Chapter 27
Interactive Learning in Workplace Training

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ABSTRACT
This chapter investigates the major challenges encountered in workplace training and proposes an interactive learning environment model to overcome them. Due to the rapid nature of information change, companies need employees who remain open to new developments and continually refresh their job skills to gain a competitive advantage in the marketplace. The adoption of new knowledge and skills is both a key requirement and a challenge for companies. In addition to difficulties arising from learning and using new knowledge/skills, loss of organizational memory is a problem commonly faced by most organizations. Unless organizations capture the existing knowledge of their employees, they will repeat mistakes and waste time resolving previously solved problems. Providing relevant and accurate information to employees based on their current goals, knowledge, and experience in real time is also seen as an important challenge. This chapter examines these challenges and proposes an interactive learning environment model to address them.

INTRODUCTION
Due to the rapid nature of information change, companies need employees who remain open to new developments and continually refresh their job skills to gain a competitive advantage in the marketplace. Because knowledge doubles every 18 months (Wetmore, 2000), employees have to search for and acquire information in order to maintain or improve their qualification levels (Kawase, Herder, & Nejdl, 2009). Studies have shown that 50% of all employees’ skills will become outdated within three to five years (Moe & Blodgett, 2000, p. 227). For this reason, the adoption of new knowledge and skills is a key qualification for individual and organizational performance and is a major challenge for companies.

In addition to difficulties arising from gaining and using new knowledge/skills, loss of organizational memory is a problem commonly faced by most organizations. Loss of organizational memory means that organizations lose knowledge gained during previous experiences or projects (Nermien, 2003, p. 80). Unless organizations
capture the existing knowledge of their employees, they will repeat mistakes (Nermien, 2003, p. 80), waste time resolving previously solved problems and will always be concerned that if an employee with valuable knowledge leaves the company, this knowledge would leave with the employee (Mason, 1999).

For companies, the most difficult challenge is providing adequate help to its employees in real time. Training systems usually contain large volumes of knowledge, and it is difficult to find and select the information needed in these environments. Frequently, multiple searches and queries are required to find the most appropriate information and guidance for the employee. Electronic Performance Support Systems (EPSSs) are used in modern job environments to supply task-specific and user-centered support that matches the current work context of employees (Huneiti, 2008). However, these EPSSs are insufficient to meet the individual needs of users with different levels of knowledge, expertise, qualifications, and goals (Brusilovsky & Cooper, 1999; Huneiti, 2008). Thus, it is important to provide employees with individualized training and/or support.

As a result, workplace training involves three major challenges: refreshing outdated job skills and knowledge, capturing organizational memory, and providing adequate help to employees in real time. The remainder of this paper examines related themes and proposes an interactive learning environment model to overcome these challenges. This model was developed based on the analysis of a literature review.

**BACKGROUND**

Supporting the knowledge and performance of workers in modern job environments has become an increasingly complex, time-consuming, and costly task due to rapid changes in business activities. The amount of knowledge in the world has doubled in the past 10 years and will continue to double every 18 months, according to the American Society of Training and Documentation (ASTD) (Gonzalez, 2004). During the previous 300 years, a person had been considered educated if they had a prescribed stock of formal knowledge. Today, however, because of the exponential growth in available information, a person is considered educated if they have learned how to learn and continue to learn (Drucker, 1994, p. 8). As recently as five decades ago, a man could learn how to drive a tractor and have that job skill remain useful for 40 years or more. Now a person learns how to use a software program and can use the skill for probably 18 months (Moe & Blodgett, 2000, p. 228). Therefore, in this century, individuals have to remain open to new knowledge and developments and need to search for and read information to remain up-to-date (Kawase, Herder, & Nejdl, 2009).

The findings of an international workplace survey showed that nine out of ten Indian employees feared that their current skills would be outdated within five years and felt that they needed guidance and training to carry out their current jobs. This understanding is not confined to employees; corporate executives are also beginning to understand that enhancing employee skills is key to gaining a competitive advantage in the marketplace, as human capital is becoming the chief source of economic capital (Urdan & Weggen, 2000, p. 2). Training is one of the chief methods of maintaining and improving intellectual capital (Bassi & Van Buren, 1999). To adapt to changing technologies, methods or trends, organizations must be capable of providing ongoing training to enhance employee skills (Senge, 1990).

In its Annual Global CEO Survey, PricewaterhouseCoopers (1998) revealed that 70% of Fortune 1000 companies had stated that the main barrier to successful growth is a lack of trained employees. Similarly, the findings of a nationwide study conducted by Common Wealth showed that up to half of the top 1000 organizations in Taiwan perceived training as their organizational priority (Chen, 2003).
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