Tertiary Students’ ICT Self-efficacy Beliefs and the Factors Affecting Their ICT-Use

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ABSTRACT

This study looked at tertiary (i.e. undergraduate /a four-year degree) students’ information and communication technology (ICT) self-efficacy beliefs and their level in use of certain common programmes at a newly established (i.e. 2007) university in Turkey in the spring of 2012. The study examined the tertiary students’ (a) demographic background, (b) their ICT self-efficacy beliefs and (c) their ICT-using level in certain common programs. The students at three different departments were given the questionnaires to complete. 363 participants completed them. The study was mostly quantitative and partly qualitative. The quantitative results were analysed with SPSS (i.e. descriptive statistics, ANOVA, Independent Samples Test). The qualitative data were analysed by examining the participants’ responses gathered from the open-ended questions and focussing on the shared themes among the responses. The results revealed that the participants were ICT literate and users. They had positive ICT self-efficacy beliefs and their level in certain programs was good. There were also statistical differences between (a) their ICT self-efficacy beliefs and (b) ICT level in certain common programs in terms of different independent variables (i.e. the length of ICT-use, the place of ICT-access, the frequency of ICT-use, the type of the course they were attending, and gender). The findings are consistent with models and theories of technology engagement which recognise facilitating or inhibiting conditions. The implications are (1) to provide (free) full-access to ICT in terms of efficient resources and technology availability, (2) to provide (efficient) ICT courses and (3) to integrate ICT into teaching/learning.

Keywords: Facilitating or Inhibiting Conditions, Information and Communication Technology (ICT), ICT Self-Efficacy Beliefs, Tertiary Level, Undergraduate Students

INTRODUCTION

Information and Communication Technology (ICT) can be in a wide range of diverse forms such as computer programs (i.e. Microsoft World, PowerPoint, Excel, Databases and so on); the Internet (i.e. intranet, e-mail, instant messaging); ICT hardware (i.e. computer projectors, scanners, webcam, interactive whiteboards, microphone, speakers) or any type of...
digital learning resources. To this end, different studies on different aspects of ICT such as tertiary students’ ICT self-efficacy beliefs (Aşkar & Umay, 2001), the use of digital resources (Maher et al., 2012), the use of interactive whiteboards (Turel & Johnson, 2012), the problems teaching staff face with in using ICT (Turel, 2013; Buchanan et al., 2013; Usluel & Seferoglu, 2004), the design of interactive digital materials (Turel & McKenna, 2013) and many more have been conducted.

ICT has been used in teaching/learning since the use of computers, the Internet and digital resources in as well as out of the classroom (Park et al., 2008). Although ICT has been used at tertiary institutions in Turkey in the last two decades (Turel, 2013), some other countries began to use ICT five decades ago (Romeo, 2006). To make use of ICT more efficiently, tremendous investment and effort were made in some countries (Romeo et al., 2012; Balasubramanian et al., 2009). The use, efficient use and frequency of ICT-use at tertiary level show significant differences among different countries (Maher et al., 2012; Yeung et al., 2012; Kregor et al., 2012). Differences among different institutions in the same country are even seen. ICT is today used in all institutions in developed and developing countries. More and more tertiary institutions use ICT to develop and deliver course materials every passing year (Hong & Lai, 2011). In fact, tertiary institutions and students do not have a choice on whether to use ICT or not. They have to use ICT in order to be competitive in this digital age. Moreover, today’s tertiary institution students are in general digitally fluent and competitive, and use ICT often. Consequently, they also expect ICT to be used more widely in teaching/learning (Duncan-Howell, 2012). Accordingly, it is assumed that teaching at tertiary institutions should respond to such learning demands and differences to accommodate the digital-literate, wise and efficient learning style preferences (Duncan-Howell, 2012; Prensky, 2001). The efficient use of ICT by tertiary institution students is important. Likewise, the use of the right digital resources and their efficient use are vital. ICT has to be used selectively, efficiently and effectively (Yanpar Yelken, 2011). The efficient use of ICT depends on institutions, teaching staffs and students. If institutions provide required structural factors (i.e. provision of hardware, digital materials and technical support), and members of teaching staff integrate such resources fully into their teaching as well as necessitate (and require) the efficient use of ICT by their students in their learning so that they can achieve their main goal, - which is acquiring the essential competitive 21st century knowledge, and gaining skills and competencies-, then it can be claimed that ICT is used in its true-sense at tertiary institutions. This can lead to ICT self-efficacy, which features in perceived ICT usefulness and its perceived ease of use (Davis, 1993). These are some of the factors that determine whether students prefer to engage with various forms of ICT or not during their education (Ajzen & Fishbein, 1980).

ICT is available at tertiary institutions (i.e. higher education) in Turkey. ICT is also available (to certain extent) at the newly established target university. However, it is not known to what extent the tertiary students at the newly established target university have been taking the advantage of the potential benefits that ICT can offer. Thus, four major research questions were:

1. What is the tertiary students’ background in ICT like?
2. How do they perceive their general self-efficacy in regard to the use of ICT?
3. What is their level in using certain common programmes?
4. Are their certain perceptions (i.e. perceived ICT self-efficacy beliefs and their level in using certain common programs) associated with their (a) length of ICT-use, (b) place of ICT-access, (c) frequency of ICT-use, (d) the type of the course they are attending and (e) gender?
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