

THE MANCHESTER ACADEMIES

EXPLOITING NEW TECHNOLOGIES TO RAISE YOUNG PEOPLE'S ACHIEVEMENT

by

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Introduction

I have been asked to speak on 'Exploiting new technologies to raise young people's achievement'. I will address this subject by describing 3 recent European Commission projects that Ericsson has been involved in. The first two projects deal with the latest area of the use of technology in education: mobile learning; the third addresses the impact of technology in general on learning.

These projects are:

- The role of mobile learning in European education
- Using wireless technologies for context sensitive and location sensitive education and training
- The impact of new technologies on distance learning students
- Megatrends in e-learning provision.

1. The role of mobile learning in European education

The role of mobile learning in European education is an action project aimed at providing a programme for the implementation of mobile learning by the European Commission and the 27 EU Departments of Education. It rests on the shoulders of a series of other EU mobile learning projects in mobile learning organised by Ericsson Education Ireland going back to 1999, when mobile learning was only a glint in the eye of early adopters.

Mobile learning is the provision of education and training on PDAs (Personal Digital Assistants), smartphones and mobile phones (including handhelds, palmtops, iPods and MP3 players).

I am aware that in many schools in the United Kingdom and certainly in Ireland, mobile phones are banned. I am aware that in the United Kingdom and certainly in Ireland a student can get a detention if his or her mobile phone accidentally goes off at school.

One of the goals of this presentation is to convince you to reconsider these regulations in the case of the Manchester academies, and to consider instead the educational value of mobile phones.

I believe an excellent case can be made for their educational usage.

The first reason for their use lies in the ubiquity of mobile telephony. There is an old adage of distance education research which states that 'it is not technologies with inherent pedagogical strengths which success in distance education, but technologies which are generally available to citizens.'

Never in the history of the use of technology in education has there been a technology that was as available to citizens as mobile telephony. The statistics are stunning:

In July 2005 Ericsson announced that the number of mobile devices in the world had topped 2 billion for the first time. They forecast ownership of 3 billion mobile phones as early as 2010 – and this for a world population of somewhat over 6.5 billion. On 1 February 2008 the CEO of Ericsson, Carl-Heinrich Sandberg, announced that the number of mobile subscriptions in the world had reached 3.300.000.000.

Recent research on audience characteristics published by the BBC in Britain shows the ubiquity of mobile devices especially in the 16-24 age group, the education age group. The BBC research on this group shows that it characterises a mobile phone as a 'necessity' and not a 'luxury'.

www.bbc.co.uk/commissioning/marketresearch/audiencegroup2.shtml

Thus it can be taken as a given that all students in all European schools and higher education institutions in all countries in Europe possess one.

Penetration of ownership of mobile devices in most counties in Europe, is now over 100% with the United Kingdom being in second place after Italy with over 110%.

The second rationale for the use of mobile telephony in education is that the future is wireless. In all walks of life wireless connections are replacing wired ones. The sending of text and graphics to citizens' mobile phones as news feeds or sports feeds is now widespread.

It is the role of the field of mobile learning to harness mobile devices for education. It is important that education should not be left behind.

The third rationale for the use of mobile telephony in education comes from the fact that Departments of Education throughout Europe spend millions of pounds annually for the provision of educational technology for schools, colleges and universities.

It is known that the US Department of Education spends \$6.000.000.000 annually on educational technology. Here, for the first time in history, is a technology that will cost taxpayers nothing because the students possess, and use constantly in all walks of life except education, the technology to be used.

The credit for the start of mobile learning can be given to the work of Professor Mike Sharples, then at the University of Birmingham and now at the University of Nottingham, with the use of PDAs by children in British primary schools.

The project is still in progress but has already produced a catalogue of international mobile learning with case studies of mobile learning in Australia, Canada, China, Japan, Korea, India, South Africa, Taiwan and the USA. This is a 170 Page volume which details the achievements of mobile learning today in these 9 countries. It will be available shortly for free download from the project's website: www.ericsson.com/socrates2006.

The second product is a catalogue of mobile learning provision today in 28 European countries (the 27 members of the European Union plus Norway). This is a 240 page volume and contains evidence of activities in mobile learning in every European state except Luxembourg.

Perhaps the most important evidence of the vibrancy of mobile learning today comes from the Handheld Learning conferences organised annually since 2005 at Westminster Hall in London. The inaugural conference was held in 2005 with 300 delegates. In 2006 there were 600. Last year there were 800 and the organisers confidently expect 1000 for October 2008.

Many hundreds of these delegates were from primary and secondary schools in the United Kingdom. One has to presume that if one chooses to attend a conference on handheld learning or mobile learning, it is because one has already engaged in some form of course provision via mobile learning. Thus in the United Kingdom the vibrancy of and activity in the field of mobile learning is proved.

The project will go on to consider:

- The role of mobile learning in European education
- The pedagogy of mobile learning
- The adaptation of e-learning or face-to-face learning materials to mobile learning
- The production, teaching, evaluation and documenting of mLearning courseware
- Mobile learning for the disadvantaged and disabled.

2. Using wireless technologies for context sensitive and location sensitive education and training

I said at the start that I would speak about the latest technologies for use in education and training. This project is right at the cutting edge of new technologies. It proposes to use the latest developments in wireless telecommunications in an educational context. These technologies are RFID (Radio-frequency identification), GPS (Global Positioning System), Mobile positioning and IMS (IP Multimedia Subsystem).

The first task of the project is a General System Design for the development of software/services to facilitate context sensitive and location based courseware. The next stage is the localisation of the new design to the systems of the partners so that they can develop courseware that is context sensitive and location based. As IMS is not yet fully operational this is a major undertaking but the presence of two of Europe's leading telecommunications companies, Ericson and Giunti Labs of Genoa in Italy, gives hope that the design of the new system will be accomplished.

Four applications of the new system are envisaged:

- Task-based training using location and context sensitive technologies

The outputs of this work-package will be training material designed to represent a specific task or objective, for example carrying out a software upgrade, or instruction on how to use a specific piece of equipment. The content deployed to the learners' mobile device will be directly relevant to the context of the training need and/or the location of the learner. The type of training material to be deployed in this work-package will be aimed at technical professionals who routinely carry high-end mobile devices, such as smartphones or PDAs during their daily work. The intention is that this audience will be connected to any relevant training material via a Learning Management System, and that this LMS will deliver context and/or location sensitive content to their mobile device when appropriate.

- Art Gallery and Museum Education

The outputs of this work-package will be training material designed to aid visitors to art galleries, museums and similar institutions. A suggested application of this work-package would be context sensitive information about a specific exhibit in a museum, delivered to the learner's mobile device as they physically approach that exhibit. Alternatively, visitors could access information about points of interest in their locality as they travel around various parts of a city. The content deployed to the learner's mobile device will be directly relevant to the context of the training need and/or the location of the learner.

- Use of context sensitive technologies in mobile learning

All the partners have existing mobile learning content that is relatively stand-alone, being launched from a Learning Management System or downloaded and transferred to the mobile device. In this work-package the partners will disaggregate existing content to allow for the possibility of deploying relevant sections to the mobile device depending on the context and/or location of the learner.

- Use of context sensitive technologies in language learning

The development or enhancement of previously existing mobile learning language courses with context sensitive and location technologies.

This is a state of the art project which shows just how powerful wireless technologies are. Just as news feeds and sports feeds to mobile phones all over the UK are now commonplace, it is the role of the field of mobile learning to develop education and training materials that keep up with developments in other fields.

3. The impact of new technologies on distance learning students

The programme for this conference lays great emphasis on the application of new technologies in the process of learning to learn, in enabling learners to manage their own learning and to enable learners to become effective assessors of their own learning.

The work of this project goes right to the heart of this question.

It starts with the concept that all EU Departments of Education spend millions of euros each year on the provision of educational technology for schools, colleges and universities and, I am sure, that extensive spending on educational technology is planned for the 7 Manchester academies.

The project claims that the research on the impact of technology on learning is unacceptably weak. What little research has been done is on the impact of technology on children in American schools (what the Americans call K-12, that is Kindergarten to High School Graduation). The recent (2005) quote from the World Bank highlights this position:

In March 2005 the World Bank states that 'the positive impact of ICT use in education has not been proven. In general, and despite thousands of impact studies, the impact of ICT use on student achievement remains difficult to measure and open to much reasonable debate'

The project set out to test two hypotheses: that there was in fact an impact of technology on learning and that this impact of technology on learning was beneficial.

As so much of the previous work was on American schoolchildren the project set out to test these hypotheses in the fields of adult education, distance education and life-long learning.

The project has a particular focus on distance learning. This is because in distance education technology is a substitute for the teacher and not just a supplement to the teacher as is the case in conventional education in schools and universities. What the first distance educators did was to break with the 2000 year history of the education transaction taking place by interpersonal communication in the learning group between the teacher and the taught and replaced it by an apersonal form of technology mediated by technology.

Thus the use of technology is obligatory in distance education.

In this project distance education is presented as a rich and complex form of education provision with these 5 subsystems:

- Open universities and distance education systems
- E-learning (electronic distance education)
- Synchronous e-learning systems
- The use of the WWW on-campus
- Mobile learning.

The work of the project is proceeding in these 7 workpackages:

- The impact of technology on learning in Open Universities and distance education
- The impact of technology on learning in e-learning
- The impact of technology on learning in synchronous e-learning systems
- The impact of technology on learning in the use of the WWW on-campus
- The impact of technology on learning in mobile learning
- The impact of technology on learning for men and women
- The impact of technology on learning for younger learners and for older learners.

Excellent work has been accomplished and we are well on the way to proving that technology does in fact have an impact on learning and that this impact is beneficial.

Conclusion

Our journey through 'Exploiting new technologies to raise young people's achievement' has taken us through two analyses of mobile learning, a middle of the road project and an avant garde one, plus an analysis of whether technology can be proved to have an impact on learning and whether this impact can be proved to be beneficial. I trust that this will prove of value in your planning for the new Manchester academies.