

## Mathematical modeling in mathematics education through solving realistic Fermi problems

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Mathematical modeling is getting more and more attention in mathematics education in recent years. The use of mathematical modeling in mathematics education makes the problem solving process to be more approachable for students, students become more interested in it, they learn to make decisions based on detailed reasoning, they learn to explore. One type of problems that can be used for mathematical modeling are Fermi problems, which are open, non-standard problems, requiring an estimate of some quantity. Calculations that are needed, may not be demanding, but logic, critical thinking, extra-mathematical knowledge, as well as the skill for dividing more complex problems into smaller, solvable parts, are needed. We will present the results from the research conducted at Educational Centre "Abakus Nib - Ohrid" in Ohrid, where the work of four groups of high school students in third year and their teacher on solving Fermi problems has been observed. Quantitative and qualitative analysis of collected data have been done. The process of mathematical modeling during solving Fermi problems is discussed, together with the interaction among the members in a group.