

Mobile learning in personnel training of university teachers

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Abstract

In this article, we will discuss why mobile learning is being introduced to the academic teaching environment? We will also report experiences of a pilot project undertaken in connection with personnel training at the University of Helsinki. The aim of the UniWap project is to develop the educational use of mobile technology and to find pedagogical applications beneficial for higher education. The project deals with the WAP technology to be tested, piloted and completed in order to facilitate teaching and learning at the university. An environment of activities has been developed in order to provide services for flexible teaching and studying

University teaching and mobile learning

Mobile learning makes it possible to break away from teaching that takes place in a classroom, and to move to another location while communicating via information networks. It also enables learners to enter an information network at the precise moment when it is necessary by using a portable learning device and a wireless network. The mobile environment integrates studies that take place on campus, at home or outside university facilities into one shared, flexible learning environment. Further, mobile learning connects studies undertaken on a university campus with authentic real-life situations, and in so doing, promotes the characteristics of both experiential and communal learning (Sariola 2001).

Background

We can detect many reasons for the current launching of mobile learning in Finland. Finnish universities have been studying and developing flexible learning environments for a long time. The World Wide Web,

video conferencing equipment and groupware have all been in common use for a number of years. Ninety-eight percent of university students have a mobile phone. Accordingly, it is fair to state that university students are highly experienced users of mobile technology. One important factor affecting the introduction of mobile learning to the Finnish academic community is the intense research and development work carried out by the Finnish telecommunications industry. In practice, this has meant that Finnish universities have been able to experiment with and pilot the latest technological innovations without delay. At the same time, the developers of mobile networks have been able to standardise the use of wireless networks, and there has been no steep rise in the price of mobile phone calls.

Experiences of a pilot mobile learning project

The Educational Centre for ICT was established at the University of Helsinki established in 2000. The Centre's tasks comprise developing and supporting the use of ICT solutions in teaching, and spreading flexible learning innovations at the University. The Centre offers, among other things, training in the use ICT in university teaching. For this reason, the UniWap project from the very beginning has entailed the development, via personnel training, of the ways in which new ICT solutions can be effectively spread to all fields of academic teaching.

The UniWap project was begun in June 2000 as a joint venture of the University of Helsinki Educational Centre for ICT and the software company ICL Invia. The aim of the project was to develop mobile project learning models and mobile support services for the virtual university. A model in which project learning could be supported with the use of mobile technology was developed. It was a challenge to pinpoint those situations in project learning that would benefit from mobile

technology. It quickly became apparent that mobile technology could at least provide students with study-related support and guidance when necessary. At the same time, the Educational Centre for ICT and ICL Invia began to develop a WAP-based project environment. The idea was to enable the distribution of the contents of one text to various terminals via a shared database. In practice, this meant that if teachers came up with a good idea for their project while on their way home from work, they could immediately use a WAP phone to enter the idea in the shared database. As a result, the whole group could at once acquaint themselves with the idea, using their WAP phone or a Web browser at a computer terminal.

A total of 24 teachers participated in the UniWap project in connection with University of Helsinki personnel training in 2001. The teachers had applied for the training in teams, with their own development objective in the field of ICT teaching applications. The teams were supervised in mentoring groups of about 10 persons. During the training, each team completed its own development project supported by the UniWap project environment.

The teachers were provided with Nokia Communicator 9110i or Nokia 6210 WAP phones to obtain user experiences of both large (Communicator) and small (6210) screens. The pilot groups' activities involved the use of three different learning environments. In addition to the WAP environment, the groups used a WebCT application. Moreover, information on the activities of the pilot groups was disseminated via the WWW. The aim was to develop an operational model in which the teacher could choose the environment that would best enable him or her to carry out the project work at that particular stage.

According to the group's mentor, the roles of these three environments (the WAP phones, the groupware and the Web site disseminating information) reflected the various forms of network learning. The groups had been divided into smaller project groups of 2-4 members, which had their own project on the development of teaching. Each environment had its own role in supporting these projects. So-called miniguides had been added to the UniWap environment; these guides carried information on the various stages of the development project. Mobile technology created added value, especially in between the five face-to-face meetings, whenever the mentor wished to give additional guidance and further clarifications on how to proceed in the current phase of the project (for example, how to set goals in project work or how to use the UniWap

environment to evaluate and register learning experiences connected to project planning).

It was the experience of the teachers that the use of mobile technology was particularly useful in situations in which information was being acquired and project members were thus forced to change their location frequently. Project members also appreciated the fact that they could use the WAP phone to write down "minimessages" containing up-to-date information on learning experiences related to the project. At a later stage of the training, these learning experiences were collected into a comprehensive project portfolio, which comprised information on the objectives, planning, implementation and evaluation of the members' own development project.

Mobile learning: added value to academic teaching

There are some difficulties which cause problems for the use of mobile technology to spread to a wider audience, including high line costs. The screen of the phones is small, which makes it fairly difficult to read the text and to write long messages. However, the contribution of mobile technology to academic teaching is already becoming apparent. The advantages of it include: provide:

Experiential and authentic learning situations

Mobile learning enables students to interact with researchers in real-life learning situations outside the university. It is important to engage researchers in answering students' questions while working in authentic research situations. A real-time connection to authentic situations seems to support experiential learning. Further, students become better able to compare various authentic environments, such as regional geography and map instruction in a forest.

Enhanced availability of guidance and support in learning situations

Students get support from their teacher if necessary. A mobile device establishes a continuous and flexible connection between student and teacher. It is important to be able to provide guidance and support to students when necessary.

Fast production of digital learning materials and copyright issues

Universities may produce their own photographic and text material by having their personnel take photographs in authentic situations and send the digital images to the university's image database. Thus, the prob-

lematic copyright issues can be solved. An image database allows the university to create its own image bank, from which it may exchange or sell images to other universities. However, the main reason for this materials production is its quick distribution to students, which allows for up-to-date research information to be used in teaching.

Expansion of open and flexible learning

Mobile learning may be considered as an extreme form of flexible learning. Students may establish a connection to an information network at their own convenience. It is particularly important to allow students to define their own learning and guidance needs, and use mobile technology to support learning when it suits them.

Conclusion

It is important to define the methods and models of flexible learning and the role of mobile technology in it. The phases when information is procured and innovations are developed are especially crucial, for it is then that the student breaks away from the physical space of the university and enters the environment of authentic information. Mobile technology acts like a vacuum that gathers ideas from its environment. Having procured the necessary information, the learner returns to the computer to process this information further. The core characteristic of mobile learning is that it enables learners to be in the right place (or in whatever place) at the right time, that is, to be where they are able to experience the authentic joy of learning.

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