The Role of Trainer Behavior in End User Software Training

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Understanding the factors that differentiate effective from ineffective end user software training is an under-researched topic in MIS research. Only a few studies have investigated the characteristics of effective training, and the cognitive and social processes through which they influence learning. Of these, none has focused on the role of the trainer and his or her influence on training effectiveness. Thus, the purpose of this research is to identify the behaviors that characterize effective trainers, and examine these behaviors in the context of the learning process. Fifty-three items were identified through interviews with trainers as characterizing effective trainer behavior. These items were organized using card sorting and factor analysis. Six primary categories of behavior emerged: knowledge, communication, course design, sympathy, training techniques, and class management. The prototypicality of the behaviors was also assessed, through a survey of 68 trainers. The results of the study are useful in a number of ways. First, the study provides a basis for training feedback instruments that can be used in applied settings. Second, the results provide a foundation for including trainer behavior into existing training models in a more comprehensive fashion than has been undertaken to date.

INTRODUCTION

End user training is an important contributor to the use and success of information systems in organizations (Fuerst & Cheney, 1982; Igbaria, Pavri & Huff, 1989; Leonard-Barton & Deschamps, 1988; Lucas, 1978; Raymond, 1988; Sanders & Courtney, 1985). Recent research (e.g., Bostrom, Olfman & Sein, 1990; Compeau & Higgins, 1995; Webster & Martocchio, 1993, 1995) has attempted to provide insight into the impact of different training methods on a variety of outcome variables associated with effective training. However, little attention has been paid to the role of a central actor in the training process — the trainer. This research seeks to fill this void in the empirical literature, by addressing two primary research questions.

1. What are the behaviors that characterize effective end user software trainers?
2. How do these behaviors fit into existing theoretical models of the end user learning process? What outcomes of training do they influence?

LITERATURE REVIEW

Background on End User Training and Learning

A sizable body of literature is emerging that examines the factors that influence learning of end user software. Bostrom et al. (1990) describe a model of the computer learning process, which holds that effective training results in two critical outcomes: understanding of the system and motivation to use it. These outcomes, according to the model, are influenced by the target system and its characteristics, the training method and individual characteristics. Research based on this model has examined differences between command-based and direct manipulation-based systems (Davis & Bostrom, 1990), exploration versus instruction based training (Davis & Bostrom, 1990), behavior modeling training (Compeau & Higgins, 1995; Simon & Werner, 1996), analogical versus abstract conceptual models (Santhanam & Sein, 1994; Sein & Bostrom, 1989), personal relevance of the training (Olfman & Bostrom, 1990) and differences in learning style (Bostrom et al., 1990).

Other studies in the IS training literature provide an expanded view of the motivation aspect of the model, as well as examining different elements of training design. Webster and her colleagues (e.g., Webster et al., 1990) have also studied the training process, using theories of Social Information Processing, and have identified the concept of “flow” as an additional motivational variable. This research also demonstrates the importance of differences in training method. For example, training that is characterized as “play” (rather than work) has been found to result in higher performance, because it promotes the state of flow (Webster & Martocchio, 1993, 1995). Compeau and Higgins (1995) studied the training process from the perspective of Social Cognitive
Theory. They found that learning was influenced by an individual’s confidence in his or her ability to use the computer, or “self-efficacy,” and that both learning and self-efficacy were influenced by the training method. The use of behavior modeling, or learning by observation, was found to increase self-efficacy and performance for spreadsheet training.

In summary, recent research provides evidence of the impact of training design on several relevant outcomes, including learning, perceived usefulness, self-efficacy, and flow. Figure 1 shows an adaptation of the Bostrom et al. (1990) model which has been modified to include the concepts of self-efficacy and flow.

Motivation and Learning Performance are the key training outcomes. Learning Performance is influenced by the Trainee’s Mental Model (his or her understanding of the system) and by motivation. Motivation is influenced by the Target System, the Training Method, and by Learning Performance. The Trainee’s Mental Model is influenced by the Target System, Training Method and by Individual Differences. Individual Differences also interact with Target system and Training Method to influence motivation. Finally, the choice of Training Method is viewed as partly attributable to the Target System.

The Role of the Trainer

The trainer is a central actor in the delivery of training. He or she is responsible for organization of course materials and exercises, explanation of key concepts, and encouragement of appropriate behaviors from the trainees (Goldstein, 1983). Consequently, it is important to understand the types of behaviors in which trainers engage which are considered effective in addition to understanding the impacts of differences in training method.

None of the information systems research that was reviewed explicitly considered the role of the trainer in influencing training outcomes. However, the findings of two recent studies may provide some insights. Martocchio (1994) studied the influence of induced conceptions of ability on performance in training. He found that trainees who were taught that computing ability is a stable entity developed lower computer self-efficacy and experienced more computer anxiety than those taught to view computing ability as an acquirable skill. While the trainer in the study was not the source of the induced conceptions of ability due to experimental design considerations, in a practical training setting, the trainer would be one of the key sources of such information.

A study by Compeau and Higgins (1995) also suggests the importance of the trainer. They compared a traditional training session, consisting of lecture, demonstration and practice to a behavior modeling training session which added a 20-minute videotape to the traditional session. The video showed a computer user demonstrating the common problems they encountered when first using the software package (a word processing package and a spreadsheet package were studied). While significant differences were found between the modeling and non-modeling groups for the spreadsheet package, no differences were found for the word processing package. One of the explanations advanced by the authors was that the trainer who conducted both sessions may herself have acted as a behavior model for the participants. This implies that behavior modeling may not be solely a training method, but also an approach used by effective trainers. However, because the study was not designed to examine trainer behavior, the explanation remains speculative.

The importance of understanding trainer behaviors has also been acknowledged outside the IS literature (e.g., Steiner, Dobbins & Trahan, 1991). Several authors have called for increased attention to the role of the trainer (Goldstein, 1993; Steiner et al., 1991; Wexley, 1984).

The only empirical studies focusing on the behavior of teachers were found in the education literature. A number of studies have examined the characteristics and behaviors of effective classroom teachers (e.g., Beyerbach & Smith, 1990; Marchant & Bowers, 1990; see Follman, 1992 for a comprehensive review of the measures). Marchant & Bowers (1990), for example, argue that effective teacher behavior falls into six categories: instructional design/structure; active teaching; giving information; questioning students; reacting to student responses; and handling seatwork and homework assignments (p. 169).

Some of the dimensions presented by Marchant and Bowers (1990) should be generalizable to a training session, but others (e.g., handling seatwork) seem more specific to the school teaching environment. As a result, while the education literature might prove a useful source of measures of effective trainer behaviors, the environments of school teaching and...
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