

The Validity and Reliability Study of a Revised Motivated Strategy for Learning Questionnaire (MSLQ) for Assessing Computer Software Learning Strategies

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ABSTRACT

Instructional theories have shifted from viewing students as reactive learners in the mid-1980s to the current view of students as proactive learners. Emphasis is no longer placed on the teachers to adapt instruction to meet individual student's mental ability or social-cultural background. In contrast, students are viewed as active participants in their own learning process. Based on the literature and prior research, the purpose of this study is to revise the learning strategy section of the Motivated Strategy for Learning Questionnaire (MSLQ) to reflect the unique learning strategies involved in learning computer skills. MSLQ is a very widely used instrument to assess students' motivation and learning strategies. It assumed that learning strategies can be generalized across context, but context affect the learners' choices and learning strategies available. Although the instrument is effective in assessing strategies used in processing information from texts and lectures, research findings tend to contradict general beliefs when the learning activities involved hands-on, applied learning. With 201 students who participated in the study, this research reports the initial validity and reliability of a revised version of the learning strategies in the MSLQ.

Keywords: *Computer Skills, Learning Strategy, Motivated Strategy for Learning Questionnaire (MSLQ), Self-Regulated Learning, Validity and Reliability Study*

INTRODUCTION

Instructional theories have shifted from viewing students as reactive learners in the mid-1980s to the current view of students as proactive

learners. Emphasis is no longer placed on the teachers to adapt instruction to meet individual student's mental ability or social-cultural background. In contrast, students are viewed as active participants in their own learning process (Perkins, 1992; Zimmerman, 2001). Based on this view, Zimmerman defines self-regulated

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learners (SRL) as students who “are metacognitively, motivationally, and behaviorally active participants in their own learning process” (Zimmerman, 2001, p. 5).

SRL is often regarded as an event as opposed to an aptitude. When viewed as an aptitude, learners have relatively stable approaches to selecting and managing the strategies they use in learning. Viewed as an event, on the other hand, learners monitor their engagement and learning outcomes and dynamically adjust their use of strategies as the task proceeds (Butler & Winne, 1995; Pintrich, Smith, Garcia, & McKeachie, 1991). Pintrich (2004) stated that there were four phases in a SRL conceptual framework: (1) planning and goal setting, (2) monitoring, (3) controlling, and (4) reactions and reflections. In the planning and goal setting phase, learners create a profile of the task, their existing knowledge, and the context. In phase two, learners use their metacognitive awareness to monitor self, the task in hand, and the context. Learners control and regulate their learning effort in phase three, and they reflect and react on themselves, the task, or the context in phase four.

The enabling cognitive activity of the four SRL phases was metacognition. Dobrovolsky (2006) defined metacognition as the ability to self-assess and self-correct based on that assessment; in other words, metacognition referred to the awareness, knowledge, and control of cognition. SRL can also include time management, regulating one's own physical and social environment, and the ability to control one's effort and attention (Pintrich, 1995; Zimmerman & Risemberg, 1997). This view supports phases two and three in the SRL framework suggested by Pintrich.

Since self, task, and context are important elements in all phases of SRL, the nature of the classroom context plays an important role in facilitating SRL (Zimmerman, 1994). Activities students participate in can have an important impact on students' motivation and level of SRL, and the use of cognitive strategies often depends on environmental cues and the features of the tasks (Cohen, 1994). Classroom studies

confirmed that the type of task that teachers asked students to engage in can influence the learning strategies that students adopt for their learning (Ames, 1992; Maehr & Midgley, 1991).

With the understanding that classroom context affects the use of learning strategies and the increasing emphasis on students' active role in their own learning, educators need appropriate instruments to investigate learners' use of effective learning strategies in text/conceptual learning versus hands-on/applied learning. Based on literature review and prior research findings, this study reports the process of revising a popular survey instrument, the Motivated Strategy for Learning Questionnaire (MSLQ), to meet the needs of assessing students' effective learning strategies involved in learning computer software skills. The initial validity and reliability are reported. The results of this study provide instructors a valid instrument to assess effective learning strategies employed in learning software skills. This instrument can also be used in corporate training to assist corporate course designers to design better materials and courses. The knowledge of better software learning strategies can help learners, both students and corporate employees adjust their learning strategies to be successful in learning software skills.

Motivated Strategy for Learning Questionnaire (MSLQ)

SRL researchers seek to explain how students improve their performance using a systematic or regulated method of learning, and one of the most widely used instruments to assess students' use of learning strategies is the Motivated Strategy for Learning Questionnaire (MSLQ). Based on a self-regulatory perspective on student motivation and learning, the questionnaire assesses student motivation and SRL in college students (Pintrich, 2004). The development of the MSLQ began in 1986 at the University of Michigan when the National Center for Research to Improve Postsecondary Teaching and Learning was established, and the process went through three major itera-

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