Conceptual Article

M-LEARNING IS THE FUTURE

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Abstract

The successful development of mobile learning is dependent on human factors in the use of new mobile and wireless technologies. The majority of mobile learning activity continues to take place on devices that were not designed with educational applications in mind, and usability issues are often reported. This paper provides an introduction to the application of mobile technology in education, otherwise known as 'M-learning'. It serves as a starting point for possible development of the use of M-learning in support of learning & teaching in the College.

Keywords: *Mobile learning (M-learning), human factors, wireless technologies, usability issues, educational applications, technology in education, teaching and learning support, and college education.*

INTRODUCTION

Mlearning is the acquisition of any knowledge and skill through using mobile technology, anywhere, anytime, that results in an alteration in behaviour. The following points are to be noted from mobile learning definition.

- The term 'mobile technology' refers to any device that is designed to provide access to information in any location, or while on the move. Specifically this would include, but not be limited to mobile phones, personal digital assistants (PDA), tablet computers and laptops.

- It is not suggested that these methods of facilitating learning will disappear, however, greater emphasis will be placed on self-directed learning.
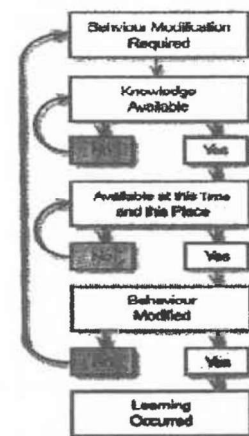
The behaviourist idea of an 'alteration in behaviour' is used because as the information age continues to progress, more people will be gaining more knowledge, more often and more easily. However, without an alteration in behaviour, it is not deemed to be learning.Fig.1. Graphic representation of Leaming

Figure 1 is a graphic representation of m Learning, which in this instance is synonymous with flexible learning. It details the time issue by showing that if information is a) not available, b) not available at a certain time or place, or c) is the incorrect information, and does not result in the required behavioural change, then time is expended unproductively.

M-LEARNING VS E-LEARNING

Ally (2004) defines M-learning as the delivery of electronic learning materials, with built-in earning strategies, on mobile computing devices to allow access from anywhere and at any time. On the other hand, E-learning is the delivery of electronic learning materials qn desktop and notebook computers. The main difference between M-learning and E-learning is that M-learning allows learning to occur anywhere and at any time while in E-learning the mobility of the learner is more restricted. Also, because of the small input and output components of mobile technology, there are design implications for learning materials for M learning. For example, rather than scrolling for more information on the screen, users of mobile technology must be able to go directly to the information and move back and forth with ease.

To compensate for the small screen size on mobile technology, learning strategies must use rich medium to convey the message to the user. For example, rather than present information in textual format, graphics and pictures can be used in such a way to convey the message using the least amount of text.

M-LEARNING ACCESS TECHNOLOGY

Mobile access devices are generally used to access electronic learning resources such as e-mail, simple web sites and Virtual Learning Environments (VLEs). Devices may either access these resources on-line or off-line.

ON-LINE:

When on-line, the device is connected directly to learning resources via a network, typically the Internet. This can be achieved in a number of ways including:

 ▶ Mobile phone connection (GSM, GPRS, UMTS '3G') - a mobile phone is used to connect to the internet and either access learning resources via the phone's built in screen or via connecting the phone in turn to a laptop or PDA. GSM, GPRS and UMTS (or '3G') are different mobile phone connection methods.

 ▶ Wireless LAN connection (Wifi) - a laptop or PDA is connected to the Internet through a wireless Local Area Network (LAN). With wireless LANs the network connection between the laptop or PDA and the wall is simply replaced by a radio link. WiFi is emerging as a popular wireless LAN standard and is becoming increasingly available in conference centres, hotels, learning centres and other business venues - even on the beach at Brighton!

OFF-LINE:

When off-line, learning resources must first be downloaded from the source e-mail server, web site or VLE to a laptop, PDA or mobile phone then taken out on the move. They can then only be used as standalone resources. The process of downloading (and possibly uploading after modification) learning resources is called synchronisation. Laptops are generally synchronised with learning resources by plugging them directly into a network when back at base. Mobile phones and PDAs are typically synchronised by connecting them to a PC back at base, which is in turn connected to the network. Many phones and PDAs now come with cables and software for doing this.

APPLICATION OF MOBILE PHONE TECHNOLOGY IN EDUCATION

The most obvious application of M-learning is in extending 24/7 access to conventional e-learning resources and activities such as on-line programme information, lecture notes, reading, discussions etc. Several additional applications for M-learning in learning and teaching include:

 1. **Location-specific learning support:**

For field-trips, museum visits and on-the-job training - anywhere where access to a PC may not be possible or desirable. For example:

 ▶ Multimedia resources viewed on PDAs can guide learners through exhibits in a museum,

▶ Mobile phones can be used to co-ordinate groups of learners on field trips and observations can be submitted by learners

▶ Student nurses on hospital placement may use a PDA to look up details of a medical procedure, look up reference texts or refer to their own notes whilst on a ward.

▶ Recording observations on location for on-the-street questionnaires, for example, or for observing learners' practice in the workplace

2. Bite-size, on the move learning:

Learning resources may be broken down into bite-size 'nuggets' so that a day or weeks' worth, say, of resources can be downloaded from a learning management system on to a mobile phone, PDA or laptop and taken away for study during spare time. Perhaps on the train, during a lunch-break or just in a more relaxed atmosphere maybe outside in the garden. Smarter learning management systems may in future be able to personalise nuggets for learners based on awareness of their programme of study, understanding and progress.

3. Interactivity in contact sessions:

On-line, wirelessly connected PDAs and laptops can facilitate a greater level of interaction when used in contact sessions. Opportunities for polling groups' opinion on various issues exist. Learners can vote to choose alternative activities and topics for discussion during lectures. Anonymous contributions to discussions and brainstorms can be made encouraging greater participation. Ultimately, wireless access allows the full functionality of VLEs into the contact situation.

4. Study organisation and support:

PDAs and laptops can support learners and help to organise their studies in contact sessions and on the move through:

▸ Note-taking facilities e.g., digital pens used with tablet PCs

▸ Reference materials look-up e.g. viewing pre-loaded notes/readings during lectures

▸ Mind-mapping and out-lining facilities

▸ Assistive features e.g. screen readers, dictionaries

▸ Planning facilities e.g. diary and calendar functions, tasks and reminders

BENEFITS OF M-LEARNING:

Mobile technologies are useful in education both as administration, organization and teaching aids for practitioners, and also as learning support tools for students.

▸ Easy to work,

- Increase speed of delivery of contents,
- Increase learners productivity,
- Reduce cost,
- Improve learners achievement,
- Accommodate /earners needs,
- Accommodate learners styles,
- Increase learner access.

DISADVANTAGES OF M-LEARNING:

- Low Storage,
- Limited bandwidth,
- Screen size of the device is too small,
- Limited memory,
- Variety of devices causes inconsistency,
- Easily lost.

CONCLUSION:

Mobile learning is currently the most useful as a supplement of ICT, online learning and other traditional learning methods, and is playing a central role in enriching the learning experience. It is now widely believed and has been proven in various countries that mobile learning could and has been a huge factor in getting disaffected young adults to engage in learning, where traditional methods have failed. This is the new world and everything is changing - the market, the need, the people. M-learning is the future.

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