

Chapter XX

Sustainable E-Learning Communities

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ABSTRACT

Knowledge acquisition in E-Learning environments requires both, individualization of content, and social interaction based on relevant learning items. So far few E-Learning systems support an integrated didactic and social perspective on knowledge transfer. Intelligibility Catchers (ICs) are E-Learning components designed for establishing sustainable communities of E-Learning practice. They encapsulate didactic and communication-centered concepts for effective collaborative and reflective generation and exchange of knowledge. Due to their open nature, they can be created dynamically, for any domain and on different levels of granularity. By intertwining content and communication, context can be kept for learning and exploration, even bound to specific community members.

INTRODUCTION

As adaptation, experimentation, and innovation have been identified essential for sustainable organizational success, learning and knowledge creation have to be considered as primary forces of self and organizational development (cf. Bennet et al., 2003). Communities of Practice describe social settings where knowledge can be exchanged and generated effectively (cf. Laudon et al., 2005). In order to enable a sustainable E-Learning community the respective processes

should be structured according to learning support (Dijkstra et al., 1997). In this chapter, the Scholion developments, a long-term project and learning support system are utilized as a case study, constructing a context-sensitive concept for this endeavor. Initiated about 12 years ago by students of the Johannes Kepler University in Linz, it aims at meeting learning requirements for today's dynamically changing organizations, and thus, knowledge demands.

The learning process itself is considered as a combination of content handling, instructional

services, and self-management activities (cf. Schulmeister, 1996, Reigeluth, 1998). It links users to domain-specific information sources in collaboration spaces designed for positive knowledge transfer and knowledge generation. With the advent of E-Learning ontologies (Meder, 2000, Leidig, 2001) the didactical value of the conveyed content has moved to the center of interest in development. Today, the didactic value of content has to be considered as a decisive factor for empowering self-management in E-Learning. In this way, the context of subject items has become a challenge for learner-centered education. Active (re-)construction is seen particularly beneficial for learners as they can pursue their individual interests, while they are motivated to communicate their understanding to others. The situated and public nature of any construction activity has been identified as important for positive knowledge transfer (cf. Farmer et al., 2005).

In the following we report and reflect on a structural improvement to E-Learning platforms providing communication, collaboration, and content facilities, termed Intelligibility Catcher (IC). It tackles both, the content and the social aspects of transfer and learning, in a mutually tuned way. It can be shown that effective learning support in this way requires substantial conceptual and technical effort. Besides the didactic categorization of content elements and processing (according to their role in transfer), linking categorized elements to communication items directly is crucial for knowledge generation.

We review the Scholion developments towards a community platform and show how the addressed development and support challenges can be met. After providing insights into the features and situations of use we discuss the community aspect of the supported learning processes. We reflect how learners can benefit from a sustainable E-Learning community driven by dedicated transfer structures such as Intelligibility Catchers.

A PLATFORM COUPLING CONTENT AND SOCIAL INTERACTION

Computer technologies for learning have opened up new avenues for designing content, triggering active learner participation in transfer processes, and coupling communication to content (cf. Koschmann, 1996). To meet the requirements for computer-mediated context-sensitive and collaborative learning, it must be possible for learners to explore different categories of information in virtual environments and to communicate, so that meaningful learning of a domain can proceed in tandem with establishing communities of learning. Still, the ultimate goal is to create personally meaningful mental representations (cf. LaJoie, 1998, Stry, 2001).

The significance of being able to treat learning as a socially valid exploratory activity, rather than a linear, planned activity, has been recognized by coaches and developers step-by-step. One appreciation has been gained through looking at deeper issues than domain-specific structures of knowledge, web-design of user interfaces, or domain-specific methods. Such an endeavor addresses context from different perspectives:

- The didactic knowledge that drives the transfer of knowledge – developers have to look for a corresponding engineering process of content,
- Communication channels utilized for learning and transfer processes – developers have to look for links of communication entries to content items, and
- Information beyond the core of domain content, such as cultural issues like ethno-computing in computer science education – developers have to look for additional information to facilitate comprehensive understanding of a topic.

Our research so far has not only been targeting towards didactically effective content develop-

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