

# WAYS OF USING 'EVERYDAY LIFE' IN THE SCIENCE CLASSROOM

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## ABSTRACT

Connecting science to students' everyday life experiences is an important theme in science education discourse. The aim of this article is to explore in what ways 'everyday life' is used in the science classroom and what problems are solved through the use of 'everyday life'. The research approach is ethnographic. Data was gathered through participant observation during one semester, in two Swedish science classes. Results show that 'everyday life' is brought into the classroom and made into school tasks within different types of activities; enculturation into science, education of scientifically literate citizens and making science interesting. The results underscore the importance of understanding the use of 'everyday life' in science classrooms as embedded in science classroom practice.

## 1. INTRODUCTION

A washing machine can illustrate dispersion by centrifugal force; clothes show how to distinguish natural and synthetic fibres; plastics aid the study of oil derivatives; lemon juice and red cabbage bring acids to life, while television helps explain how electromagnetic waves work. (López 2000, p. 13)

The quote above is an illustrative example of a common view that things from everyday life could and should be used to illustrate different scientific principles in science education. Linking science to everyday life has been an important theme in science education discourse among both researchers and practicing teachers. The most frequent argument today is that it is a way to make science relevant (Campbell & Lubben, 2000). The use of everyday life is argued to be an important pedagogical tool for motivating students. In some discussions on scientific literacy, it is also proclaimed to be a way of educating scientifically literate citizens (e.g. Campbell & Lubben, 2000; Giachardi, 1994; Harlen, 2002). But what does it mean to use everyday life in the science classroom? In what ways is everyday life used? What everyday life are we talking about?

In a constructivist perspective analyzing everyday life problems has been seen as a matter of understanding concepts well. Andersson (2001) writes that the meanings of scientific concepts are deepened if they are applied to everyday phenomena and that solving everyday life problems scientifically is a way to challenge students'

everyday conceptions. Aikenhead and Cobern (Aikenhead, 1996; Cobern & Aikenhead, 1998) have a somewhat different approach to everyday life and science. They describe science and everyday life as different cultural milieus with different languages, values, and norms. They write about students' experiences in science education in terms of border-crossing experiences. Students are described as crossing cultural borders of everyday subcultures, such as home culture and/or youth culture to the cultures of school, science education, and science. The cultural border-crossing is argued to be an important aspect of learning science. Szybek (1999) makes a similar phenomenological description. He writes about the interaction between different stages of events in biology education and argues that the interaction between a stage of everyday non-scientific life and a stage of science results in a stage of school science. Szybek (2002) writes that the aim of science education is to translate everyday problems to scientific problems so they can be solved using scientific techniques and ways of reasoning.

Learning is an aspect of collective activities that cannot be separated from our participation in daily practices (Lave, 1993; Roth, 1998). Science is dealt with in science education, and expectations on and views of science are part of the cultures constituted in the science classroom. Through participation in daily activities in the science classroom, students are *enculturated* into particular ways of acting (Driver *et al.*, 1994; Wolcott, 1994): ways of knowing (Crawford, Kelly & Brown, 2000), ways of talking science (Jewitt & Scott, 2002; Lemke, 2001; Ogborn *et al.*, 1996), experimenting (Beach, 1999; Bergquist & Säljö, 1994; Delamont, Benyon & Atkinson, 1988), writing science (Knain, 2003), and so on. The act of referring to something talked about as 'everyday life' is another such way of acting that students learn through participation in science classroom practice.

Linking science to something called 'everyday life' is part of the daily practice of science classrooms. In science education discourse, 'everyday life' does not refer to the activities in which we daily engage in school. 'Everyday life' in the science classroom is, rather, something *outside* of the classroom. Science is to be related to someone's 'everyday life' in the 'real world', i.e. a world that is *not* school. Even if it is not presupposed whose 'everyday life' it is, it is presupposed that it is not the everyday life of the science classroom. In science education discourse 'everyday life' is *brought into* the science classroom, *by someone from somewhere else*; it could be by a teacher, a student, or a piece of text. Wanting to bring something into the classroom, which is not necessarily there, is a common objective for those advocating the use of 'everyday life' in science education. 'Everyday life' is, as well as 'science', brought into the science classroom and dealt with in certain ways in certain activities for certain purposes.

The aim of this study is to explore ways of using 'everyday life' in the science classroom. The research questions addressed are: In what different ways is 'everyday life' used in the science classroom, when brought into the classroom by a teacher, a student, or a piece of text? What problems are solved using 'everyday life', and what are the objectives for solving those problems? What different norms and values are constituted through the use of 'everyday life'? And, finally, how can the concepts of border-crossing and translation help us make the ways of using 'everyday life' comprehensible?