

Introduction

Contemporary educational theories emphasize that learning is an active knowledge-building process. Individual learners actively construct and modify their internal knowledge representations and structures through interacting with the external environment (including incoming information, other participants, artifacts, learning events, and so on) and individual inner states (e.g., past learning experience, expectations, motivation, existing knowledge, and so on) (Barr & Tagg, 1995; Palincsar, 1998). On the other hand, modern views on assessment stress the value of formative evaluation during the process of learning and summative evaluation at the conclusion of learning. Also emphasized are assessments that address the role of learners as active participants who share both responsibility and initiative in the process and practice of assessing personal levels of understanding (Birenbaum & Dochy, 1996).

Based on these perspectives, educational activities should be designed to maximize the provision of learners with opportunities for constructing meaningful personal knowledge and activating various cognitive and metacognitive strategies such as elaboration, organization, self-monitoring and self-evaluation. Congruent with this line of thought, the potential of student question-generation has attracted an increasing number of researchers' attention since the publication of Brown and Walter's seminal work (1983) —The Art of Problem Posing.

In contrast to traditional teacher-generated questions to which students are usually requested to respond for drill-and-practice, student question-generation has been suggested as an important comprehension-fostering and self-regulatory cognitive strategy (Rosenshine, Meister, &

Chapman, 1996) and also as a valid form of formative evaluation (Yu & Liu, 2005a). Learning benefits gained by students from question-generation learning activities include: The development of a deeper understanding of the subject content learned and higher order thinking skills such as flexible and reflective thinking, divergent thinking, problem-solving abilities, and the use of learning strategies (Abramovich & Cho, 2006; Barlow & Cates, 2006; Brown & Walters, 2005; Cunningham, 2004; Dori & Herscovitz, 1999; English, 1997; Luxton-Reilly, 2012; Stoyanova, 2003; Whitin D. J., 2005; Whitin P. E., 2004; Yu & Hung, 2006; Yu & Liu, 2005b).

Despite the fact that literature generally supports the beneficial effects of student question-generation, there is little known about how learners perceive its usefulness and how such perceived value relates to employed learning strategies and academic performance. As argued by the general expectancy-value theory, learner motivation interacts with the employment of metacognitive strategies to influence learning behavior; meanwhile, the outcomes brought about by this behavior might in turn affect motivation and the employment of metacognitive strategies (Pintrich & Schrauben, 1992). Therefore, in-depth exploration of how motivational components, such as task value and the challenge level of the introduced question-generation activity, influence learners' employment of learning strategies and achievement performance is needed.

One of the important indicators for motivation as suggested by the general expectancy-value theorists is learners' personal value toward an introduced activity, which may significantly affect the intensity of activity engagement (Pintrich & Schrauben, 1992). Specifically, learners'