

Chapter XI

TENCompetence: Life-Long Competence Development and Learning

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Abstract

In most solutions for supporting learning today, one single approach is leading the selection, installation, and usage of information technology (IT)-based tools. Either content-based approaches lead to the creation of a content-based infrastructure with course management systems and content repositories, or a collaboration background leads to the usage of virtual classrooms and collaborative learning environments. The TENCompetence project aims forward for integration of the different tools, perspectives, and learning environments in a common open source infrastructure based on today's standards on the level of knowledge resources, learning activities, competence development programs, and learning networks. TENCompetence will integrate tools in a service-oriented architecture (SOA) and evaluate the approach in a variety of pilot applications for life-long competence development.

Introduction

In the last seven years, a variety of tools and learning environments have been created and installed in schools, universities, and cooperates supporting learning. Mostly those tools have been created around learning content and collaborative learning activities like virtual classrooms. In the last two years, the terms competence, competency, skills, and knowledge have seen a renaissance, and the e-learning communities are becoming aware of the importance of competences and competence models as the driver for life-long learning. Competences enable users to work in their job; they enable students to learn and achieve the curriculum goals.

Competences can be defined in a manifold of ways. There have been functional, cognitive, behaviorist, and many other approaches (for a nice overview and integration, see Cheetham & Chivers, 2005). The TENCompetence consortium interprets competence as all the factors for an actor to perform in an ecological niche. Performance includes the specific context that is necessary for the interpretation of competence. Off-course competences include competencies and knowledge that are necessary to put the competence into performance. An example could be running a small bakery shop with all the necessary skills and knowledge ranging from the recipes and skills for baking bread to the selling and booking in the shop. Besides the specific knowledge, competencies, and skills, the context in the ecological niche has an important impact, and to enable people to act in an ecological niche effectively, meta competences are necessary. To develop competences over time, including the changes of the ecological niche, meta cognitive processes and reflection also play an important role (Schön, 1983).

Competency models in the upper sense as models of interrelated competencies already play an important role in today's educational systems. In school curricula, competences build the basic structure to connect the different school levels and class curricula as well as their content. In organizations, competence-based assessments build the basis for controlling and steering services in the human resources (HR) departments, like staffing, career planning, and personalized training. Often the personalized selection of contents is mentioned these days as one main application for competence-based education. Nevertheless, daily practice in organizations often shows a focus on learning tools on different levels that are rarely integrated and perceived from a life-long competence development perspective. Often learning is driven by contents, so the main tools in organizations focus on the management, creation, sharing, and use of content. Discussions are focused on reusability of learning objects, the cheap and rapid production of learning contents, and content production for specific training needs. The produced contents are rarely integrated with units of learning or learning designs. The developments regarding learning activities and units of learning have gained much visibility through the IMS Global Learning Consortium, Inc. Learning Design Specification (Koper & Tattersall, 2005) developed at the Open University of the Netherlands and have opened a path for a standardized way of describing and sharing learning processes and a new focus on pedagogical and social issues in learning. Furthermore, the social aspects of learning like communities of practice, social exchange of learning resources, or informal learning aspects have gained more and more importance in the last years. Learning in this sense is no longer perceived as a mere business process that can be administered and handled in Enterprise Resource Planning systems but as an individual process that needs resources,

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