

HÖGSKOLAN VÄST

Teaching with social robots

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Abstract

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The school's digitalization is an ongoing process that brings new didactic opportunities, but also challenges. Social educational robots entail a complex teaching situation and affect the teacher's role, actions, and responsibilities in the classroom. Through observations in an authentic classroom context, this thesis aims to provide a nuanced and realistic picture of how teaching with social robots can unfold. Social educational robots have previously been explored in different educational contexts, but few studies shed light on the teacher role. Nor is it discussed what new aspects of digital competence become important when teaching with educational technologies that exhibit social behaviour. This thesis studies teacher actions and intended actions in a learning activity where a child collaborates with a social educational robot. In the activity, the robot is designed to act as a learning companion (tutee), the child acts as a teacher (tutor), and sometimes a few peers participate. The study is based on video observations of teachers' dialogues and behaviours in this learning activity, and a total of 25 hours of recorded video material has been analysed. The observations are supplemented with interviews, workshops, and questionnaires, where more teachers reflect on teaching with social robots.

The result shows that social educational robots may contribute to relevant learning situations but also introduce new teacher roles, bringing additional challenges. The teacher's most prominent role in this learning activity is as an interaction mentor, in which the teacher assists the verbal and non-verbal interaction between the child and the robot, such as verbal communication fluency, explaining the robot's behaviour to the child, and maintaining attention. The result also identifies challenges that may emerge if social educational robots are used for teaching and learning. One of these challenges is due to the teacher relating to the robot as a didactic tool as well as a social actor, interchangeably. This duality causes conflicts in the teacher's actions, as the two perspectives call for different behaviours. The thesis also shows that using social educational robots entails new demands for adequate digital competence.