

**Bringing a social realist approach into computer-supported learning environments:
The Design Studio case study.**

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Bernstein theorizes that pedagogical contexts do not exist only in formal educational settings, but rather in any setting in which there is a reproduction of knowledge. Computer-supported learning (or e-learning) environments are one such site that uses computers as a medium to support teaching and learning. Educational e-learning environments contain learning activities, the content related to a subject matter, and navigational features to guide learners through the content. In such environments, learners will undertake learning activities and learn about a given topic (the content), through their interactions with the system, which are mediated by its design and navigational features. If one accepts that environments can be seen as 'pedagogical contexts' (Bernstein, 2000), containing transmitters (e.g. instructional designers and stakeholders involved in the system) and acquirers (e.g. learners or users) of knowledge, then one must accept that they reflect a particular way in which the pedagogical interaction takes place, or a particular way of communicating knowledge. As such, they are not neutral in terms of the structuring of pedagogic discourse. Yet, instructional designers and the professionals who work to produce the functionality and visual displays of content and learning activities have often ignored this non-neutrality in accepting that the pedagogic interactions are governed by rules of human-computer interaction - they have ignored the role of knowledge. These designers often draw on patterns, principles and processes derived from the design of e-commerce systems to help develop a well-crafted e-learning system (Van Duyne et al., 2003). This view results in an often-neglected aspect of such environments, which is the support for learners in establishing connections between the knowledge of a field and the social context in which this knowledge is produced and reproduced. Current guidelines and standards used by instructional designers do not contain information about how designers should express the language of a field within these environments, or how to incorporate features to help learners understand what is valued as meaningful within a particular field. Existent guidelines either assume that learners already understand the language of a field, that is, its norms and codes, or that students will 'pick it up', or yet that there is none to be learned. Bringing a social realist perspective can add a new dimension to the development of computer-supported learning environments: making explicit to students the ways a particular field valorizes knowledge.

This paper presents a social realist approach to the design of computer-supported learning environments for experiencing the language of a field. The research draws on social realist approaches (Bernstein, 1977; 2000; Maton; 2000; Moore & Maton, 2001) in two complementary stages in order to realize the e-learning environment: an analytical stage to examine the bases for legitimate knowledge within four design disciplines: engineering, architecture, digital media and fashion; and a generative

stage to create the visual, content and interaction design of Design Studio. In the analytical stage, the research applies social realism to explore what is considered legitimate knowledge and practices within the field of design, and how these can be brought into a design learning experience within a museum setting. In the generative stage, the research uses social realism to guide the development of new ways of supporting museum visitors to learn about what is valued within the field while experiencing the processes of designing an object within a museum setting.

The paper discusses the development of Design Studio as a case study to illustrate how theoretical concepts and empirical results from an analytical application of social realism can shape the development of an e-learning environment to support the learning of what is valued within the design field. Two main issues addressed in this research, the use of computer mediated learning environments to support informal learning of design within museums and the form of knowledge learners may be accessing as they learn about design, are addressed in an integrative manner using social realism. The e-learning environment is of value for learners when they are situated within an experience of learning that involves understanding what the bases of the knowledge of a field are and how professionals within the field inquire about its knowledge. Instructional designers may benefit from this approach to e-learning design, in particular those instructional designers who regard theoretical contributions relevant to their work, but struggle to understand how abstract theoretical representations fit contextual design problems (Yanchar and colleagues, 2009).

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