Chapter 4
Empirical Research on Learners’ Thoughts About the Impact of Mobile Technology on Learning

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ABSTRACT
Mobile learning is gaining attention in Europe. Researchers are examining both pedagogical and technical issues regarding mobilized content delivery; however, little is known about current learners’ thoughts toward mobile learning. In this article, based on an empirical research study, the authors show what learners think about mobile learning and related learning technologies. Data consisting of 300 learners’ thoughts and experiences in connection with mobile learning (living in five different European countries) have been gathered and analysed. Results indicate that current positive attitudes toward mobile learning may be negatively influenced by experience, if previous patterns with other learning technologies are repeated.

INTRODUCTION
The Department of Information Systems at Corvinus University of Budapest has been actively researching and adopting mobile learning for many years (Kismihók & Vas, 2009; Kismihók, 2007; Vas, Kovács, & Kismihók, 2009). This work started with pilot content development in the early 2000s (Dye, Jones, & Kismihók, 2006). Since then, mobile educational services have been incorporated into the mainstream educational activities of the Department, thus more and more attention has been focused on learners’ perceptions of this novel technology. With funding from the European
Commissions’ Lifelong Learning Programme, a quantitative research study has been carried out in order to learn more about educators’ and learners’ perceptions of mobilized educational services.

**Structure of this Article**

First the framework of our empirical study is presented, regarding learners’ attitudes towards using mobile technology in education. Then we describe the research design and the various statistical analyses that were performed on the data collected. Finally we conclude with further challenges and research directions.

**LEARNERS’ ATTITUDES TOWARDS MOBILE LEARNING**

**Research Context**

IMPACT was an EU Lifelong Learning project ended in 2008, which aimed to discover empirically how technology enhanced learning changed the way we teach and learn (Agrusti et al., 2008; Krämer, 2007). Within this study a complete work-package has been dedicated to mobile technology and mobile learning, questioning whether it is still in its infancy or has managed to make a step forward towards being an everyday routine. We were also interested in what learners think about mobile learning. Nevertheless the ultimate goal of the project was to provide a set of variables that help instructors to understand the implications of various technologies on their students and also to provide research-based principles for how instructors should use technology in their teaching. Furthermore, a more pragmatic outcome was to get information for planning a technology supported educational service portfolio at the Department of Information Systems at the Corvinus University of Budapest.

The idea of assessing learners’ perspectives about educational technology being used in education is not novel. In the field of technology supported learning, comparing eLearning to face to face education has been done several times in the past. Researchers measured topics like student’s satisfaction (Johnson, Aragon, Shaik, & Palmarivas, 2000), effectiveness of on-line education (Sargeant et al., 2004; Solimeno, Mebane, Tomai, & Francescato, 2008), investigated students’ conceptions about learning through online discussions (Ellis, Goodyear, Prosser, & O’Hara, 2006) and also learning outcomes (Herman & Banister, 2007). In general these studies concluded that there is no significant difference between on-line and face-to face studies, when it comes to learning outcomes (Solimeno et al., 2008).

Nevertheless, mobile learning is still rarely investigated from this comparative point of view. Some work has been done on examining the user acceptance of mobile devices in education (Huang, Lin, & Chuang, 2007), but most researchers have concentrated on trialing various mobile learning applications and collecting student feedback about them, for example a pilot study in Finland for supervising trainee teachers using mobile devices (Seppälä & Alamäki, 2003). Collecting thoughts about mobile learning is also included in articles summarising various pilot researches, trying to give a perspective of the fields for other researchers and practitioners (Cobcroft, Towers, Smith, & Bruns, 2006; Corbeil & Valdes-Corbeil, 2007; Sharples, 2006). This practice was reflected by Traxler and Kukulska-Hulme, suggesting the development of “good” mobile learning evaluation, which leaves the frames of single application validation processes behind (Traxler & Kukulska-Hulme, 2005). Later Traxler went further, to address the necessity of developing evaluation methods which are also reliable on a bigger scale (Traxler, 2007). He articulated that important features of mobile learning (that it is personal, contextual, and situated) make such evaluation very difficult.

It is clear that there is a lack of research on the actual general impact of mobile technology on