Chapter 34
Effects of Basic Computer Training on the Self-Efficacy of Adult Learner’s Utilization of Online Learning

Gregory C. Petty
University of Tennessee, Knoxville, USA

Iryna P. Loboda
University of Tennessee, Knoxville, USA

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
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 nec-
essary 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 technologi-
cal 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 wonder-
ful technologies are the dangers of failures and
students need to be confident in their capabilities
to control their own learning (Petty, Lim, & Zu-
lauf, 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 educa-
tion (Barnard, 1997; De-Verneil & Berge, 2000;
Driscoll, 1999; Hill, 2000; Khan, 1997; Kirschner
& Paas, 2001; Loboda, 2002; Molenda & Sul-
ivan, 2000; Owston, 1997; Petty, 1999; Petty,
Lim, & Zulauf, 2007; Worley, 2000). There has
been a similar growth in the use of online in busi-
ness 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 introdutory,
prerequisite computer courses in program cur-
ricula 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; Zimmer-
man, 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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