

Chapter 34

Effects of Basic Computer Training on the Self-Efficacy of Adult Learner's Utilization of Online Learning

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ABSTRACT

As more studies investigate the effectiveness of online instruction for adult learners it is important not to overlook the effects of computer self-efficacy of students. Online learning requires a certain level of computer skill for the student to be successful. This chapter explores the value and efficacy of basic computer training to improve the effectiveness of instruction in an online learning environment. Included is a review of self-efficacy related to online learning and the results of a quasi experimental study that reinforces the value of basic computer training for improving the adult learners' self-efficacy.

INTRODUCTION

The purpose of this chapter is to develop a theoretical framework for studying the effects of computer self-efficacy and applying these results to online learning. There is evidence to suggest that computer training can be a significant factor in improved computer self-efficacy (Loboda, 2002; Karsten & Roth, 1998; Smith, 1994; Torkzadeh & Koufteros, 1994). Self-efficacy is the belief that one is capable of performing in a certain

manner to attain certain goals (Ormrod, 2006). Psychologist Albert Bandura proposed the theory of self-efficacy to help explain how we approach goals, tasks, and challenges (Bandura, 1977). In other words, Bandura says that if you have high self-efficacy toward a task you are more likely to make more of an effort, and persist longer than those of a low self-efficacy (Bandura, 2001). Improving computer self-efficacy could help students perform better in online coursework.

As instructors strive to improve their efficiency and effectiveness, a possible instructional link

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has important implications for course design and the instructional development of basic computer training (Loboda, 2002). She further suggested that many adult learning programs require that students take a basic computer course that includes online instruction as a prerequisite to their program of studies. These courses are intended to provide learners with basic computer competencies necessary for their academic and professional work (Petty, 1999). At issue is whether these prerequisite courses have value in improving adult learners' online course performance (Loboda, 2002).

Bandura (2001) introduced the theory of self-efficacy that the social changes or the agentic perspective from individuals' self-development, adaptation, and self-renewal was a core feature of metacognitive ability of self-efficacy. He argued that rapid informational and technological advances in education place a premium on personal efficacy for academic achievements (Bandura, 2001). He further added that with the rapid technological changes we are experiencing in education, much of the knowledge we gain and technical skills we develop become quickly obsolete. Today information communication technologies provide innumerable educational opportunities. Unfortunately with these wonderful technologies are the dangers of failures and students need to be confident in their capabilities to control their own learning (Petty, Lim, & Zulauf, 2007). Persistent and self-confident learners are more likely to succeed in the academic life (Loboda, 2002).

As has been pointed out by many scholars the utilization of online instruction is becoming a common instructional method in adult education (Barnard, 1997; De-Verneil & Berge, 2000; Driscoll, 1999; Hill, 2000; Khan, 1997; Kirschner & Paas, 2001; Loboda, 2002; Molenda & Sullivan, 2000; Owston, 1997; Petty, 1999; Petty, Lim, & Zulauf, 2007; Worley, 2000). There has been a similar growth in the use of online in business and industry as well (Petty, Lim, & Zulauf, 2007). Many corporations, government agencies,

and training organizations increasingly introduce online courses in their instruction delivery systems (McCarthy, 2002).

Improving one's self-efficacy via introductory, prerequisite computer courses in program curricula may improve the overall performance of students in online learning courses. The simple task of requiring an introductory information systems course as an early prerequisite of an undergraduate program could markedly improve performance in an adult learning program based on information communication technologies (Karsten & Roth, 1998; Loboda, 2002; Smith, 1994; Teo, 2009; Torkzadeh & Koufteros, 1994).

BACKGROUND

Self-Efficacy

Bandura (1986) proposed the concept of self-efficacy as a central component of social cognitive theory. Self-efficacy refers to judgments people make about their abilities to do a specific task or act in a specific situation. According to social cognitive theory and research (Bandura, 1986, 1997; Hackett, 1995; Pajares, 1997; Pervin & John, 2001; Pintrich & Schunk, 1995; Zimmerman, 1995) self-efficacy judgments influence the choice of activities, degree of effort, period of persistence, coping with situations, emotion, and eventually, performance.

Earlier studies found evidence that computer training and experience significantly improved computer self-efficacy (Karsten & Roth, 1998; Smith, 1994; Torkzadeh & Koufteros, 1994). One might expect that computer training affect online instruction self-efficacy as well. When applying the concept of self-efficacy to online instruction, an individual who has a strong sense of capability in dealing with computers and online instruction can be expected to be more successful in online learning. Consequently, students' beliefs in their ability to perform successfully in online environ-

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