Effects of High Level Prompts on Learners’ Reflection Levels in a Mobile Collaborative Learning Environment

Nian-Shing Chen\textsuperscript{a}, Chun-Wang Wei\textsuperscript{b}, Daniel Chia-En Teng\textsuperscript{a}, I-Fang Huang\textsuperscript{a}
\textsuperscript{a}Department of Information Management, National Sun Yat-sen University, Taiwan
\textsuperscript{b}Department of Management Information System, Far East University, Taiwan
nschen@mis.nsusu.edu.tw, cwwey@cc.feu.edu.tw, cet@staff.nsusu.edu.tw, imonefun@gmail.com

Research Objectives

This study aims to explore the relationship between high-level prompts and learners’ reflection levels in a mobile collaborative learning environment. Over the years, considerable amount of research has been done and provided convincing evidence that that the process of self-reflection promotes learners’ ability to reflect on their attitudes, feelings and expand their learning dimensions of cognition and affection (e.g., Chirema, 2007). The concept of reflection is originated from Dewey (1933), that he considered reflection is “active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends”. Hence, reflection is a thinking process caused by doubt or confusion and occurred to solve the confliction. Reflection is also regarded as a kind of metacognitive process which is to monitor and control individual cognitive processes which effectively help learners learn with deeper understanding and facilitate problem solving (Hitomi Saito & Kazuhisa Miwa, 2007). Because many researchers have demonstrated that reflection plays an important role in the learning process (e.g., Lee & Hutchison, 1998), learners are expected to learn better if reflecting activities are properly designed and integrated with the learning material.

Davis (2000) suggested that providing prompts to learners during the learning process may improve learning performance. Instructors, thus, can design prompts in the learning materials to help learners reflect on what they have had learned. However, there has not yet an agreement among researchers about what kind of prompts can really promote the reflection, given that most researchers agreed that prompts can be given in the form of questions. Graesser and Person (1994) suggested that learners who were given prompting questions achieve better learning performance. King (1994) classified prompting questions into high-level and low-level ones. High-level questions concern with the comprehension and integration of concepts, while low-level questions with mere memorization. An example of a high-level question is “What can you infer from the statement that human beings can only hear a limited range of the whole frequency spectrum?”, a low-level question is …(an example). High-level questions can be helpful for learners to reflect on the learning material; that is, providing high-level prompts can be a crucial factor for promoting reflection (Chen, Wei, Wu & Uden, 2009).