

8 - Scientific Literacy and Socio-scientific Issues | Empirical

SP - (16470) - CHALLENGES IN TEACHING FOR AND LEARNING OF ACTION COMPETENCE IN ANTIMICROBIAL EDUCATION

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Short Abstract

A challenge for teachers in Swedish schools is to invite students to a, for them relevant activity, dealing with complex and emerging issues on sustainability, issues without any given answers. In this paper we present findings from a project that aims to gain knowledge about how teaching in science can support the development of students' competence to act and knowledge about antimicrobial resistance (AMR). We explore how didactic models can be used and how teaching sequences can be modeled. Teaching about AMR, framed as a socio-scientific issue, implies that there is a need for consideration about how to enable students to make decisions based on different perspectives such as ethical, social, ecological, medical, technical or economic interests. The empirical material consists of a teaching sequence of 4 lessons, working with the content of AMR. The sequence is planned, performed and developed in cycles, with a focus on developing tasks construed as dilemmas, and forming a foundation for developing didactic models. Two biology teachers in lower secondary school in Sweden take part in the project, in collaboration with researchers. The video and audio recorded science teaching is performed in grade 7 and 8. In the study didactic models are used to support teaching in developing students' content knowledge on AMR as well as students' competence to make decisions based on subject knowledge as well as on values and different priorities. To make visible different aspects students discern in discussions, practical epistemological analysis was used. The results show that authentic issues on AMR, dealing with the complexity of different aspects and conflicts of interests, support students' meaning making and some will to share the new knowledge with others and to take action. The produced teaching sequences is offering teacher opportunities to reflect on and to develop teaching with support from didactic models.