

Mobile learning: a practical guide

Introduction

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Mobile learning: a practical guide is a hands-on, how-to-do-it guide for education and training institutions who wish to introduce mobile learning.

Definition

Mobile learning (mLearning) is defined as the provision of education and training on mobile devices: Personal Digital Assistants (PDAs), smartphones and mobile phones.

In defining mobile learning one confronts tensions between functionality and mobility. There is a continuum from the point of view of functionality in the devices used for eLearning and mLearning. This continuum goes from desktop computers to laptop computers to PDAs or handhelds or palmtops to smartphones to mobile phones. There are many, especially in the United States of America who include laptop computers in their definition of mobile learning.

I disagree. I feel that in the definition of *mobile* learning the focus should be on mobility. Mobile learning should be restricted to learning on devices which a lady can carry in her handbag or a gentleman can carry in his pocket. I, therefore, define mobile learning as ‘the provision of education and training on PDAs/palmtops/handhelds, smartphones and mobile phones.’

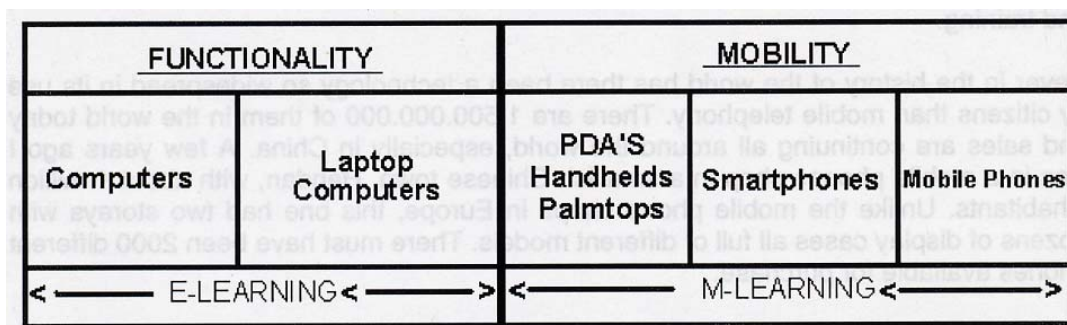


Figure 1. Functionality and mobility in a definition of mobile learning

One of the characteristics of mobile learning is that it uses devices which citizens are used to carrying everywhere with them, which they regard as friendly and personal devices, which are cheap and easy to use, which they use constantly in all walks of life and in a variety of different settings, except education.

Statistics

The justification of mobile learning comes from the ‘law’ of distance education research which states that ‘It is not technologies with inherent pedagogical qualities that are successful in distance education, but technologies that are generally available to citizens’.

A typical example is the 12” laser discs of the early 1990s. These laser discs had excellent pedagogical possibilities and excellent courses were developed for them especially in the field of ESL (English as a Second Language), but they were not successful because not enough people owned one.

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.

It is calculated that in the United Kingdom alone the number of SMS messages sent annually is 37.000.000.000. These figures are repeated in most countries of the world.

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 university age group. The BBC research in this group shows that it characterises a mobile phone as a ‘necessity’ and not a ‘luxury’.

Penetration of ownership of mobile devices in most counties in Europe, is now over 100%. These are the figures:

Country	Mobile Phone Penetration	Country	Mobile Phone Penetration
Austria	103%	Latvia	96%
Belgium	88%	Lithuania	96%
Cyprus	107%	Luxembourg	107%
Czech Republic	111%	Malta	107%
Denmark	101%	Netherlands	102%
Estonia	96%	Norway	106%
Finland	102%	Poland	71%
France	79%	Portugal	99%
Germany	91%	Slovak Rep	85%
Greece	100%	Slovenia	44%
Hungary	92%	Spain	94%
Ireland	101%	Sweden	113%
Italy	111%	UK	108%

Fig 2. Data sources: WCIS (World Cellular Information Service) (2006) and Ovum.

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

Projects

The European Commission has played an important role in bringing about the arrival of mobile learning. It has funded 3 Leonardo da Vinci projects and 2 IST research projects in the field. Here is a brief look at the work of these projects.

Programme	Project leader	Title
Leonardo da Vinci	Ericsson Education Ireland	From e-learning to m-learning
Leonardo da Vinci	Ericsson Education Ireland	Mobile learning: The next generation of learning
IST FP5	LSDA UK	The m-learning project
IST FP5	Giunti Ricerca Italy	The MOBILearn project
Leonardo da Vinci	Ericsson Education Ireland	The incorporation of mobile Learning into mainstream Education and training

Fig 3. Mobile learning projects funded by the European Commission

1. The Leonardo da Vinci *From e-learning to m-learning* project, led by Ericsson Education Ireland, addressed the development of courseware for mobile phones, smartphones and PDAs.

What was important about this project was that the main pedagogical problems of developing mobile learning for PDAs were solved in the project in which a comfortable didactic environment was created by using Microsoft Reader Works, providing each student with Microsoft Reader software to display the content and which was adjudged highly satisfactory by surveys of students who had studied a full course by mobile learning on a PDA. As the major objection raised against mobile learning is screen size, it was important that this problem was solved and by-passed at the outset.

2. The Leonardo da Vinci project *Mobile learning: the next generation of learning* led by Ericsson Education Ireland.

The main activities of this project were to achieve the production of acceptable courseware for smartphones in XHTML. Also in this project the next generation of mobile learning course development was based on FlashLite. FlashLite is a toned down version of Flash designed for mobile devices. This development is motivated by the fact that there are thousands of developers who have used Flash to develop eLearning content and that there is a lot of eLearning content available in Flash, so that – for the first time in the history of mLearning – you can reuse the pedagogical and technical skills of the developers and the content can be reused too.

3. The IST project *M-Learning* was led by the United Kingdom government Learning and Skills Development Agency (LSDA). This project had an important social dimension. It recognised that there were in the United Kingdom many 16 to 20 year old youths who were unemployed and had urgent needs for additional training, but who refused to attend a training centre or college. They were unemployable and refused to attend training. They all had, however, a mobile phone which they used constantly. The project, therefore, set out to develop courses for them on their mobile phones in the fields of literacy, numeracy and social skills.

4. The IST project *MOBILearn* led by Giunti Ricerca of Genoa, Italy. This was a very large project led from Italy and counted a wide range of at least 20 European universities among its members. The objectives of this project were: the definition of theoretically-supported and empirically-validated models for effective learning/teaching/tutoring in a mobile environment. The project also produced course materials in the fields of Health Education, Museum Education and MBAs.

5. The fifth project is called 'The incorporation of mobile learning into mainstream education and training.' The thesis of this project is quite different from that of the previous projects. The thesis is that it is now time for mobile learning to emerge from its project status and enter into mainstream education and training – as the related fields of distance education and e-learning have done before it. For the first time a mobile learning project is focusing on the field as a whole and not on the development of mobile learning for an institution or a group of institutions.

The trouble with projects is that they tend to collapse and disappear when the project funding is discontinued. What usually happens is that the project group is dispersed, staff contracted in for the project are let go, other staff discontinue their work and move to other tasks, the expertise built up by the project group is dissipated and not maintained. A major goal of this book, *Mobile learning: a practical guide* is to contribute to the process of mobile learning emerging from its project status and being incorporated into mainstream education and training.

Approach of this book

The book proposes a three-tiered approach to mobile learning:

- The use of mobile devices in educational administration
- Development of a series of 5-6 screen mobile learning academic supports for students
- Development of a number of mobile learning course modules.

The need for using mobile devices in educational administration seems obvious.

If a lecture, or similar activity, has to be cancelled at short notice the university or college can communicate with the student body concerned by the postal services or by email. This is not an effective means of communication. The use of SMS (Short Messaging Service) provides immediate communication with the students.

SMS messages can be sent in this way either to the whole student body, or to students of a faculty, or a department or a class grouping. Hundreds of thousands of these administrative SMS messages have been sent out to students' mobile phones by universities throughout the world.

The development of a series of 5-6 screen mobile learning academic supports for students is the second tier of the strategy proposed in this book. This is the sending out of 5-6 screens of academic material to students' PDAs, smartphones or mobile phones. These academic supports can be course summaries; help with particularly difficult parts of a course that have caused difficulty to students in the past; assignment guidance; examination preparation and so on. Tens of thousands of these supports have been sent to students' phones by universities around the world.

The final tier of the approach in this book is the development of course materials for mobile learning. This is crucial for mobile learning to be incorporated into mainstream education and training.

Structure of this book

Part One of this book deals with the use of mobile devices in educational administration. Mobile devices are presented as important communications devices which have many advantages over the postal system or email..

Part Two deals with the use of SMS messaging in teaching and learning. Billions of SMS messages are sent annually in all countries of the world and the challenge is to harness this technology for educational purposes.

Part Three deals with the use of a wide range of wireless technologies, besides SMS messaging, in teaching and learning. The focus is to demonstrate how these technologies can be used for educational purposes.

Part Four deals with the goals of mobile learning which will enable it to be incorporated into mainstream education and training.

Part Five gives examples of mobile learning successes, which demonstrate that mobile learning is already moving into the mainstream.

Just as the related fields of distance education and e-learning have become accepted fields of mainstream provision, the role ahead of the field of mobile learning is to become incorporated into mainline education and training.

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