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SP - (16649) - DOES LEARNING TO CODE INFLUENCE SCIENCE LEARNING IN HIGH SCHOOL? RESULTS FROM A LONGITUDINAL STUDY

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Short Abstract

Learning how to code is increasingly popular among young people: more and more education systems are adding programming to their school curriculum. One of the main arguments in favor of learning programming is the acquisition and development of computational thinking. Several authors argue that this type of thinking would indeed offer many advantages for the learner in terms of problem solving and collaborative interactions, not only in computer science, but also in other school disciplines. However, to date, very little empirical research has been conducted to confirm this promising idea. This talk will present the results of a longitudinal study investigating the effects of a programming high school curriculum on science learning. Academic performance in science of high school students (N=400) enrolled in different curricula (coding, sports, dance, music and second language) was compared for 5 consecutive years. A repeated measures ANCOVA will allow us to determine the respective effect of each curriculum on science performance (end-of-year grades) for each school year. First results will be presented at this conference. Educational implications for the development of school curricula and for science teaching will be discussed in line with the results obtained, as well as research limits and futures avenues of research on the effects of learning programming for science education.