

SP - (16048) - STUDENTS REASONING ABOUT SOCIOSCIENTIFIC ISSUES IN SWEDISH NATIONAL SCIENCE TESTS

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Short Abstract

Since the national science tests for grade 9 (age 15-16) in Swedish Compulsory schools were obligated 2010, there has been validity and reliability discussions concerning the dilemma of having essay items in the tests. In the test reports from 2013 onwards, teachers express concerns to assess the essay items, arguing that students only show that they are "good coders" and general arguers instead of showing scientific knowledge and skills. The goals of the science curriculum do however state that science knowledge should include the ability to participate in discussions in ways where science, technology and society interrelate, e.g. decision-making in socioscientific issues (SSI). Therefore, these skills are also important to assess. With this study, we aim to increase the knowledge about what perspectives students use in their supporting reasoning in Swedish national science tests. This was done using the SEE-SEP model covering three aspects (knowledge, value, and personal experiences) and six subject areas (sociology/culture, economy, environment/ecology, science, ethics/morality, and policy) (Chang Rundgren, & Rundgren, 2010), and a test item where students choose and argue for their choice of material for a chocolate box. The choices are plastic, paper or aluminium. Results show that students can use multiple perspectives of scientific knowledge when they make decisions and SSI argumentation, and this can be tracked in their written answers. The core of students reasoning was based on knowledge and values in the subject areas sociology/culture, environment and science. We discuss possibilities to, instead of avoiding these essay items, learn more about how to assess them.