Embedding Learning within the Processes of Organizations

Mark Salisbury, University of St. Thomas in Minneapolis, Minneapolis, MN, USA

ABSTRACT

This article describes how to embed learning within the processes of organizations. It begins by discussing traditional training and educational course development and the delivery of courses within an organizational context. It next describes how to embed learning within an organizational context – and how it differs with a traditional approach. This is followed by a description of the theoretical foundation for embedding learning within the processes of an organization. It addresses the underlying performance objectives of work and the cognitive needs of learners in an organization. Next, a section describing how to deploy supportive technology for embedding learning within the processes of organizations is presented. Finally, the implication of embedding learning within the processes of organizations is discussed.

Keywords: Collaboration, Double-Loop Learning, Education, Embedded Learning, Instructional Systems Design, Knowledge Management, Organizational Learning, Single-Loop Learning, Training

INTRODUCTION

This article describes how to embed learning within the processes of organizations. Embedding learning within the processes of an organization begins with all team members having access to the same knowledge for the current “best way” of solving a problem. A way to provide access to this knowledge is through documents, instruction, examples, and expert advice – making the current best way of solving a problem known to all members of the team. Knowing what they know, the team is now prepared to look at innovative ways to solve the current problem. This is where the lessons learned from the past meet the best thinking of the present to learn how to do things better -- embedded learning provides this opportunity.

Embedding learning within organizational processes was initially used to successfully build a knowledge dissemination system for the laboratories and facilities that are under the direction of the United States Department of Energy (DOE) (Salisbury & Plass, 2001). The follow-on work to this effort was the development of a collaboration application that fed the dissemination system for the DOE laboratories and facilities. The resulting system managed the life cycle (creation, preservation, dissemination and application) of knowledge for the DOE laboratories and facilities (Salisbury, 2003). Recent work has focused on extending the theoretical foundation of embedded learning to improve collaboration and in methods to identify performance objectives of knowledge work for reusing and repurposing that work (Salisbury, 2009).

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**TRADITIONAL TRAINING AND EDUCATIONAL COURSE DEVELOPMENT AND DELIVERY**

Traditional course development begins with the question “Do these individuals need a course?” Next, a design document is created that specifies the desired performance—or learning objectives. Then the instructor materials and the student manual are developed. Typically, these focus on individual exercises, problems, and quizzes. The instructor is selected next—and the course is delivered. Everyone is all smiles— a new level of tacit knowledge fills the team members with confidence that they can apply what they have learned to their work when it comes time.

However, after the course is delivered, the instructor goes away, and over time, the course materials become out of date or unavailable, and the shared tacit knowledge begins to dissipate—leaving the team members with the question of “What did we really learn from this?” The same question we ask about most of our traditional training and educational experiences—including online courses.

**EMBEDDING LEARNING WITHIN THE PROCESSES OF ORGANIZATIONS**

Now, let’s compare this well known outcome to that of embedding learning within the processes of organizations. (See Maie & Remus, 2003, for an overview of implementing process-oriented knowledge management strategies.) The development process starts out the same—with an assessment to determine if there really is a need that a learning-based intervention is the best solution—followed by a design document that specifies the performance or learning objectives. However, now there’s a change in what is made for learners to achieve those objectives. When the instructional materials are developed, they are developed as small modules—process steps, instruction, an example, and some expert advice. When these modules are delivered, they are delivered as modules for a just-in-time learning experience. Unlike most traditional courses, these materials are designed to assist team members in learning to solve a real problem they face in the workplace in real time.

Figure 1 illustrates what embedded learning within an organization’s process looks like. “Change Management” is the topic that needs to be learned. Note that the learning modules are labeled “knowledge products.” Knowledge products focus on what the learners have to do—not on materials that may or may not be relevant to the work at hand. This means that knowledge products are things that have to get done such as design documents, quality plans, and testing reports. For this example, the team needs to create a knowledge product entitled “A Persuasion Model for Making Change.” That is, they need to make a plan for the first phase of Change Management.

Note that the modules for this knowledge product, A Persuasive Model for Making Change, are labeled “Objectives”—for performance objectives or learning objectives. Objectives are important aspects of a knowledge product that have to be achieved. In this example, the plan, A Persuasive Model for Making Change, must have a well written and effective section on how to encourage peer or stakeholder support for the change. That’s why one of the objectives is named “Encourage Peer or Stakeholder Support for the Change”—labeled “Encourage Peer Support” in Figure 4. Note that all the objectives for a knowledge product have to be achieved in the creation of that knowledge product.
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