Chapter 6
Onsite and Online Students’ and Professors’ Perceptions of ICT Use in Higher Education

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ABSTRACT

For the past two decades, information and communication technologies (ICT) have transformed the ways professors teach and students learn. This study aims to investigate the perceptions of onsite and online students and professors. It was conducted into ICT-supported or technology-rich environments at a Faculty of Administration of a large Canadian university. To conduct the study, a moderator-type theoretical research model was developed, out of which nine hypotheses were formulated. The authors used a multimethod approach to collect data, that is, a Web survey involving open- and closed-ended questions, as well as a structured interview. The sample was composed of 313 students who completed an electronic survey on a Web site and 16 professors teaching to these students who participated in a structured interview. The quantitative data analysis was performed using a structural equation modeling software, that is, Partial Least Squares (PLS); the qualitative data were analyzed following a thematic structure using QSR NVivo software.

INTRODUCTION

For the past two decades, information and communication technologies (ICT) have transformed the ways professors teach and students learn. Some professors have actively shifted the information flow of a face-to-face mode (student listening, onsite presence) to an entirely online mode (student reading, onsite non presence); that is, they have designed courses and curricula that are offered completely
online using the Internet and the Web. Others have developed the **hybrid or blended mode** (a combination of face-to-face and online activities; less student onsite presence, ongoing use of ICT both inside and outside the classroom). Hence, knowledge acquisition and dissemination have been transformed, and new methods developed in order to satisfy the rapidly evolving needs of a population of individuals in search of more knowledge, heterogeneous, and geographically distributed.

In today’s global economy, organizations (including universities) who want to survive and strive to stay highly competitive must continually innovate at the human, material, and technological levels. Alavi and Leidner (2001) pointed out that, during the past decade, universities and corporate training facilities have at an increasing rate invested in ICT to improve education and training. Marshall (2002) added that actual classrooms are now more and more enriched by technology. Recent studies by the National Center for Education Statistics (Waits & Lewis, 2003), the Sloan Consortium (Allen & Seaman, 2004, 2005, 2006, 2007, 2008), Aggarwal and Legon (2006), Borstorff and Lowe (2007), Martz and Shepherd (2007), as well as Kinuthia and Dagada (2008) showed a growing appeal and acceptance of online learning. Other recent studies by Gomez et al. (2007), Eynon (2008), Young and Ku (2008), and Steele (2008) showed the growth of blended learning. Numerous **Web tools** have also emerged promoting the growth of both online and **blended learning**, for example: Web-based platforms, such as WebCT, Blackboard and Desire2Learn, designed to assist schools, colleges, universities and corporations in the delivery of **online learning**: Course Management Systems (CMS) software packages designed to help professors create online learning communities (Liu & Cheng, 2008); Moodle, an online course management course designed to encourage participation by students (Steele, 2008); **TETIS** (Teaching Transparency Information System), an information system implementing the practices of everyday teaching and designed to be used together with a traditional e-learning platform (Cartelli, 2008); FirstClass, an asynchronous written conferencing package (Knight, 2007); VUSIL (Virtual University Server in Lebanon), a prototype designed to be used as a basis for the creation of a digital campus in Lebanon (van Schaik et al., 2005); Talk 2 Learn, an online community reflecting the thinking of Wenger and Vygotsky (Allen, 2005); Learning Objects from online repositories facilitating courses production (Wilhelm & Wilde, 2005); and the new **Web 2.0 tools** such as Blog, Cloud Computing, Mash Up, Podcast, RSS Feed, Social Networking, and Wiki. Finally, Giddens (1999) stated that one of the more important functions of the university is to allow people to play a significant role in today’s new economy. Thus, universities, faculties, and professors are currently looking for ways to improve teaching and curricula, as well as develop new modes capable of satisfying the actual and future needs of organizations and societies. Out of their recursive attempts, the four fundamental questions often revisited are the following: (1) What are we teaching? (2) What should we be teaching? (3) What is the best way to teach it (pedagogy)? and (4) What are the impacts on students?

This study aims at helping universities to stay highly competitive in the current global shift in higher education. It uses an innovative approach to explore new directions regarding the last two questions above. We examine the relation between students’ learning outcomes (undergraduate and graduate students) and learning environments all integrating ICT. Specific relations between student onsite presence and student online presence are examined as to identify their effect on the basic relation between **learning environments** and **students’ learning outcomes**. In fact, this study compares onsite technology-rich hybrid or blended learning environments and online learning environments. Moreover, this study brings to the foreground several **moderator variables** related to **students’ characteristics** (psychology) and