

From Mobile to Pervasive Learning

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Abstract

The field of learning through technology is a vast one with subtle distinctions among its various branches. Mobile learning, sometimes called m-learning, is learning accomplished with the use of small, portable computing devices. These computing devices may include: smart phones, personal digital assistants (PDAs) and similar handheld devices. Using m-learning the education process is gradually shifted from the transfer to the development of expertise and professional understanding at the spot and just when it is needed.

The question is what comes after mobile learning?

Pervasive learning (PL) is based on pervasive computing which occurs when the entire environment becomes embedded with information accessed through devices such as desktop computers, mobile phones, handheld computers, smart cards, sensors and location based systems such as GPS or Galileo, or items in development. The communication technologies used in such devices are GSM, UMTS, WLAN, Bluetooth, etc.

PL will enable people to learn, work, access and exchange information while on the move (i.e., at any time and any place, without being distracted by computers). In other words, the target is to bring together the possibilities offered by pervasive computing with the modern pedagogical strategies in order to further improve the effectiveness of tomorrow's learning, teaching, and working. People and real processes come to the fore. In this way the PL process is not isolated to a single geographic location, and virtual classrooms can exist everywhere.

PL does not need to be restricted to the use of mobile or location-based technologies. The existing learning environment is completed by embedded, invisible sensors and mini-computers. This can improve learning, teaching, and working in an academic environment, thus leading to a pervasive campus.

This talk will give an introduction to the current situation of mobile learning and research on topics for beyond mobile learning in Germany. It will be divided into: first, introducing architectures using portable devices with functionalities such as ad-hoc networks or full WWW-access (via Bluetooth, WLAN or GPRS), secondly, discussing the possible organisation structure, thirdly, describing the tools needed within such scenarios. Consequently, we will introduce the new paradigm of pervasive learning and the potential of such idea.