and pupils in relation to the new tools, resources and practices that teachers were attempting to introduce.

In the first study, principal observations of primary classrooms indicate a change in teachers' pedagogical practices. This was indicated by the decrease in overall percentage of teacher talk time during the lesson (34%) and an increase in the overall percentage of pupil talk time (27%). When the primary teachers were speaking, they used English the majority of the time (71%). This indicates a significant increase as a result of their participation in EIA. Earlier only 27% of teachers spoke in English more than they did in Bangla. When Primary pupils were speaking, they also used English most of the time (88%). This was also an increase from EIA's baseline study, which identified few occasions (2-4%) when individual pupils or groups were encouraged to speak in English. Findings were similar for secondary classrooms which also report an increase in teachers embodying English CLT practices and using English 86% of the time.

In the second study, primary (98%) and secondary (98%) teachers reported on interview that they enjoyed taking part in EIA and believed their communicative English language proficiency improved. As a result of their familiarity and experience using the mobile audio technologies, most teachers (96% Primary; 86% Secondary) felt more confident in using and modeling spoken English in the classroom. More important findings indicate the majority of teachers (86% Primary; 92% Secondary) have changed their pedagogical practices to focus on communication, with grammar being explained in context; 91% primary and 90% Secondary of secondary teachers report often designing activities to have pupils interact in English; and all secondary teachers and 93% of primary teachers report improved pupil motivation as a result in changes to classroom practice. The second study indicated that both primary and secondary pupils reported that teachers used English most of the time in lessons and that they often participated in English CLT practices (activities such as group and pair work, dialogue, and listening activities with mobile audio). Primary and secondary pupils also indicated that they preferred these new communicative classroom activities over more 'traditional' pedagogical practices. It is important to also note that many of these EIA trained teachers still struggle with teaching communicative English due to low and/or developing English language proficiency. More detailed and comprehensive research needs to be undertaken to truly uncover what is happening in the classroom with EIA trained teachers.

Into the future

Criticisms of mobile technologies and/or ICT for development projects are that they fail to build on existing systems or work in a participatory way and therefore do not achieve local ownership. As EIA is currently preparing to scale up in the next phase, the project has identified possible local partners and is piloting mobile technology kits to deliver audio files and supplementary print and visual resources to more than 10,000 teachers. To ensure scalability, we are working towards an ICT cost of no more than £60 (per teacher) for this phase. To inform the choice of teacher' equipment, EIA will field test a variety of mobile phone based portable media players and rechargeable speakers (that use the same battery as mobile phones) across two rural Upazillas, looking at ease of use, performance in classroom contexts, durability and recharging. The goal is to assemble kits for distribution to teachers across the country, some with limited and/or no electricity. Currently we have conceptualized a scenario to help guide the development of the kit for pilot testing.

The preferable future (2017)

Bangladeshi schools, through networked teachers, online teacher training programmes and affordable/accessible network ubiquity have gained a reputation for being able to deliver English language learning tailored to individual needs. The development of learning networks advanced, no longer subject to

time and place constraints. Individualized networks emerged as communities collaboratively redefined the work of schools to better serve local needs. Networks of teachers, learners, parents and professionals responded to a changing society to meet the needs of the expanding internationalized knowledge economy. Pupils leave primary school with high levels of English language proficiency while many secondary pupils emerge bilingual. Mobile phone ownership in urban and rural areas has reached saturation. Many individuals' own mobile phones, with powerful processors, abundant memory, larger screens, and open operating systems, are used for learning and accessing greater social and economic opportunities.

To design the mobile technology kits, EIA relied on the following guiding question and sub questions:

- 1) What is the best kit(s) available, within budget, for using mobile technologies to improve the English language skills/proficiency of both pupils and teachers?"
 - a. How do we define/describe teachers' 'best practice' with the kits(s)?
 - b. Which kit(s) is/are most sustainable (economically) within particular contexts?
 - c. How does the kit acknowledge differing local contexts across the Upazillas? (Is one kit better for one context over another, particularly in regards to energy supply and recharging?)
 - d. How does the kit address some teachers' naivety about mobile technology in general? (Conversely will the kit quickly become outdated as 'demand' for certain kinds of English instruction—via mobile technologies—becomes more institutionalized/pervasive?)
 - e. How does the kit(s) build on/not build on already existing systems (FM radio via mobile phones, D.NET centres, *BBC Janala*, A2I, etc.)?
 - f. How does the kit(s) promote participation in English CLT practices and therefore achieve/not achieve local embodiment/understanding of English CLT principles?
 - g. How does the kit(s) link or facilitate ongoing communities of practice between teachers in regards to English CLT (if the kit includes mobile phones, Bluetooth or even geosocial networking capabilities and/or ICT based resources such as webpages, message boards, blogs, etc.)?
 - h. How easy/difficult will it be to monitor and evaluate the developmental/pedagogical/financial impact of the mobile technology kit(s) for EIA's main purpose?
 - i. Which kit(s) may be ultimately self-supporting? (Meaning teachers may modify/adapt/reconfigure the kits(s) to meet individualized, contextualised, and pedagogical agendas.

EIA understands that mobile technologies, not yet available in Bangladesh, may offer new possibilities for helping children, young people and adults acquire English to levels that may give them increased economic and social opportunities. The project is working collaboratively—through innovative ICT-enhanced teacher professional development—to locally contextualise the use of mobile technologies and support their adoption in ways that are truly sustainable. As we prepare to scale up, EIA is field testing 3 mobile technology kits for rural and semi-rural areas, we will pilot some kits with a portable solar panel charger (£32). All of the options we have identified play video allowing for continuing ICT-enhanced teacher professional development:

KIT Option 1:	Total Cost
Equipment: <ul style="list-style-type: none"> • Nokia C1-01 Mobile Phone (plays audio/video supported with SD card up to 32 GB) • 4GB midrange SD card • Portable rechargeable speakers 	59£
KIT Option 2:	
Equipment: <ul style="list-style-type: none"> • Maximus M45i Mobile Phone plays audio/video supported with SD card up to 32 GB) • 4GB midrange SD card • Portable rechargeable speakers 	51£
KIT Option 3:	
Equipment: <ul style="list-style-type: none"> • 8 GB SD card • Portable rechargeable Speakers • Teacher's own mobile phone 	28£

The current mobile technologies field test takes into consideration the scenario above, and hopes to find the best option for the present while thinking about what mobile technologies individual teachers in Bangladesh will possess in the future. EIA is thinking about a preferable future with the current pilot study. We are not trying to predict the future, but to uncover images of a preferable future in line with the project's goal of providing English language as a tool for better access to the world economy for 25 million individuals. English in Action (EIA) is working to make 'Digital Bangladesh' a reality for teachers and students in primary and secondary government and non-government schools.

Alongside ICT-enhanced teacher professional development, or a "trainer in the pocket", EIA resources also encourage continuous self and supported learning through mobile technologies. Drawing on Digital Bangladesh's 'Vision 2021', EIA's goal is to develop a sustainable model of providing English language as a tool for better access to the world economy. We argue incorporating mobile technologies alongside ICT-enhanced teacher professional development presents new opportunities for teachers and pupils to acquire English to levels that enable them to participate more fully in economic and social opportunities. We examine existing classroom contexts in remote areas and have demonstrated the potential of using EIA's resources on mobile phones with lightweight portable speakers. This highlights how mobile technologies, as a tool, can change learning and even individuals' livelihoods. Although the future does not exist, we have images, or ideas, about the future, and these images or ideas influence how we behave, live, plan and learn in the present. EIA's research, monitoring and evaluation challenges current assumptions around the use of mobile technologies for development and communicative English language teaching. This is because we are not only relying only the network aspect of mobile phones, but rather that possibilities of incorporating them into large scale targeted teacher professional development with complementary audio and visual resources to improve English classroom teaching and learning in a developing economy.

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