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Taste for Science: How can teaching make a difference for students' interest in science?

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Doctoral Thesis from the Department of Mathematics and Science Education 9

Abstract

The objective of the thesis is to describe and analyse aspects of home background and teaching that may be important for students' capability and will to participate in science. The purpose is to make explicit how teaching can support students in developing an interest in science and so counter-balance the restricted opportunities some students may have due to upbringing. In study 1 population data is used to make evident what associations there are between home background variables and the students' choice of applying for the Swedish post-compulsory Natural Science Programme (NSP). The findings show that home background is important for Swedish students' choice of the NSP but also that some lower secondary schools can make a difference. Students' interest in science has usually been examined through questionnaires and rarely studied as constituted in classroom action as a result of teaching. In study 2 therefore an action-oriented methodology is developed based on the concept of taste to study what difference a teacher can make for the constitution of interest in the science classroom. The concept of taste is grounded in pragmatism and the works of Pierre Bourdieu and acknowledges the affective, normative, and cognitive dimensions of situated science learning. In study 3 this methodology is used to examine how a teacher located through Study 1 supports his students in developing an interest in science. The results of study 3 suggest how teaching can make the object of science the focus of students' interest and so showing that science, with its aims, norms, and values, can be enjoyed in itself. Study 4 draws on the findings of studies 1–3 to discuss the possibility of an overlooked field in studying interest in science; namely whether primary, secondary, tertiary students in effect have different objects of interest. The findings of studies 1–4 are used to discuss how teaching may make a difference to a continued student interest in science.

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