

RESEARCH OF PAST UNIVERSITY LEARNING DISTANCE EDUCATION AND FUTURE MOBILE LEARNING: THE NEXT GENERATION OF LEARNING

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ABSTRACT

Education and training is the process by which the wisdom, knowledge and skills of one generation are passed on to the next. This education process has been going on since time immemorial. It is the central process in the conservation and development of human culture. It began at the dawn of time and has continued to today. Eventually society developed for its schools as the privileged places where the education process takes place. Later, in the 12th century, universities were added to schools as additional places where the education process would occur. To these were added, more recently, training centres for the teaching and learning of skills that are needed for the functioning of society. This paper claims that distance education can comprise: mobile learning (m-learning).

INTRODUCTION

His view was that the task of the university was to turn out an elite of people who are educated in a broad sense, who are not just specialists, but who have been enabled by their time at a university to see how their specialism may be brought into effective relation with informed general intelligence. The evolution of the university in other cultures may be somewhat different, but I believe there is validity in this way of presenting it. Distance education is different. From its outset in the middle of the last century, distance education broke the structure of the learning group and treated its students as individuals. In many cases an individual tutor, not a group based teacher, was provided and in many cases it is claimed by scholars, especially a creative one-to-one relationship was set up in the best distance teaching systems which had great benefits for learning. m-learning is mobile learning. It is about using the massive growth of mobile technologies to benefit learning and learners.

There are several exciting projects underway around the globe at the moment, focusing on different perspectives of m-learning. They cover a broad range of technologies and learners and are starting to show some exciting results. Here are some scenarios for m-learning:

- I am bored and waiting for a bus. I am taking my driving theory test in a week and am a bit nervous about it, so I load a game onto my phone that lets me practice 'quiz'-style questions while I wait.
- I see a poster on a wall challenging me to improve my maths. I try the 15 questions, text my answers to the number at the bottom and get an instant assessment (with details of who to contact if I need help).
- I am studying a foreign language. To practice listening, I call up a phone number that simulates various dialogues with me (e.g. buying a bus ticket) and gives me feedback on my understanding or even on my pronunciation!

UNIVERSITY LEARNING

The ideas about university learning found adequate expression in the work of the School of Philosophical Analysis of the University of London School of Education. Whether it be d-Learning or e-Learning or m-Learning, the essential feature of distance education is, however, that the teaching acts are separated in time and space from the learning acts and that the learning materials are offered to students one, five or ten years after they were developed and to students all over a country or overseas. If the position of R S Peters and his group has validity, if the teaching-learning relationship, is, indeed, basically a group experience based on the 'intersubjectivity' of the teacher and the learner, then the establishment of a theoretical justification for claiming it can take place at a distance is crucial.

DISTANCE EDUCATION

Distance learning systems used technology to separate the learner from the teacher, and the learner from the learning group, while maintaining the integrity of the education process. These systems attempted to replace interpersonal communication, and the intersubjectivity between the teacher and the taught, which is the essence of the educational transaction, by a personal form of communication mediated by technology. In distance learning it has to be artificially achieved by what is known as the re-integration of the teaching acts: that is, the development of excellent distance learning materials for students studying at a distance, and the creation of excellent student support services for students in their homes, or factories, or some other place not normally geared to education and training.

It freed up learners so that they could study at any time and in any place and in structures suited to their employment and family commitments. Most of the goals that today characterize just-in-time learning, or life-long learning, were anticipated by distance learning:

- Training when it is needed
- Training at any time

- Training at any place
- Learner-cantered content
- Avoidance of re-entry to work problems
- Training for taxpayers, and those fully occupied during university lectures and sessions at training centres.
- The industrialization of teaching and learning.

E-LEARNING

E-learning is electronic learning. It means the provision of education and training electronically, on the Internet and the WWW. There is now little doubt that the World Wide Web is the most successful educational tool to have appeared in a long time. It combines and integrates text, audio and video with interaction amongst participants. It can be used on a global scale and is platform independent. While largely an asynchronous medium, it can also be used for synchronous events. It is not surprising therefore, that trainers, lecturers, distance education providers and teaching institutions at all levels are increasingly using the World Wide Web as a medium for course provision. By 1998 the provision of education and training on the internet and on the World Wide Web was already a mature field of distance training provision. This is remarkable because Collis (1996) in her Telelearning in a digital world

M-LEARNING

The choice of devices and technologies for mobile learning will depend on the definition of mobile learning adopted. In this study mobile learning is defined as 'the provision of education and training on mobile devices: Personal Digital Assistants (PDAs), palmtops and handhelds and on smart phones and mobile phones. This definition reflects the tension in the field of mobile learning between functionality and mobility. The devices available may be assembled on a continuum running from the most functional to the most mobile. Because the focus in mobile learning is on mobility this presentation limits the range of mobile learning to the devices listed, to the exclusion of laptop computers.

When we look at how our students and teachers are working today, we find good readability to be of great importance. The materials that we offer online as well as answers to assignments and the assignments themselves are quite extensive and demand a readable screen. The size is also an issue, but we must also take ease of mobility into consideration. If the screen is to be large, the device will inevitably have to be bigger. The hypothetically perfect device would be small and fit easily into one's pocket. The screen should fold out to A4 paper size and have paper readability. Wireless connectivity should be of high speed, the user should be always online with the possibility to switch seamlessly between wireless zones and phone networks. The device should have an integrated phone and support all the major office formats for reading and

writing as well as puff format. Security should be high, and if the device is lost the data should be made useless with no risk to the owner. The perfect device should render standard web pages perfectly and offer the ability to strip out advertisements etc. and display useful content only. The web pages should be readable offline as well as online. This should facilitate an understandable on-the-fly text-to-voice and voice-to-text feature. It is believed the above would be a close to perfect device, but since a device satisfying these specifications is not presently on the market and will not be within the foreseeable future one needs to restrict what one wants and attend to what one needs. The following list describes a close-to-perfect handheld device:

- Always online connectivity
- Bluetooth for connection with other devices
- Built-in video cannon for displaying presentations etc.
- Camera for documentation in the field
- Flash support
- Full size keyboard available
- Full WI-FI connectivity
- Large storage capacity (Large is a relative term changing with time)
- Screen of acceptable size and readability
- Large battery capacity
- Messaging client for peer-to-peer communication
- Non-volatile memory for backup
- Phone ability
- Read Adobe Acrobat documents
- Read/write common office formats
- Scanner and printer built in
- Small compact device
- Support multimedia content as well as flash, java and java script etc.
- Synchronize and check e-mail with common mail clients.
- Text-to-voice screen reader and Dictaphone

PROBLEM FACING

The problem is that wireless applications are being developed for wireless devices for all walks of life. Learning and training do not figure in these developments. Learning and training do not seem to be high on the list of applications that are receiving attention today. It is essential for mobile learning that developments in education keep pace with developments in other fields.

As relayed by innovation experts, new ideas and inventions only become innovations when the ideas or inventions are adopted and utilized by the market. Perhaps one of the

explanations for the development of m-learning lies in the fact that the role that communication and interaction plays in the learning process is a critical success factor in contemporary educational paradigms. M-learning appears to thrive within the contemporary constructivist and social constructivist paradigms because it enriches both synchronous and asynchronous communication and interaction.

Isn't it strange that all students enrolled in higher and further education institutions today have frequent needs for information from their institutions about timetable changes, assessment deadlines, feedback from tutors and other urgent administrative details? Nearly all of these students carry a sophisticated communications device which they use constantly in all walks of life except in their education or training programme.

CONCLUSIONS

In general the feedback from the questionnaires was positive, especially regarding the technical decisions made to provide the course. The use of graphics, evaluations methods and easy access to material were especially complimented. However there is still much room for improvement and this document has outlined the most common issues highlighted in the questionnaires and offered areas for further research. It is a difficult environment to design for, especially considering the limitations of the interface and keyboard, yet Ericsson has made significant improvements in their m-learning solutions over the last number of years. It is hoped that further improvements can be made to the overall learning environment so that in the future the option of m-learning can be a fluid, fun and real solution. Ericsson, Ireland looks forward to meeting this challenge to improve m-learning solutions and remain at the forefront of m-learning research.

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