Chapter 24
E-Learning for Knowledge Dissemination

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INTRODUCTION

What is E-Learning?

Today, most organizations need to extend lifelong learning opportunities to their employees in order to be successful in an increasingly competitive global marketplace. Organizations are turning to technological solutions to enable online in-house training and learning for their employees. An integrated approach to e-learning is important because it can be used for effective continuous, online and real-time learning required in any organizations and also to analyze employee performance. Online learning is made possible by advancements in network infrastructure and the development of voice and multimedia protocols for seamless transport of information. E-learning involves encouraging the employee to spend time electronically to bring about learning, and to collect information and analyze it with respect to organizational needs, learning processes and user preferences (Alavi & Leidner, 1999). E-learning ranges from simple computer use in a classroom where instructional materials are stored on an intranet, to the use of simulation systems used to support teaching activities, or distance education using broadband enabled multimedia and shared electronic workspaces. E-learning styles include learner-centric, instructor centric and directed environments. E-learning communication modes

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include synchronous vs. asynchronous modes (time of interaction), and one-to-one, one-to-many and many-to-many interaction modes. Presentation styles include voice only, voice and video, text only, text and animation, and voice, video and text. Pedagogical approaches include objectivist, constructivist, and collaborative approaches and situated learning. Also, it is known that learning within organizations is affected by task complexity and the organizational environment (Argyris and Schon, 1996; Bhatt, 2002; Spender, 1996).

This article is organized as follows. We discuss why e-learning is important in creating a knowledge dissemination system, and why KD systems need a structured e-learning approach. We discuss the role of knowledge officers, practitioners, facilitators and mentors, and employees in enabling knowledge dissemination in such a system. Next we summarize the employee centric and organizational metrics for evaluating e-learning systems. The main focus of the article is on studying critical factors that affect e-learning not only in context of organizational requirement, but also in light of technological capability, pedagogical approaches, preferred learning styles, communication modes, and interaction styles across knowledge types. This article proposes an integrated e-learning system design framework for knowledge dissemination across knowledge types. We discuss future trends in employing e-learning for KD and present conclusions.

BACKGROUND

Why is E-Learning Important in Creating a Knowledge Dissemination System?

The developer of an e-learning system faces several challenges in designing systems for an online learning environment that ensures strong, effective, and secure learner interaction that best replaces the face-to-face interaction taking place onsite in the workplace and in training sessions (Alavi and Leidner, 1999). In addition to a clear understanding of the knowledge type requirements, the challenge is in supporting good pedagogy and learning practices given technical and other constraints. Technical constraints include bandwidth, quality of service, real time interactions, support for multiple users, and security requirements. In parallel, instructional design that incorporates appropriate pedagogical techniques into a rich repertoire of learning resources is needed for creating a dynamic e-learning environment. These pedagogical techniques, if tailored to specific knowledge types, can improve productivity by sharing best practices within an organizational community (Agresti, 2003; Castro, Foster, Gunn, & Roberts, 2003; Spender, 1996). An enabling online knowledge dissemination environment should allow for dynamic networked online interaction to create a non-competitive atmosphere that values both explicit and tacit knowledge dissemination, and the conversion of knowledge between these types to enable learning (Applen, 2002).

Why do KD Systems Need a Structured E-Learning Approach?

As shown in Figure 1, the rationale for adopting an e-learning technology for knowledge dissemination (KD) is influenced by the communication mode, content presentation style, and pedagogy and learning styles employed. However, the influence of organizational requirements and knowledge types on KD drivers (technology, communication modes, and pedagogy and learning styles) has not been studied.

As shown in Figure 2, the three stakeholders typically identified in an organizational e-learning framework are the employees or knowledge users, the knowledge providers in the organization (practitioners, mentors and experts), and the provider of technology (IMS Global Learning Consortium, n.d). From the organizational perspective, an integrated knowledge- transformation frame-