Improving Undergraduates’ Experience of Online Learning and Involvement: An Innovative Online Pedagogy

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ABSTRACT

As educators and teachers pay more attention to the applications of educational technologies and websites to help students achieve satisfactory learning outcomes, it is necessary to develop effective teaching methods integrated with technologies for both teachers and students. This study involved 96 undergraduates from two class sections in an experiment wherein the first class received the interventions of web-mediated Self-regulated Learning (SRL) and Collaborative Learning (CL) (Case 1), while the second one served as the control group (Case 2). The results of this study show that Case 1 students had a better experience of course learning and more positive attitudes toward the interventions of web-mediated SRL and CL than those in Case 2. In addition, Case 1 students’ involvement in learning in the web-mediated learning environments (5.0002) was also higher than those in Case 2 (4.7813), though insignificantly. Implications for teachers and schools are also provided in this article.

Keywords: Application Software Education, Collaborative Learning (CL), Involvement, Learning Experience, Self-Regulated Learning (SRL), Web-Mediated SRL, Web-Mediated CL

INTRODUCTION

As the skills of using technologies and software to solve problems and complete work are the general requirements in the modern workplace, almost all undergraduates in Taiwan’s academic universities and vocational schools have to take four to six compulsory computing courses before they graduate (Tsai, 2010a). However, the teaching in computing courses commonly adopts traditional lectures with inappropriate examples and materials, which are usually not elated in different sections (Lee, Shen, & Tsai, 2008). Students who learn in this context may lose their motivation and involvement in those courses (Shen, Lee, Tsai, & Ting, 2008), and even lose their future competence in the workplace. In order to improve students’ involvement...
in their courses, collaborative learning (CL), which refers to a pedagogy in which students of equal status work together in small groups toward a common goal (Saleh, Lazonder, & De Jong, 2005), is considered as an effective teaching method in this research study.

The emergence of educational technologies and e-learning has introduced substantial improvements in the way courses are taught and delivered, making this new channel of education widely accepted (Lykourentzou, Giannoukos, Mpardis, Nikolopoulos, & Loumos, 2009). In addition, it is reported that the students participating in an online learning group developed an understanding of the recursive nature of knowledge construction and an increasing belief in their own ability to learn efficiently in the online group environment (Gabriel, 2004). The online groups of learners can motivate and support one another’s learning experiences (Bruckman, 2002). The author thus adopts online CL in this study to improve students’ involvement in a blended course.

The students who have grown up with computers, Internet, video games, and smart phones have been referred to as ‘digital natives’ (Prensky, 2001). It is believed that these young people are very different from previous generations in terms of learning styles, social practices, and even cognition, because of their early usage and constant engagement with the web and information technologies (Burdick & Willis, 2011). Students can access online courses independently and structure the time, pace, and strategy of their own learning (Puzziferro, 2008). However, this may pose a challenge for students to learn independently, without the teachers’ on-the-spot assistance. King, Harner and Brown (2000) hypothesize that self-regulation of learning is more important in the distance education context than the traditional context. Given the electronic, social, and self-directed nature of online learning, it seems necessary that educators examine learner self-regulation in online environments (Shea, Hayes, Smith, Vickers, Bidjerano, Pickett, Gozza-Cohen, Wilde, & Jian, 2012). Thus, the researchers in this study adopt self-regulated learning (SRL) to help students develop regular learning habits and involve themselves in a blended course.

While there has been much research on the effects of network technologies, little attention has been paid to a rather practical and yet critical aspect of teaching methods in the online or blended learning environments – how to help students be positively involved in online courses and enhance their learning (Tsai & Shen, 2009). As to levels of knowledge construction, it is revealed that the amount of contributions to and the attitude towards the online learning environment are significant predictors (Schellens, Van Keer, Valcke, & De Wever, 2007). It is also suggested that educators could evaluate whether and how students maintain self-directed, collaborative initiatives in their clinical student placements and whether the innovative approach to learning would improve their performance (Perlman, Weston, & Gisel, 2010). Thus, the author redesigns a course titled ‘Applied Information Technology: Networking’ and apply online CL and SRL to improve students’ involvement in this course and learning experience, and further enhance their learning performance.

**CONCEPTUAL FRAMEWORK**

**Students Involvement**

Student involvement refers to both the physical and psychological energy invested in the academic experience (Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001). It includes responses to structured tasks, active engagement with material, student collaborations, student direction, flow and motivation (Commey & Stephenson, 2001). Student involvement, development, and learning have been hypothesized to be a direct function of the amount of time and effort a student devotes to relevant activities (Anaya, & Cole, 2001; Astin, 1984). A student’s success is influenced tremendously by the individual’s academic ability, characteristics, and involvement with the learning activities in her/his learning environment (Ullah & Wilson, 2007; Pascarella & Terenzini, 1991). Students
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