Mathematics through the Mathematical Modeling Method: The Geometrical Objects

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Abstract: The aim of this research is to investigate the effect of education on problemsolving skills on the Mathematical Modeling for the "Geometric Objects" unit. It was found that the topics are not supported by vital examples, they are quickly forgotten, draw less attention from the students and so students are not interested. According to the Mathematical Modeling Method, when examples are given in lessons related to daily life and students are asked to give similar examples to these, students get encouraged. It should not be overlooked that the preliminary knowledge of pre-instructional students is extremely important in terms of the planning of teaching activities. However, many teachers working in schools do not have enough knowledge about the different methods that can be used to detect unawareness or preliminary information or misconceptions, especially about preparing geometry lesson plans with the Mathematical Modeling Method.

Mathematics, especially geometry lessons, can play a key role in removing low student performance by using the Mathematical Modeling Method about problem-solving strategies, trying to solve problems, liking problem-solving, and having confidence in problem-solving, to improve students' problem-solving skills and structure.

We know that mathematics is one of the most problematic lessons in all the countries in the world. Especially when the mathematics curriculum is intensive, mathematics' teachers need to make the right choices to produce permanent solutions when choosing the teaching model. They can use the mathematical modeling method in the classroom environment to obtain good results in the academic achievement of the students and to improve their perceptions towards mathematics.

Keywords: mathematics, geometric objects, mathematical modeling, problem-solving skills **2010 Mathematics Subject Classification:** 97M10, 97A30, 97D40, 97D80, 97G30.

References

- S. E. Toksoy & A. R. Akdeniz, Determining students' problem solving processes via hint supported problem solving instrument. Hacettepe University Journal of Education, 32(1), 185-208, 2017.
- [2] E. B. Guzel, Mathematical modeling in mathematics education for researchers, educators and students. PEGEM-A Publishing. Ankara (2016).
- [3] P. Frejd, Teachers' conceptions of mathematical modelling at Swedish Upper Secondary school. Journal of Mathematical Modelling and Application, 1(5), 17-40, 2012.
- [4] A. S. Zeytun, B. Cetinkaya & A. K. Erbas, Understanding prospectives teachers' mathematical modeling processes in the context of a mathematical modeling course. Eurasia Journal of Mathematics, Science & Technology Education, 13(3), 691-722, 2017.