

The moving border of tacit and explicit knowledge in e-Learning: Use and production of information and knowledge in technical university education, case study

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ABSTRACT

In this paper, the electronic information and knowledge created within a context of a course is approached by analysing two case study courses. The Finnish context of the university education is first outlined briefly. Approaches to learning resources are reusability and course components. The two case studies are a series of courses of energy engineering and environmental protection, and a programming course. The courses were developed in different department cultural context and circumstances, which are described. When the focus of course material creation is on methods, the reusable material might be related to resources meant to help the student.

INTRODUCTION

One of the often-mentioned benefits of e-Learning is the externalisation of the content and process of the courses, which can support reuse of material across courses. Yet most of the course management systems financially available for higher education organisations do not support ideas of knowledge transfer or learning organisation and content remains blocked to one course.

Libraries, information services and commercial organisations provide access to electronic materials. However, these possibilities do not seem to be widely used in higher education. There may be several reasons for this: complicated procedures of intellectual property rights, attitudinal and cultural barriers and even teachers' inadequate skills in searching the electronic information and knowledge. One fundamental reason might be that strict externalisation is not regarded as fruitful in knowledge transfer, or that the externalisation effort considered huge compared to the short lifetime of the information and knowledge. Also the available technology in the organisation may be hard to use or may not support the ideas of the teacher.

The OECD report on Knowledge Management in the Learning Society (2000, 12) claims that we have not yet reached a stage where we can systematically apply knowledge to the production of knowledge. Although higher education knowledge is highly codified, there is much tacit knowledge in teachers' know-how (Ibid 31).

Do we really know what is happening in grass-roots level of ICT enhanced higher education? What kind of information and knowledge is available for the whole community of a course, which includes instructors and students? What kind of information and knowledge is produced by the instructors and is there any knowledge used as a resource, created by the student? What kind of external resources are used? What is the potential reusability of the information and knowledge produced for the course? These are the main questions of this paper.

In the following, the national context of the university education is first outlined briefly, before going to the approaches to learning resources. The method of case study is then introduced and the cases described briefly. Finally, the first results of the study are presented and discussed.

CONTEXT: NETWORK-BASED EDUCATION AS A GOAL FOR UNIVERSITY SECTOR IN FINLAND

The Finnish 'Development plan for education and university research for the period 1999-2004' states the following about university education: