Chapter 5.13
Differential Impacts of Social Presence on the Behavior Modeling Approach

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ABSTRACT

The continued and increasing use of online asynchronous learning (OAL) environments for training raises the question whether and to what extent behavior modeling, the most effective training method in live instruction, will prove to be effective in OAL environments. This article analyzes the effect of applying behavior modeling training in an OAL environment. Behavior modeling training can be delivered in three modes: face-to-face, videotaped, and scripted. Each behavior modeling mode expresses social presence to a different degree, which could impact both learning performance and the willingness of students to take online asynchronous training. This study reports on the effect of behavior modeling mode on these variables in an OAL environment. 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.

INTRODUCTION

The worldwide corporate e-learning market is expected to grow to $24 billion ($18 billion in the U.S.) by 2006, with a compound annual growth rate of 35.6% according to IDC (2003). 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, as well as compelling research motives, to investigate the effectiveness of online asynchronous software training.

Behavior modeling is viewed as the most effective training method in live instruction (Simon, Grover, Teng, & Whitcomb, 1996; Compeau & Higgins, 1995). 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 article 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.

The experiment was prompted by the need of 135 college undergraduate Business majors at the California State University, Northridge, and Loyola Marymount University, Los Angeles, to learn Access 2002 in an introductory computer course. The three general modes of behavior modeling training noted above were compared to see which produced the best performance, student satisfaction, and agreement with learning style.

LITERATURE REVIEW

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. Although not equivalent now, the online asynchronous learning (OAL) environment may eventually replace the F2F environment for practical training purposes. It is already the case that an online student can study lecturers' prepared slides, browse relevant

Web sites, and ask for solutions via discussion boards, among other means of assistance in solving problems. However, in the OAL 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 OAL environment.

Behavior modeling may be one of the better approaches for F2F instruction, but it may not be equally effective for online asynchronous instruction because it is based on instructor demonstration. For example, in a live training class, the instructor will demonstrate some software processes and ask the students to repeat the activity. However, in an OAL environment, where there is no live instructor, the demonstration may lose some of its benefits. The possibility exists that the behavior modeling approach is not the most effective training method in online training situations. Therefore, the effectiveness of behavior modeling in its different modes should be established in an OAL environment.

From the perspective of research design, "replication can and should mean testing empirical implications of theory — interpreting 'theory' broadly—in similar and dissimilar situations and experimentally and nonexperimentally" (Kerlinger & Lee, 2000, p. 570). The OAL environment provides a research opportunity to validate the assertions of Bostrom, Olfman, and Sein (1990) and Simon et al. (1996), and to extend their software training frameworks to the OAL environment.

LEARNING STYLES AND ONLINE BEHAVIOR MODELING

Online asynchronous training differs from traditional training in its self-directed and self-paced learning approach (Belanger & Van Slyke, 2000). As a result, it is plausible that individual differences have more influence on learning outcomes in the OAL environment. Many researchers

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