

Solving of Types Mathematical Routine and Non-Routine Problems in Algebra

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Abstract : The importance given to the development of the problem solving skill and the requirement to solve problems framed in mathematical or real life contexts, in practice, they are not evidence in relation to the teaching of proportional variations. This qualitative and descriptive study aims to (1) to improve problem solving ability of high school students in Chile, (ii) to elaborate and describe a didactic intervention strategy based on learning situations in proportional variations, focused on solving types of routine problems of various contexts and non-routine problems. For this purpose, participant observation was conducted, test of mathematics problems and an opinion questionnaire to thirty-six high school students. Through the results, the highest academic performance is evidenced in the routine problems of purely mathematical context, realistic, fantasy context, and non-routine problems, except in the routine problems of real context and compound proportionality problems. The results highlight the need to consider in the curriculum different types of problems in the teaching of mathematics that relate the discipline to everyday life situations

Keywords : algebra, high school, proportion variations, nonroutine problem solving, routine problem solving

Conference Title : ICTELS 2022 : International Conference on Teacher Education and Learning Sciences

Conference Location : Amsterdam, Netherlands

Conference Dates : August 08-09, 2022