Chapter 16

Enriching Quality of Self-Regulated Learning through Technology-Enhanced Learning Environments: A Malaysian Case Study

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ABSTRACT

Current development in the Malaysian educational policies observed heightened interest in the integration of self-regulation of the learning process through engagement in technology-enhanced learning environments. This study attempts to provide empirical evidence to the effectiveness of the iELC discussion platform in enhancing practice of self-regulation among Malaysian secondary school students. This involved participation of 102 Physics students from four regular national secondary schools. Practice of self-regulation was measured using the Motivated Strategies for Learning Questionnaire (MSLQ) and was analyzed using the two-way between-groups analysis of variance (ANOVA) on a 0.05 level of significance. Findings provided evident arguments that engagement in this technology-enhanced learning environment warrants for self-regulation in the learning process.

DOI: 10.4018/978-1-61692-901-5.ch016
INTRODUCTION

In the past couple of decades, the educational system in Malaysia aimed only at producing students with good academic results (Smart School: The Story So Far, 2003). The authors of the cited report indicted the educational system for encouraging “mindless memorization and regurgitation of facts and figures, which they [students] do not know how to apply” (p. 1).

However, recent developments of the educational system in Malaysia induced by current global changes and socio-political interest (Osmian, Halim & Meerah, 2006) persuaded for the long needed transformation of educational policies. Among the much anticipated effect of these educational policies were the development of self-regulated learning skills and engagement in technology-enhanced learning environments. Literature has established that self-regulation is an important skill for learners (Vighnarajah, Wong & Abu Bakar, 2009; Chang, 2005; Driscoll, 2005; Chen, 2002). Furthermore, Ng (2005) and Brooks, Nolan and Gallager (2001) emphasize that in traditional learning environments monotonous memorizations of information are typical with lack or poor self-regulation skills.

Pintrich (2000, p. 453) defines self-regulated learning as “an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features of the environment”. Santrock (2001) argues that students who are able to manage effective practice of self-regulated learning are more competent in generating and monitoring their thoughts, feelings and behavior in achieving an objective. Similarly, Ruohotie (2002) and Zimmerman (2002) both share views on practice of self-regulated learning as a self-directive process that channels and amplifies students’ cognitive abilities into developing successful academic achievement.

Realizing the numerous benefits of self-regulation, more studies on self-regulated learning have been extended into other areas of interest including technology-enhanced learning environments. This measure is timely and of particular importance since the prevalence of the Internet technology has made it more possible for learners to access abundance of information, and to connect with other learners in a ‘borderless’ learning environment. Such studies are also evident in the Malaysian educational landscape.

Ng (2005) investigated practice of self-regulated learning in IT-integrated classrooms in secondary Smart Schools. The Smart School Project was an audacious attempt by the Malaysian government to initiate and cultivate learning in technology-enhanced learning environments. In such learning environments, learners were given access to electronic resource centers, computers in science labs, computers in classrooms, computer labs, and multimedia labs. The study involved 409 students from six randomly selected Smart Schools. Students’ practice of self-regulated learning was measured using the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia & McKeachie, 1991). Results of Pearson correlation coefficient analysis indicates that levels of IT integration \((r =.49, p <.01)\) were both positively and significantly related to effective practices of self-regulated learning. This finding clearly indicates that students’ engagement in technology-enhanced learning environments determines the extent to which they are able to effectively practice self-regulation in their learning.

Meanwhile, Vighnarajah, Luan & Abu Bakar (2009) conducted studies to identify practice of self-regulated learning in online community discussion in regular national secondary schools. Practice of self-regulated learning was again collected using the MSLQ instrument adapted to the specific needs of the study. Among significant findings transpired from two rounds of semi-structured interviews were that participation in this technology-enhanced learning environment