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ABSTRACT

Samuelsson, J. 2003. Nytt, på nytt sätt? En studie över datorn som förändringsagent av matematikundervisningens villkor, metoder och resultat i skolår 7-9. (New, in a New way? A study of the computer as an agent of change of conditions, methods and results in mathematics teaching in grades 7-9.) Written in Swedish with an English summary, 248 pp, ISBN 91-89444-15-9.

There are several documents that indicate that computers will change the conditions for mathematics teaching. In this dissertation the author discusses how the computer as a change-agent will influence the conditions, methods and results in mathematics teaching. To that purpose he constructs inspired by activity theory a model of analyses focusing on the relations between these three components. The empirical material is collected through interviews with eighteen teachers in lower secondary school. The author has also participated in all computer-aided lessons given by two teachers during one year. That means 700 possible computeraided lessons.

Teaching of mathematics seems to have such a strong tradition that the computer as a change-agent is relatively weak. The fact is that the computer is assimilated into an old tradition of methods and contents. A great deal of the computer-aided lessons give attention to drilling pupils with different types of drill-program where they can learn mathematical procedures. In some lessons laborative work is pursued with the intention that the pupils should learn mathematical concepts. An important condition for this type of work is the speed of the computer, a condition which contributes to teachers drawing attention to many different forms of mathematical knowledge.

Keywords: Mathematics education, teaching, lower secondary school, ICT.

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