Validating E-learning factors affecting training effectiveness

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Abstract

The development of information technologies has contributed to the growth in online training as an important education method. E-learning provides trainees with education opportunities in diverse ways. It has led to a range of innovative services offering one-stop educational solutions within the e-business sector. The online training environment enables trainees to undertake customized training at any time and any place. Moreover, information technology allows both the trainers and trainees to be decoupled in terms of time, place, and space.

The purposes of this research are twofold: (1) To discover the determinants of effective online training and; (2) To reveal how those variables affect learning performance and transfer performance, two important aspects of training effectiveness in the workplace.

This paper demonstrates, through empirical data, a positive relationship between individual, organizational and online training design constructs and training effectiveness constructs (learning and transfer performance).

Keywords: E-learning; Online training and training effectiveness

1. Introduction

Today, organizations are making great efforts to properly adjust to the changing business environment to enhance their competitiveness. In step with the development of information technology and the Internet, many businesses are replacing traditional vocational training with e-learning to better manage their workforce. However, it is questionable whether training programs actually change employee behavior after implementation. In the case of US companies, only 10–15% of training is applied to work (Sevilla & Wells, 1988).

As off-line learning concepts have been evolved into e-learning concepts along with the development of information and communication technology, e-learning have become an important field of study and a number of research papers have reported on this.

(1) Recently, many MIS researchers have published e-learning studies in IT or MIS journals (Ijab & Anwar, 2004; Neville, Heavin, & Walsh, 2005; Ong, Lai, & Wang, 2004; Piccoli, Ahmad, & Ives, 2001; Wild, 2006 Elsevier Ltd. All rights reserved.

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Griggs, & Downing, 2002; Zhang & Zhou, 2003). Specifically, study on e-learning effectiveness becomes one of popular themes and many studies are found since 2004 (Cappel & Hayen, 2004; Dougla & Van Der Vyver, 2004; Zhang, Zhou, Briggs, & Nunamaker, 2006). Under the e-learning context, these studies focus on the specific variables that have been developed through the past e-learning research trend. Our study differentiates from existing literatures by including variables found to be important in off-line training program and other conditional variables as well as e-learning specific variables.

(2) For the theoretical background, our study refers to previous studies on the connection between learning and technologies (Chau & Wang, 2000; Parikh & Verma, 2002) and distance learning as a form of e-learning (Kodama, 2001; Theakston, 1999) published in International Journal of Information Management.

This study seeks to demonstrate the factors of a training system that enhance efficacy of corporate e-training. By reviewing design factors that affect traditional offline training, and defining factors affecting online training, we seek to identify their effects on learning performance and transfer performance.

2. Literature review and hypotheses

2.1. Designing factors of training programs

A review of related research led to identification of five dimensions which affect efficacy of online training: the trainee, training content, level of communication between trainer and trainee, ease of use of online website resources, and the organizational environment. These dimensions are based on motivation theory (Compeau & Higgins, 1995; Hicks & Klimoski, 1987), media richness theory (Daft & Lengel, 1986), technology acceptance theory (Davis, 1989), and institutional theory (Orlikowski, 1992).

2.1.1. Trainees

In a training environment, motivation is defined as “the degree to which the learner is willing to make efforts to improve his or her performance of training and work” (Robinson, 1985) or the “special desire of participants to learn the contents of the training program” (Noe & Schmitt, 1986).

In the study by Mathieu, Tannenbaum, and Salas (1992), trainees showed more positive emotional responses when they had higher motivation. This was found to be proportionately related to improvement of work performance after the training. Another factor is appropriate selection and enabling of trainee’s participation. In other words, allowing those who will be trained to select and participate in proper training programs. Trainability is determined by the trainees’ level of ability and motivation for learning (DeSimone & Harris, 1998). The importance of learning motivation is expected to be the same in online education situations as well.

Computer self-efficacy is an important trainee characteristic for e-training situations (Chau & Wang, 2000). Compeau and Higgins (1995) indicated that a person’s self-efficacy regarding computers significantly affects the user’s expectations and performance. Hill, Smith, and Mann (1987) found that college students’ computer self-efficacy affects their decision to use computers. Other research has dealt with how self-efficacy affects training effectiveness under various circumstances such as computer software learning (Gist, Shwoerer, & Rosen, 1989), interpersonal skills training (Gist, Stevens, & Bavetta, 1991), military training program (Eden & Ravid, 1982), and homepage design training course (Chau & Wang, 2000).

This research intends to verify the relationships between trainees’ learning motivation and computer self-efficacy and the effectiveness of e-learning. The associated hypotheses are:

H1: The higher the trainee’s motivation for online training, the higher their learning effectiveness.
H1-1: The higher the trainee’s motivation for online training, the higher their learning performance.
H1-2: The higher the trainee’s motivation for online training, the higher their transfer performance.
H2: The higher the trainee’s computer self-efficacy regarding online training, the higher their learning effectiveness.
H2-1: The higher the trainee’s computer self-efficacy regarding online training, the higher their learning performance.
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