

# Conditions for Technology Enhanced Learning and Educational Change

A case study of a 1:1 initiative

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**Abstract**

The uptake and use of digital technologies continues to increase in schools throughout the world. In many schools the uptake and use of digital technologies takes place in One-to-One (1:1) initiatives in which teachers and students have their own laptops. In this thesis the uptake and use of digital technologies is studied from the student, teacher and school leader perspectives in order to through this gain knowledge regarding the conditions for Technology Enhanced Learning (TEL) and educational change in K-12 schools. In the Unos Umeå research project the uptake and use of digital technologies in two schools, an upper secondary school and a compulsory school, was studied. A research design involving a case study approach (Yin, 2003, 2009) was used to study a 1:1 initiative. The methods of data collection were surveys, interviews and classroom observations. To explore, identify and describe conditions for TEL and educational change the data collected were used to map the initial expectations regarding the uptake and use of digital technologies from the start of the initiative as well as to follow the development of teaching and learning activities related to the uptake and use of digital technologies in the 1:1 classroom over a period of two years. The Ecology of Resources Model (Luckin, 2010) was used as a theoretical framework including the use of the concept of filters. Regarding the conditions for TEL, the results show that the uptake and use of digital technologies provides possibilities for new forms of teaching and learning in the 1:1 classroom. Students reported increased motivation, engagement and variation in schoolwork. Teachers described new forms of teaching as well as possibilities for collaboration, sharing of materials and continued professional development. For school leaders possibilities were found in collaboration, administrative support and follow-up of students and teachers, creating a unified vision of the work with digital technologies, and collaboration and sharing within the schools as an ecology of resources. The challenges seen from the student, teacher and school leader perspectives were related to use, technical support and optionality. If the possibilities are to be achieved, there is a need for continued professional development for teachers and school leaders. Further, clear directives through policy will be of importance. In the short term, the practical implications of the uptake and use of digital technologies, specifically in 1:1 initiatives, seem to be strongly connected to sustainability in schools. In the long term, if sustainable conditions for TEL and educational change in the 1:1 classroom can be created and upheld, the practical implications may for example be teachers' improved skills to integrate a thought-through student use of laptops in their teaching practices and an increase in equality of digital competence between students, between schools and between classrooms in the same school.

**Keywords:** digital technologies, ICT, laptops, one-to-one, school development, school leaders, students, teachers, teacher professional development, TEL

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