



## Chapter VI

# Impacts of Behavior Modeling in Online Asynchronous Learning Environments

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### Abstract

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*The continued and increasing use of online asynchronous learning (OAL) environments for training raises the question of whether behavior modeling, the most effective training method in live instruction, will prove to be effective in OAL environments. If it is effective, to what extent will it be effective? In this study, behavior modeling training was delivered in three modes: face-to-face, videotaped, and scripted. Each behavior modeling mode expresses social presence to a different degree and, therefore, could impact both learning performance and the willingness of students*

*to take online asynchronous training. This study reports on the effect of behavior modeling modes on three variables in an OAL environment, perceived usefulness, near-knowledge, and far-knowledge transfer, when learning a software application. Nine hypotheses were proposed. Four hypotheses were supported and five were not. This research found that the face-to-face environment is not significantly more effective than an OAL environment. The impacts of social presence seem to be higher in face-to-face OAL environments. Although videotaped instruction and scripted instruction were lower than face-to-face instruction, they deliver same degrees of social presence and lead to similar satisfaction level.*

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## Introduction

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International Data Corp. (IDC) projected that the worldwide e-learning market will grow to \$21 billion by 2008, with \$13.5 billion in the United States (U.S.) (Tucker, 2005). The burgeoning online learning and training markets, and the increasing training budgets of businesses and schools, have provided users of online training and marketing tools with practical reasons to investigate the effectiveness of online asynchronous software training.

Behavior modeling is viewed as the most effective training method in live instruction (Bolt, Killough, & Koh, 2001; Compeau, Olfman, Sein, & Webster, 1995; Simon, Grover, Teng, & Whitcomb, 1996; Yi & Davis, 2003). Three general modes of behavior modeling have been compared experimentally: (1) face-to-face (F2F) instruction, (2) videotaped instruction, and (3) scripted instruction. Since online asynchronous training does not use live instructors, it is possible that the F2F mode may be more effective than the other behavior modeling training modes. This chapter presents the results of a study to compare three modes of software training delivered in a Web-based format. It uses a "live instructor" behavior modeling format as a control.

Simon et al. (1996) categorize general training approaches into instruction-based, exploration-based, and behavior modeling. These three approaches are designed to improve learning outcomes for students with different learning styles in an F2F environment. However, in today's educational environment, the OAL environment may eventually replace the F2F environment for educational and training purposes. It is already the case that a student can study lecturers' prepared slides and notes, browse relevant Web sites, ask for solutions via discussion boards and chat rooms, and employ other means of assistance in the online environment in solving problems. However, in the online environment, the immediacy of an instructor's F2F demonstration is hard to achieve. It is doubtful that behavior modeling methods have yet been adapted fully to the complex and changing OAL environment.

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