



Chapter VI

Designing for Learning in Narrative Multimedia Environments

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Abstract

Narrative is fundamental for learning and the construction of meaning. In the design of interactive learning programs, the need for narrative is often neglected, and the emphasis is on information design rather than the design of experiential learning environments. This chapter presents research related to the development of two prototypes of narrative interactive multimedia learning environments, from an experiential and situated learning perspective and proposes a model for a narrative learning process, related to a situated and experiential learning perspective.

Background

Narrative is fundamental for the construction of meaning on a personal as well as on a community level. The narrative format has been a traditional way of teaching in many cultures, and teachers may develop a competence as storytellers, drawing on narrative for motivation, and for experiential and contextual learning by using stories or having the learner's develop stories themselves (Gudmundsdottir, 1991). The concept of narrative encompasses both the narrative expression in the form of story-making and narrative as a cognitive tool for the construction of knowledge, which includes the construction of culturally embedded knowledge as well as being an important part of knowledge sharing (Bruner, 1990; Schank, 1995). It also plays an important part in collaborative and experiential learning. The concept of situated and collaborative learning has been put forth by Brown, Collins, and Duguid, (1989) in their seminal article on *Situated Cognition and the Culture of Learning*: "Learning, both outside and inside school, advances through collaborative social interaction and the social construction of knowledge." The role of narrative in this learning process is important for distributed and embedded knowledge.

Narrative and Multimedia

Research into interactive multimedia as a resource for instruction and learning has previously pointed to problems in the organization and presentation of the material in relation to the cognitive processes of the students. Researchers from the MENO-project (Multimedia in Education and Narrative Organisation), located at the Open University and University of Sussex, have been investigating the role of narrative in relation to comprehension and learning in interactive multimedia, based on findings that the degree of narrative structure would affect the learners' level of comprehension. They found (Laurillard et al., 1998) that "learners working on interactive media with no clear narrative structure display learning behaviour that is generally unfocused and inconclusive." Based on a hypothesis of narrative as fundamental for learning, they designed an experimental study with three versions of material on a CD-ROM, with different degrees of narrative structure, and tested the different versions in classroom settings. The CD-ROM offered video sequences and a notepad for collecting material as well as questions to guide the exploration. Their conclusions point to the importance of designing interactive multimedia environments (Plowman et al., 1999), "so learners are able to both find narrative coherence and generate it for

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