RECENT DISSERTATIONS

GUNILLA GUNNARSSON, 2008:

Interactions in Laboratory Classroom Activities – A study of what meaning making can be afforded to students in their 7th year at school in encounters with laboratory activity instructions, artefacts and language within Elementary Electricity, and of teachers' didaktik action patterns in such encounters.

Department of Social and Welfare Studies, Linköping University, Norrköping, Sweden. Studies in Science and Technology Education, 24, Linköping University.

Abstract

This thesis studies students' encounters with school science language games within the framework of laboratory classroom activities in elementary electricity. The aim is to describe ongoing interaction activities and instructions as well as student focusing in relation to the teacher's aims, and to elucidate the interactions appearing in students' encounters with new artefacts and new language usage. The aim is also to describe the way the teacher can assist the students in their learning process during these encounters.

Three student groups from the Swedish comprehensive school year 7 and their teachers have been studied by observation *in situ*. Data has been gathered via field notes and video recordings made during approximately three weeks per group. One of the teachers was interviewed about the aims of the laboratory sessions.

The result shows that the aim of the laboratory sessions as expressed by the teacher in the interview – what the students were expected to learn from the laboratory sessions – remained implicit to the students. Explicit to them, were, however, the descriptions in the laboratory instructions – the *doing* that was supposed to take place. The lab instructions can be viewed as interaction affordances by which the students act, which gives the instruction a great impact on what students focus on and actually learn. The artefacts, as participants in the activity, offer several different interaction affordances, depending both on their design and on students' earlier experiences. This means that the interaction with artefacts creates learning differences for different students in different situations. The method for analyzing classroom interactions is also further developed. The encounter with scientific language usage and everyday language often leads to so-called *language game clashes*, the result of which may be that *distracting gaps* (problems/questions) in the communication are noticed (they distract students in their continued learning). Terms that are known to students in the everyday language game but which obtain another meaning in the new scientific language game may, since the discrepancy is unclear to the student, be viewed as *gaps unnoticed so far*. The action pattern as an expression of the teacher's *didaktik finger-tip sensitivity* as part of the teacher's PCK or PCxK is described. Teacher aid may either be described as *indirect*, when the teacher helps students to notice problems, *desirable gaps* in the situation, or as *direct*, when the teacher helps students to solve the problems they have noticed, to fill the gap with relevant relations.

Language: Swedish with summary in English

ISBN: 978-91-7393-791-7

Contact: gunilla.gunnarsson@hik.se

Download: <http://liu.diva-portal.org/smash/record.jsf?pid=diva2:25545>