

types of expert teachers – showing considerable plasticity in moving between types through their lessons.

Relevance for Nordic Educational research: In the paper we explore commonalities and differences emerging from the two national contexts discussing the role of consistency and plasticity in a priori or a posteriori definitions of expertise. Thus, the paper presents a design for identifying and analyzing teacher expertise set between policy and practice, but at the same time mediated by national educational cultures.

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Decision makers of tomorrow - Children's views and knowledge concerning solutions for a sustainable future

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Learning in environment and sustainable development are in Sweden obligatory perspectives as well as in many other countries and a valuable subject for all decision makers today and tomorrow. This longitudinal study concerns 28 pupils nine years of age to eleven years old in a city in southern Sweden.

In order to analyse the pupils' development of concepts in environment for sustainable development and their daily life, I have videotaped sequences from the science lessons and followed up with questionnaires and questions in interviews. The results are analysed according to the Earth System Science (ESS) model.

It is a model and framework which describes the relations and interactions between the natural spheres: the atmosphere, hydrosphere, lithosphere as well as the biosphere, including man, and the technosphere. The theories are well known in scientific literature (Andersson, 2008; Sjöberg, 2005).

The longitudinal approach resulted in important findings regarding the changes in the pupils' answers over time. The concepts found among the pupils in this study are e.g. the hydrological cycle; life; soil; water in every day life; pollution; non-polluting busses as well as waste; collecting batteries; corrosion; greenhouse and the increasing greenhouse effect.

The research shows a transition from scientific concepts to knowledge, valuable for everybody's daily life as citizens.

You have to be aware of the human impact in all ecological systems, in detail as well as in its entirety, due to the increasing population and change of lifestyle. Some pupils can see the connection between the increasing green house effect and pollution from cars. Others can see relations between increasing temperature and melting poles. They see problems for people to live in places with coastal areas when e.g. the sea will get higher. They can argue about possibilities to change lifestyle in different ways, which reduce disturbances in the natural spheres. As an example the pupils discuss vehicles with less pollution. This is an interesting exercise in decision making already among young children. They can find out possibilities to use rape oil and biogas instead of gasoline, in order to reduce pollution and carbon dioxide (Alerby, 2000; Hill, 1999). They start using scientific and technological concepts and try to see environmental applications (Skamp et al., 2004). When teaching in the obligatory perspectives environment and sustainable development one has to accept the differences between learning science with scientifically already established concepts versus learning in environment for sustainable development with environmental daily used concepts (Schreiner et al., 2005). Of

specific interest, in our society as well as in school, is the development of modern ecological engineering and design in order to make technology adapted to nature in different ways (Hill, 1998, 1999). The present study can serve as a guide for the teacher education and further training concerning these questions at all levels in the Swedish School Education System as well as in other Nordic countries.

The research gives examples how to develop models illustrating both macro and micro level in learning. The results show the importance and successfulness of a scientific perspective as a starting point for theoretical and practical aims. The knowledge in constructing and developing attitudes and lines of action in environmental and existential questions are very important today and in the society of tomorrow.

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Symposium title: Active citizenship for whom? On democratic education in the upper secondary school

The symposia reports from a Swedish national project that aims at exploring democratic education in upper secondary school by studying the content and organisation of teaching and learning, as well as students' attempts to influence and pursue issues of citizenship and democracy in school. The project builds on theories and previous research that calls attention to gender and class relations as central to democratic education albeit in seemingly contradictory ways. For instance, citizenship and democracy are on the one hand largely conceptualised and reproduced as male in school, thus affording more space to male actors. On the other hand, female students appear to more readily pursue democratic issues in the school context. Also, there are obvious variations in the positioning of gendered identities with respect to class background and educational context.

Building on this, the project set out to explore teaching and student initiatives in upper secondary programmes which differ with respect to students' background and gender as well as their likely future occupations and positions. In all, the fieldwork included six educational settings; two classes in traditionally theoretical programmes (the National science programme and the Social science programme), two classes in vocational programmes (the Child and recreation programme and the Vehicle programme) and two groups in the individual programme (for young people who for various reasons do not attend a national programme).

The first paper (by Dennis Beach, Lisbeth Lundahl & Elisabet Öhrn) maps out central concepts, discussions and results in the research area and provides a background to the following three presentations of the empirical results. In the second paper Carina Hjelmér