Computational/algorithmic thinking in the school mathematics

Djordje Kadijevich
Institute for Educational Research
djkadijevic@ipi.ac.rs

Abstract

Due to the globalization and internationalization of the mathematics curriculum, there is, for example, a rapidly developing interest in including computational/algorithmic thinking in mathematics education. By focusing on this thinking, this lecture comprises two parts. In the first part I summarize what computational/algorithmic thinking is, discuss recent research outcomes regarding it, and examine a place for this thinking in school mathematics, with an emphasis on recent international trends and emerging implications for mathematics education. In the second part I present a way to cultivate computational thinking in a mathematical context through data practice based upon the use of interactive displays, which, embedded in another context, could contribute the learning of statistics or computer science (informatics), for example. The content of the first part is based upon a joint research with Dr Max Stephens, University of Melbourne, Australia, whereas the content of the second part is based upon my own recent research.

References

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