The use of the textbook as an artefact in the classroom. A case study in the light of a socio-didactical tetrahedron.

Summary: Mathematics textbooks have long been used as an educational tool for teaching and learning. They play an important role in various didactical situations both within and outside the classroom. After the previous large-scale quantitative research on the use of mathematics textbooks in lower secondary education in Croatia, a new study with a qualitative approach was conducted. The new study encompasses classroom observations and an in-depth interview with one mathematics teacher. The results of this study are explained using the socio-didactical tetrahedron and are compared with previous survey results on the extent to which mathematics textbooks are used in Croatian classrooms. The findings of this study indicate that the textbook has a significant role in mathematics lessons in which the aims of the teacher and the textbook are aligned. The study also offers some explanation as to why teachers rely on the textbook for preparation, teaching, and practicing. Here the extension of the didactical tetrahedron to a socio-didactical tetrahedron proved to be very valuable owing to the social factors involved in textbook use, which cannot be neglected.

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