

General Intro. - Librarian's **Perspective**

Modern mobile communications devices exhibit major potential for integration in the spheres of learning, campus-wide communication and the social inclusion/cohesion of society as a whole. In this paper I would like to take a look at some new and what might be termed “intermediate” technologies relating to mobile access and to the evolution of e-learning or m-learning in an educational context.

Drivers

- 'explosion' in mobile computing and telecommunications technologies in recent years
- the dominant mode of access to the Internet will soon be in the form of wireless technologies
- an increasingly mobile workforce
- social science research, cognitive research and computer science research indicate that mobile technologies can be used to revolutionize learning
- discontinuous rather than incremental learning opportunities in libraries and campuses worldwide

environment

- The combination of voice, text and live pictures that are emerging technologies such as SMS, MMS, PDA, BioWAP etc. corroborate the view of educational philosophers such as Dewey and McLuhan that there is an intrinsic connection between communication, information provision and the learner community
- however to date, there has been relatively little activity in integrating these technologies into the realm of mobile learning and the learning and library/information environments

stages between e-learning and m-learning

- In summer 2001 the Irish academic libraries established a Working group to assess the development of e-book technology in Ireland
- the Working Group members found that e-books could support learning activities in certain subject areas where information was structured in relatively discrete blocks and where the up-to-dateness or currency of the material was paramount for example - subject areas like business, law and computer science

University of Limerick's implementation

- one-year pilot Safari project

Advantages

- Ideal for short Quick Reference enquiries
- Very appropriate for printing off particular sections
- Has the advantage over a printed book that it highlights key areas and words as part of the search results.
- The fact that new e-book title can regularly be swapped for "old" titles within the e-books database is advantageous in comparison with printed works which can date quickly.
- No necessity to "weed" material to the same extent that is necessary with printed material.
- The e-books database includes helpful links (e.g. regarding subject searching, related topics/links etc.) which are not as strong a feature in the "traditional" library access model.

Disadvantages: How E-books can be Improved

- Reading onscreen can be tiring on the eyes.
- constant scrolling to get onto the next page irritating.
- The search facilities are still relatively basic
- need for increased integration with other systems and online services.
- technical support generally offshore
- e-books packages need to become more "information-aware or "library-aware“, automation of general library processes
- undue complexity in relation to the licensing of e-books products generally.

Some Key Benefits of M-Learning - Now Emerging

- Anyplace/Anytime
- Increased enthusiasm, motivation, confidence and sense of ownership on part of students
- Collaborative Working
- Can act as assistive technology for disabled learners/learners with
- learning difficulties.
- Mobile online lectures now a viable alternative to paper-based
- Leonardo da Vinci project - learners have more flexibility and choice
- Prepare students for tomorrow's workplace - concept of lifelong learning

technical constraints

- Mode of Connectivity (eg. WAP, Bluetooth, HTTP)
- Bandwidth
- Small screen size
- Variety of screen sizes
- Battery life
- Memory size
- Data Input
- Various browsers

Advantages of Handheld devices

- Better organised notes
- Less paper used by schools
- All work is typed and therefore neater, easier to read for student and teacher alike
- Teaches generic computer skills, including programming
- Data is entered in a universal language that can be transferred to any other computer without recopying
- Improved essay-writing with spell-check and grammar-check features easily used on imported text Offers the same advantages as a full computer only in a more portable device
- Takes the power of the computer anywhere
- Homework can be completed on a school bus converting travel time into work time.
- Gives a professional look to all the student's work.

M-Learning - A Pan-European Project

- Mobile Technologies with potential to address social exclusion/educational disadvantage - in particular:
 - Poor literacy/numeracy
 - Non-participation in conventional education
 - Lack of access to web-enabled computers

M-Learning in a VLE (Virtual Learning Environment)

- Functions include:
 - Create and manage a course
 - Publish documents in any format (eg. Word, PDF, Flash etc.)
 - Manage a list of links
 - Compose exercises/quizzes
 - Structure an agenda with tasks and deadlines
 - Monitor, manage and participate in course related chats with students
 - Keep track of logins, tool usage and users
 - Modify previously specified course settings

VLE Functions available

- to Course Administrator/Lecturer via mobile device
 - Registration and Login
 - Course Administration
 - Links
 - User Administration
 - Chat
 - Statistics
- A similar range of options is also available to the learners/students from their mobiles

Future Developments/Research

- SMS (Short Messaging Service) Mentor Programme
- Interactive Intelligent Programmes
- How readily will students adopt m-learning and what factors will influence the adoption?
- What value added learning will result?
- What type of content is best suited to the mobile environment?
- What are the methods of content delivery technologies that will facilitate m-learning?
- How can adaptive techniques be used to deliver content depending on the needs of the student, their preferred learning styles and intelligence profile, aptitudes and competences?

