



UMEÅ UNIVERSITET

FRÖKEN ÄR LIK SIN FRÖKEN

**Om vad som påverkar lärares
didaktiska vägval och formar NO-
undervisningen på mellanstadiet.**

Lina Varg

Akademisk avhandling

som med vederbörligt tillstånd av Rektor vid Umeå universitet för avläggande av filosofie doktorsexamen framläggs till offentligt försvar i KBE301 – Lilla hörsalen, KBC-huset, fredagen den 17 maj, kl. 10:00.

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Title

The teacher resembles her teacher. About what influences teachers' didactic choices and shapes science teaching in upper primary school.

Abstract

This thesis is about the pedagogical considerations and decisions that upper primary school teachers (students age 10-12) engage with as they plan and conduct teaching in science class. It is also about the factors that have an impact on these considerations and decisions. Science education in upper primary school has been neglected in Sweden and internationally, in both research and development efforts. These years are important because children of upper primary school age are often interested in science, yet they are challenged by for example the presence of more abstract concepts in grade 4 which might negatively affect their science interest. Sociocultural perspectives, curriculum theory, and science didactics are the theoretical points of departure and have guided the planning and implementation of my research as well as the analytical process. By conducting three qualitative studies, consisting of interviews, classroom observations, document reviews, and a practice-based research and development project, I gathered useful and diverse empirical data to enable exploration of current upper primary school science education. 14 teachers were interviewed, an intrinsic case study of one grade six science class' work on a whole topic (seven weeks) was conducted, and curriculum and planning documents from one teacher were gathered. In addition four science teachers from different grade levels (4-6 and 7-9) were invited and participated in pedagogical discussions to contribute knowledge about teachers' collaboration around didactical questions related to continuity in science education. I used qualitative thematic and content analysis to analyze the empirical material from the three studies. The results shows that upper primary school teachers place a lot of effort and time into planning and conducting a varied science instruction. They also express and show a great deal of care for and encouragement of their students in science class. In terms of factors that have an impact on the pedagogical considerations and decisions of teachers in upper primary school science, all three studies shared the main results. The following aspects were prominent in terms of the teachers' views and actions: the view of science as a set of static and irrefutable facts, a high regard for the factual content of science curriculum, and varied views of the purpose of practical work in science education. In comparison with previous research the findings presented in this thesis suggest that teaching practices in upper primary school often are in line with an academic tradition and a view of science as authoritative. Further, the finding that many of the participating teachers often refer to the extensive core content found in science curriculum and emphasize the pressure that this places on them, implies that the purpose of qualification is predominant in their view of the purpose of science education.

Keywords

science education, primary school, elementary school, curriculum, dialogue, co-construction, novel science story, transition, community of practice

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