Chapter 2.1
Distributed Learning Environments and Social Software:
In Search for a Framework of Design

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ABSTRACT

This chapter discusses how the construction of an adequate design and intervention framework for distributed learning environments might be approached. It proposes that activity theory has some interesting concepts and perspectives to offer in this regard. In addition, it discusses the concept of affordance, understood as perceived possibilities for action, and its potential consequences for learning environment design. Furthermore, some current technical and conceptual challenges for the implementation and maintenance of distributed learning environments are addressed. The authors consider their text as a proposal for a necessary reorientation and a call for contributions to the search for an adequate design and intervention framework for distributed learning environments.

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INTRODUCTION

In recent years higher-education systems are undergoing a considerable transformation process on various levels. The implementation of leadership-, evaluation- and accreditation schemes that are mainly modelled after entrepreneurial solutions, are fundamentally re-shaping our higher educational institutions. This new regime also influences how communicative and productive practices like teaching, facilitating, and collaborating are technologically mediated. Many educational institutions apply now strategies and policies that aim for the implementation of large-scale, homogeneous, and centrally administered technological landscapes of tools and services to support and manage teaching and studying activities. Thereby they largely ignore that disciplines or areas of study still differ to a considerable degree on how they relate to certain

occupations and professions, the labour market in general, and on what educational traditions they have developed over time Bleiklie (2004). From an observer's point of view, all actors appear primarily as "residents" of such an institutional landscape of pre-selected and decreed sets of tools and services. Everyone is expected to perform all necessary mediated activities within its boundaries.

Apart from general communication systems, content repositories and digital library systems, institutional landscapes of universities are still dominated by Course Management Systems, that are often somewhat misleadingly named Learning Management Systems (LMS). These Course Management Systems are the prototypical technological expression or "flag ships" of the mainstream institutional strive for centralisation and control. Thus, it comes as no surprise that the ongoing development of these all-comprising platforms is driven by a continuous desire for expansion and assimilation of additional features and functionalities. At the same time very few of the Course Management Systems currently in use, provide interfaces for interaction and data exchange with a wider ecology of networked tools and services. The majority of these platforms rather operate as "closed clubs" and try to restrain all activities within their particular boundaries.

All these systems feature an unequal distribution of power and ownership with a clear distinction of roles (such as educational authority vs. participants) producing asymmetric relationships (Wilson *et al.*, 2006). Furthermore, they foster a general educational intervention approach that seems largely based on the rather illusionary expectation that human change processes can, and indeed should be, modelled on the basis of simple cause-and-effect relationships. We would like to argue that the socio-technological practices that are encouraged by the majority of today's Course Management Systems in higher education demonstrate clearly that the majority of instructional design and educational intervention models are still conceptualising humans, or the social systems they form, as "trivial machines" (Foerster, 1999). It seems like decades of multi-disciplinary work on system theory (see e.g. Willke, 2005) constructivist theories of knowing (see e.g. Glasersfeld, 1995), second-order cybernetics (see e.g. Maturana & Varela, 1980), and aspects of self-direction (see e.g. Candy, 1991; Fischer & Scharff, 1998) and self-organisation (see e.g. Harri-Augstein & Thomas, 1991; Jünger, 2004) in education have simply been brushed aside or entirely ignored.

Instead of treating humans as systems of (self) organising complexity that develop particular qualities like operational closure (and thus self-referentiality and highly selective interaction patterns with their environments), technological mediation in higher education and its underlying (instructional) design is mainly based on the idea that human change processes, and the intentional interventions that are supposed to "cause" such changes, can be reduced to simple cause-and-effect relations, simple purpose and goal attribution, and simple sequential temporal patterns (Willke, 2005). Thus, many technologically mediated environments that follow a traditional instructional design approach are fostering almost exclusively the teaching of codified knowledge and skills. Emphasising a clear distinction between educational authorities and students and their respective responsibilities, expert instructional designers and course facilitators are responsible for guiding the participants through a sequence of pre-structured events and interactions with pre-selected materials, towards a set of pre-defined instructional goals (Kerres, 2007). In general this creates rather sheltered and non-challenging environments that offer only a limited amount of prescribed interaction patterns and forms of expression. This predominant institutional approach to technological mediation of teaching and studying appears to be rather incompatible with a variety of contemporary conceptualisations of how human- and social systems evolve and function and what this implies for intervention and intentional change. Apart from this conceptual incompatibility the status quo in