

# E-Learning Concepts in Higher Education

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**Abstract**—The main aim of the symposium is to investigate, at both a theoretical and practical level, the quality and sustainability of a variety of models and key concepts of how communication and collaborative e-learning communities may be successfully developed, implemented and supported in higher education contexts.

**Index Terms**—design of e-Learning, dialogic approach, socio-cultural approach, systems approach

## I. INTRODUCTION

The main aim of this symposium is to investigate, at both a theoretical and practical level, the quality and sustainability of a variety of models and key concepts of how communication and collaborative e-learning communities may be successfully developed, implemented and supported in higher education contexts.

The collaborative issues and problems within which these e-learning communities unfold are often characterised as complex in as far as they require negotiation and communication to uncover (Bang & Dalsgaard, 2008; Brown & Davis, 2004; Conner, 2004). They involve a high degree of reflexivity, and often collaborative (self/peer/tutor) assessment processes are involved. This symposium takes its point of departure in the overall belief that the fundamental principles of teaching and learning in digital environments need to be fully understood in order for e-teaching & e-learning designs and implementations to be characterised by quality and sustainability.

A key concept is student empowerment, were concepts like initiative, contribution, participation, collaboration, responsibility, self-dependence, self-organizing and furthermore competences in handling complexity when action as students is invited to organize own study activities.

The authors have addressed a number of inter-related issues in learning theories, learning designs, implementation and sustainability of e-learning communities and collaborative issues including collaborative dialogue and theories of communication. As researchers and practitioners (i.e. people who are actively involved in design, implementation and delivery of networked e-learning and who carry out critical research within that practice domain) – the authors intend to present three papers based on three critical case studies. The three cases (carried out and researched by each of the authors) describe and illustrate different ways/models of incorporating digital technology in learning designs.

## II. A SCANDINAVIAN APPROACH TO E-TEACHING / E-LEARNING?

### A. *Is there such a thing as A Scandinavian Approach to e-Teaching/e-Learning?*

Approaches to design and facilitation of education appear sensitive to specific pedagogical cultures and educational traditions. Designing teaching and learning mediated across virtual and physical spaces in higher education contexts is no exception to this rule. In the same way it is possible to speak about an instructional approach characteristic for North American Education, we argue that it is also possible to identify a specific Scandinavian approach incorporating what appear to be typical Scandinavian principles in the design of teaching and learning - also when we speak about the manner in which digital technologies are put at work in a learning process.

In North America the pedagogical concept of "cooperative learning" is widely used. This concept share some characteristics and pedagogical techniques with the concept of "collaborative learning" which is more widely used in Scandinavia, but at the same time there is a difference in the degree to which a holistic shared understanding around shared activities needs to be maintained or not (Dillenbourg et al., 1995). "Cooperative Learning" implies distribution of tasks without a necessity for all involved in the work to maintain a holistic overview of the task. In contrast, "collaborative learning" implies the premise that a holistic understanding of the entire task should be maintained by everyone, despite separated tasks (Dillenbourg et al., 1995; Bang & Dalsgaard, 2006).

Applying an analytical meta-perspective on three case studies designed and carried out by the three authors respectively, an attempt is made to identify and extract characteristics from the three cases, which may be said to represent a typical Scandinavian approach to design of teaching and learning mediated across virtual and physical spaces in higher education contexts.

### B. *What is typical in a Scandinavian approach to design of e-learning?*

In North-American courses it is a quite common feature of the pedagogical tradition the role as designer of a teaching/learning process is separated from the role of teaching the same course. Teaching and learning is governed, structured and strongly standardized, and the process of instruction is often a top-down approach. This

supports the tendency to e.g. associate learning with instruction and, thus, to put more emphasis on "design of teaching process" as opposed to staging the learning process and environment" (Fjuk, 1998; Sorensen, 1997 & 1998). This, in turn, puts more focus on the teacher's role as one of "controlling - instruction" - a role with clearly defined pedagogic-didactic (controlling) techniques. In North America, the pedagogical concept of PBL (Problem-Based Learning) is widely recognized.

In a Scandinavian setting the pedagogical tradition does not prescribe a division of roles between educational design and educational delivery. As a result, the course designer and the teacher is usually the same person. In addition, partly as a further consequence of this and a hypersensitivity to authoritarian teaching behavior rooted in the Scandinavian pedagogic tradition, the pedagogical techniques have not been "standardized". The designer/teacher usually makes his/her own "free" decisions and choices regarding pedagogical approach and techniques. Dette gælder også fortolkningen af begrebet "kollaborativ læring".

A central pedagogical foundation for design of (e-)learning in Scandinavia is the POPP (Problem-Oriented Project Pedagogy) approach, which integrates well with the concept of "collaborative learning". Among other things this approach implies that the problem studied cannot be a repetition of an earlier implemented instruction or teaching strategy. Although POPP shares some features with PBL, one important distinction between the two is that while PBL is problem centered, the premise of POPP is that students themselves identify the problem to work with. This has a consequence for the perception of teacher role.

To transcend the cultural, pedagogical and conceptual barriers of tradition is not a simple challenge (Bates, 1995). Nonetheless, even with diverse differences in pedagogic-didactic understanding and approach, new and valuable development may be brought about in the meeting of the two traditions.

### III. SCANDINAVIAN DESIGN TECHNIQUES OF THE THREE CASE STUDIES

The three case studies has three different approaches as their main focus. Nonetheless, all of the three approaches share the aim of wanting to empower students in non-authoritarian ways. The characteristics of the three approaches are:

#### A. Dialogic approach

A sustainable teaching and learning approach for educating citizens an intercultural global society must feature digitally enhanced pedagogic architectures, which rest on at least two empowering pillars: dialogic participation/negotiation and dialogic meta-learning/awareness (Sorensen, 2004, 2008 & 2009; Wegerif, 2006). The request for dialogue in teaching and learning is deeply rooted in especially the Danish pedagogical tradition (Sorensen, 1995). This request for dialogue developed hand in hand with the liberation of the

farmers from the feudal suppressors in the late 18th century. The demand for dialogue in teaching and learning is likely to have been born within a latent aversion against one-way produced written language, as it happened to be the language of the authorities which to a large extent was used as a means of oppression. In other words, from the very beginning of the pedagogical development emphasis was put on teaching and learning through dynamic dialogue (Sorensen & Takle, 2004; Sorensen, 2009).

#### B. Activity approach

The pedagogical approach derived from socio-cultural theory is grounded in problem-oriented and self-governed learning activities. Social relations such as dialogue and collaboration are central to learning in a socio-cultural approach. However, collective activity does not only take place within direct forms of communication as in dialogue and collaboration (as is the case the dialogic approaches). Relations between individuals in collective activity can be of such a sort that the individual is not aware of the activities of other people, although their activities are of importance to the individual (Dalsgaard, 2009).

#### C. Systemic approach

Systems theory with its focus on non-trivial systems challenges the traditional paradigm that teachers can transfer knowledge to students through e.g. lecturing or net-mediated. The metaphor of transfer cannot be used when the focus is on non-trivial systems. We never know the out-come of an input (Mathiasen, 2009).

## IV. CONCLUSION/DISCUSSION

The three symposium papers focus on digital e-learning communities in university contexts. On average, the courses last for between two month up to six month. From a meta-perspective on the case studies introduced in these papers, we present a series of critical perspectives, features and recommendations of the ways in which theory informs design and implementation of e-learning, and how practice helps understanding the theory in an ongoing process. Some of the areas that we, the authors of the three papers, invites for discussion include the themes below:

- Approaches to use of digital media in learning and teaching environments
- Principles for designing learning environments to achieve successful, empowered e-learning communities
- Theoretical discussion of the relationship between collaborative and individual learning

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