

## RECENT DISSERTATIONS

### VAIKE FORS, 2006:

*The Missing Link in Learning in Science Centres*

Department of Educational Sciences, Luleå University of Technology, Sweden

Doctoral thesis no. 2006:07

#### Abstract

Science centres have been identified as an important resource in encouraging teenagers to choose higher education in science and technology. Still, there is an international trend where teenagers fail to visit science centres.

Many studies of learning in science centres have come to focus on visitors who visit voluntarily and how well the embedded messages in the exhibits have been acknowledged by these visitors. This study focuses instead on teenagers who are reluctant to participate in science centres, with their perspective of science centres as the point of departure, specifically what kind of social activities are formed in their encounters with science centre exhibits. This encounter is regarded as an encounter between the two different practices of the science centre and the teenagers. The applied theoretical perspective is mainly assembled from socio-cultural theories of learning.

This research is a microanalytic study of five teenagers who were equipped with video cameras and asked to film a visit to the local science centre, Teknikens Hus. The films were later discussed in a focus-group interview consisting of the teenagers and the researcher. Visual ethnography provided the theoretical framework for this research design.

The results showed that the teenagers want to use exhibits to have the authority of interpretations and the possibilities to contribute to the meaning of the activity. At the same time, they want to use the exhibits in a way that the activities become places for developing social identity. To negotiate the meaning of the exhibits there is a need for an openness that may be constrained by too inflexible and limiting exhibit designs. Providing a space for negotiation seems crucial to inviting teenagers into opportunities of meaningful experiences, even more significant than any specific physical feature in the exhibit.

The teenagers' agenda, in which forming practices where they can express themselves and contribute to the meaning seem to be very important, appears not to be greatly enabled by science centre exhibits. In this situation they learn *to not* participate. Science and technology represented in this matter show a 'ready-made' world that they cannot change. The missing link in learning in science centres is here described as the part of the meaning making process where the teenagers get to re-negotiate the meaning of the activities in the centre and use the exhibits as tools to accomplish this.

Language: English  
ISSN: 1402-1544  
Contact: [vaike.fors@ltu.se](mailto:vaike.fors@ltu.se)  
Download: <http://epubl.ltu.se/1402-1544/2006/07/LTU-DT-0607-SE.pdf>

## RECENT DISSERTATIONS

### PETTER ÅKERBLOM, 2005:

*Lära av trädgård. Pedagogiska, historiska och kommunikativa förutsättningar för skolträdgårdsverksamhet*  
(*Learning by gardening. Educational, historical and Communicative Conditions for School Gardens*)

Department of Landscape Planning Alnarp, University of Agricultural Sciences, Sweden  
Doctoral Thesis No. 2005:77. Uppsala: Acta Universitatis Agriculturae Sueciae

### Abstract

The thesis discusses three separate studies regarding understanding for the greening of school grounds, with special attention paid to the impact and importance of school gardening in relation to more traditional work in school. The research work is dominated by qualitative methods and the data collected from totally fourteen infant and junior schools (thirteen Swedish schools and one British).

The tradition of school gardening in Sweden dates back to the establishment of elementary schools in the early nineteenth century. The school garden can be seen as both a historically rooted and action-orientated instrument for school teaching which has always been regarded as a pleasure for the eye and soul. From having once filled a function of food supply today's school gardening is regarded primarily as a sensuous experience that can be used as an educational tool in different socio-cultural learning situations about for example nature's ecocycle, environmental issues and sustainable development. The aim of the school garden has thus shifted from being an end to a means.

The empirical findings from an interview investigation on school gardening in modern-day Sweden in our time call attention to teachers' experienced lack of support for greening competencies. This was a main reason behind the idea to test collaborative learning as a tool for answering the teachers' demands. A process-orientated case study in two Swedish cities, based on future workshops as a platform for local capacity building, was arranged.

The case study was carried through in interaction between stakeholders in the in-school context and stakeholders from outside the local school, such as school ground planners and school ground administrators.

The empirical findings indicate that using the future workshop as a research method is a way to involve the stakeholders as subjects in the production of new knowledge. This means a collaborative production of both articulated and tacit knowledge that can result in new approaches to school ground management and to the use of the school ground. The thesis indicates that new approaches could help a school make its outdoor environment more suitable for educational purposes, including gardening.

Language: Swedish / English  
ISBN: 91-576-6976-7, ISSN: 1652-6880  
Contact: petter.akerblom@sol.slu.se  
Download: <http://diss-epsilon.slu.se/archive/00000935>

## RECENT DISSERTATIONS

BERGLUND, ANDERS, 2005:

*Learning computer systems in a distributed project course: The what, why, how and where.*

Department of Information Technology, Uppsala University, Sweden

Uppsala Dissertations from the Faculty of Science and Technology, 62. Uppsala, Sweden: Acta Universitatis Upsaliensis

### Abstract

Senior university students taking an internationally distributed project course in computer systems find themselves in a complex learning situation. To understand how they experience computer systems and act in their learning situation, the what, the why, the how and the where of their learning have been studied from the students' perspective. The what aspect concerns the students' understanding of concepts within computer systems: network protocols. The why aspect concerns the students' objectives to learn computer systems. The how aspect concerns how the students go about learning. The where aspect concerns the students' experience of their learning environment. These metaphorical entities are then synthesised to form a whole.

The emphasis on the students' experience of their learning motivates a phenomenographic research approach as the core of a study that is extended with elements of activity theory. The methodological framework that is developed from these research approaches enables the researcher to retain focus on learning, and specifically the learning of computer systems, throughout.

By applying the framework, the complexity in the learning is unpacked and conclusions are drawn on the students' learning of computer systems. The results are structural, qualitative, and empirically derived from interview data. They depict the students' experience of their learning of computer systems in their experienced learning situation and highlight factors that facilitate learning.

The results comprise sets of qualitatively different categories that describe how the students relate to their learning in their experienced learning environment. The sets of categories, grouped after the four components (what, why, how and where), are synthesised to describe the whole of the students' experience of learning computer systems.

This study advances the discussion about learning computer systems and demonstrates how theoretically anchored research contributes to teaching and learning in the field. Its multi-faceted, multi-disciplinary character invites further debate, and thus, advances the field.

Language: English with summary in Swedish  
ISBN: 91-554-6187-5  
Contact: Anders.Berglund@it.uu.se  
Download: <http://publications.uu.se/abstract.xsql?dbid=5754>