

**Chapter 14****Places and Processes in Learning Environments**

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The chapter describes ways to create a variety of learning environments. It suggests that good practices require both the definition of places of learning as well as clear definition of processes to be followed within such learning places. Different processes are often needed for different places. The paper then describes a metamodel for defining different environments and a system that implements the metamodel. The environments described include classroom teaching, group support, distance moderation and monitoring of groups. The chapter then describes a system, called LiveNet, which can be used to configure a variety of learning environments in terms of the metamodel, and describes experiences in its use. The experiences in particular indicate the need to clearly define processes to be followed and that the process changes depending on the learning environment and the support tools to facilitate the process with ensuing benefits to both teachers and students.

INTRODUCTION

Learning communities are now beginning to take many forms. There are the conventional classroom situations, but increasingly we are beginning to see new forms such as work based learning, distance learning, and virtual universities. Increasingly web based technologies are being used to support these learning environments. Such support is needed within the classroom situation to manage increasingly larger groups of students. It is also needed in other situations where

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support is needed across distance. The kind of support needed depends on the situation, the kind of subject taught and the way that it is taught. Each of these alternatives requires support of different kinds of roles and relationships within the teaching environment.

Computer tools that support learning environments must thus be configurable to support the different learning environments. What is needed is a way to design learning environments and configure support tools to support the environments. The paper proposes a framework for defining learning environments in terms of places, called workspaces in this paper. The goal is to provide ways to easily define learning models by customizing systems to support special relationships needed in a selected learning process. The paper also describes the need to clearly define processes to be followed in such environments. Such processes depend on the structure and goal of the environment and are related to those proposed for knowledge creation (Nonaka, 1994). A system called LiveNet, which can be used to customize such learning models, is described.

ORGANIZING LEARNING PLACES

The paper uses the workspace as the basis for representing learning models and shows how to implement the models using the LiveNet system. The workspace brings together people, materials and facilitate communication between them within a defined context. A number of people can then carry out these actions, possible on different objects, within the workspace.

Different places may be configured for different learning situations. Examples described in this paper include:

- A place for distributing and clarifying materials,
- A place for developing ideas,
- A place for guiding students through a case study,
- A place for students to set up their own applications.

Describing places of learning

We use the paradigm of workspaces to describe places of learning. The workspace paradigm is similar to other place paradigms such as rooms, although it is more generic in the sense that it provides an abstract model to describe any physical or logical structure. Thus for example workspaces can be organizational units or project repositories. A generic place structure is shown in Figure 1. It illustrates the basic concepts of the metamodel. A more detailed description of these concepts can be found in Hawryszkiewicz (2000). The central concept is the role, which has defined responsibilities in the workspace. These can be to access materials or carry our assigned actions. People are assigned to the roles. Roles or at least people assigned to the roles can also interact in a variety of ways.

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