

Chapter 13

Pre-Service Teachers' Perspectives and Practices in Utilizing Ubiquitous Technologies for Academic- Oriented Learning and Knowledge Management

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ABSTRACT

Technological innovations are rapidly growing and changing, and it is hard to ignore their role and influence in people's daily activities. This particularly applies to universities and to the learning activities of students. That is, these technologies have become ubiquitous, which is confirmed in the survey conducted among pre-service teachers, in that each of the respondents ($N = 331$) uses (one or at least one of) these technological devices and/or Web-based tools everyday. In order to determine the role of these ubiquitous technologies (u-technologies) in learning, the authors focus on the students' preferences and experiences with u-technologies. The survey results provide information about which particular technological devices and Web-based tools/applications the students prefer and use for specific purposes, particularly for learning and knowledge management activities. Thus, this chapter provides a glimpse of what students prefer and use as well as an analysis of issues and perspectives in the context of learning with u-technologies in higher education.

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INTRODUCTION

In the age of information and communication technology, no one could deny the fact that technological devices and web-based tools or applications (which we also generally refer to in this chapter as technological innovations or ubiquitous technologies) somehow play a certain role in everyone's life. These technologies have become ubiquitous in that more and more people including students in higher education multitask with these technological devices (e.g., smartphones, iPads, and laptops, among others) and web-based tools or applications (e.g., web 2.0 software like blogs, wikis, social networking system, etc.) even during class time. However, despite the widespread use of these technologies, their role in supporting academic-oriented learning and knowledge management still needs to be further explored. Whether these ubiquitous technologies (u-technologies) should be considered as forms of scaffolding tools that could aid learning in higher education is an important issue that we try to address in this chapter.

In this context, it is deemed necessary to determine the learners' views and experiences in utilizing u-technologies because they themselves can provide reliable information on how much time they devote to such technologies. The learners could not only provide an account of their experiences with these technologies but also an evaluation of the said technologies' importance and impact on their own learning. Available literature or research on learners' perceptions and on learning experiences with web-based tools showed interesting results. For instance, Löfström and Nevgi (2007) reported that students' perceptions of some aspects of their learning experiences in virtual environments, namely on obstacles to learning and their assessment of the meaningfulness of learning in web-based environments, significantly differ from those of their teachers. On the other hand, the results obtained by Daugherty and Funke (1998) showed that the faculty and students

similarly consider web-based instruction as an effective tool for teaching and learning. Of course, the two studies have been carried out in different settings with different groups of respondents. But it is, nevertheless, significant to determine and compare the factors that influenced the responses of different groups of learners in various web-based learning environments, namely the users' preferences and learning experiences with such technologies. A careful consideration of the diverse viewpoints and experiences of learners of various learning environments could pave the way for the improvement of practice and research in learning with u-technologies in higher education.

In another study, the researchers focused on faculty decisions to adopt web 2.0 technologies that will support learning (particularly, blogs, wikis, social networking, and social bookmarking). They reported a high level of interest from the faculty respondents to adopt such technologies for learning. They also concluded that web 2.0 tools could support and enhance learning in higher education if the learning environment fosters collaboration between faculty and students in utilizing the abovementioned technologies for classroom learning (Ajjan & Harthshorne, 2008). However, since most of the respondents admitted their lack of experience in using the tools, it raises the question of the reliability of such claims that the said technologies could support and enhance learning. It is thus important to obtain information from those who actually use the specific u-technologies. For this reason, we conducted a survey among university students (specifically pre-service teachers in a German university) in order to obtain information on what the students prefer, actually use, and the purposes of utilizing u-technologies. In addition, the students were asked to provide an assessment of the usefulness and significance of u-technologies in their daily academic-oriented activities (see survey results section for the detailed discussion on this topic).

An inquiry on the learning experiences of students with u-technologies is of great interest to edu-

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