

Current Approaches to Network-Based Learning in Scandinavia (Guest Editorial)

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This special issue of *Educational Technology & Society* aims at giving the reader an overview of current Scandinavian research in network-based learning. The base of the articles described in this issue features a selection of the best research papers from the *Netlearning 2006* conference held at the Blekinge Technical University, Sweden in May 2006.

There is a long tradition regarding distance education in Scandinavia. The first form of this type of education was called folk high school (institutions of informal education for adults) and started in 1844 in Rødding, Denmark. The folk high school was created for adult people and most often it was carried out in the form of a boarding school. The main ideas behind the folk high school approach were formulated by N.F.S. Grundtvig (1783–1872); a Danish teacher, philosopher and pastor. Grundtvig's pedagogical ideas were focused on learners' active participation and experimentation during their studies. More than fifty years later, the first correspondence study institute (Hermods) was created in Malmö, Sweden in 1898. The main idea of Hermods was to provide educational materials and feedback to students by mail. The Hermods institute still exists, although the traditional letter-based courses have been replaced by Internet-based materials. The concepts of learners' involvement and active participation inspired by Grundtvig's ideas are still central components in many of the current network-based learning approaches used in Scandinavia. Thus, each of the papers selected for this special issue could be seen as an extension and evolution of these ideas.

The first paper in this collection, entitled "*Design and Use of Collaborative Network Learning Scenarios: The DoCTA Experience*" is by Barbara Wasson. Wasson contributes to knowledge about the pedagogical design of network-based learning scenarios, the technological design of the learning environment to support these scenarios, and the organisational design for management of such environments by taking a sociocultural perspective on learning activity focussing on the interpersonal social interaction in collaborative learning settings. She describes a couple of learning scenarios that took place in the DoCTA (Design and use of Collaborative Telelearning Artefacts) project together with a discussion and reflection based on the lessons learned in these activities. This paper is an outstanding example that illustrates the relationship between the design and use of technology enhanced learning environments and how this is tightly intertwined in the institutional, pedagogical and technological aspects of a learning environment.

Jönsson, Mattheos, Svingby & Attström, in their paper entitled "*Dynamic Assessment and the 'Interactive Examination'*" are interested in assessment and the development of a methodology and technological support to assist in the assessment process. A method for supporting university students to carry out self-assessment and to compare it with the examiner's assessment was developed and used in two different evaluation studies. During the examination, students assessed their own competence and their self-assessment was matched to the judgment of their instructors or to their examination results. Students then received a personal task, which they had to respond to in written text. After submitting their response, the students received a document representing the way an "expert" in the field chose to deal with the same task. They then had to prepare a "comparison document", where they identified differences between their own and the "expert" answer. The results of this study indicate that the *Interactive Examination* might be a valid methodology for evaluating students' self-assessment skills, and thus a potential tool for assisting the development of certain metacognitive skills in higher education.

The context for the results reported by Anders Olofsson in his paper entitled "*Participation in an Educational Online Learning Communities*" is the issue of students' participation in net-based higher education courses. Olofsson claims that the understanding of distance education has moved from being a question about transferring knowledge, towards

a question about learning together in an educational online learning community and he raises the issue of which pedagogical aspects need to be considered in order to support active student participation in these types of learning environments. Using data gathered through semi-structured interviews with 19 trainees on a Swedish network-based teacher training program supported by Information and Communication Technologies, Olofsson shows that what seems to be required from each trainee, in order to be a member of an educational online learning community, is an active participation and an inclusive attitude towards other members within the community. Based on these results, the author calls for a pedagogical approach to network-based learning in which the students being-together is taken as starting point, and where the pedagogical issues are firmly based on an ethical view of people and education.

Svensson & Östlund, in their paper entitled “*Bridging Design Theory and Distance Educational Practice with Techno-Pedagogical Genres*” takes up another Scandinavian strength, namely design. The paper argues that design concepts should be used to bridge the gap between design theories and distance educational practice. It is also argued that genre theory could be instrumental in framing the characteristics of such techno-pedagogical genres in a way that constitutes a powerful level of communicating and disseminating new ideas within and across educational communities. The framework for techno-pedagogical genres is presented together with three illustrating examples.

Mikael Wiberg elaborates the concept of *learning through networks* in his paper entitled “*Netlearning and Learning through Networks*”. This paper is inspired by recent research into the interaction society and the Scandinavian tradition in system development that have always highlighted the importance of user-driven processes, users as creative social individuals and a perspective on users as creative contributors to both the form, and content of new interaction technologies. Wiberg proposes the concept of *netlearning* as a general label for the traditional use of computer-based learning environments as education tools and then, he suggests the concept of *learning through networks* as a challenging concept for addressing user-driven technologies that support social, collaborative and creative learning processes in, via, or outside typical educational settings.

Milrad and Spikol present their efforts in supporting learning using mobile phones in their paper entitled “*Anytime, Anywhere Learning Supported by Smart Phones: Experiences and Results from the MUSIS project*”. This paper presents the results of two pilot studies exploring the use of mobile phones in educational settings and the design of mobile services to support learning and collaboration in university courses. The results and discussion regarding the outcome of these trials are presented together with an explanation of how students experienced the mobile services. Issues and problems are discussed with regard to the technology and its use. The authors emphasize the importance of usability, institutional support, and tailored educational content in order to increase the potential for successful implementation of mobile services in higher education.

To conclude, Järvelä, Näykki, Laru & Luokkanen present their efforts exploring the possibilities to scaffold collaborative learning in higher education with wireless networks and mobile tools in their paper entitled “*Structuring and Regulating Collaborative Learning in Higher Education with Wireless Networks and Mobile Tools*”. The authors investigate how pedagogical ideas that are grounded on concepts of collaborative learning, including the socially shared origin of cognition, can be supported using mobile phones. Three design experiments are presented investigating novel ways to structure and regulate individual and collaborative learning supported by smartphones. Based on the results illustrated in this paper, the authors conclude that there is a need to place students in various situations in which they can engage in effortful interactions in order to build a shared understanding. Wireless networks and mobile tools can provide multiple opportunities for bridging different contents and contexts, as well as virtual and face-to-face learning interactions in higher education.

Having in mind the current stage in development, implementation and assessment of different network-based learning approaches, the papers in this special issue provide an illustration of current Scandinavian research efforts in this direction. There may be contrasts and similarities between the papers – but this was our intention from the start: to open up the discussion about networked-based learning and to look at it from different perspectives. The research results presented here provide the chance to look at them beyond the detail of particular studies and consider broader, more fundamental questions. With our capacity, as Guest Editors of this special issue, we hope that readers of ET&S will value the content and results presented in the different contributions featured in this special issue.