

ZMATH 2016d.00461

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Using an explicit teaching approach to develop strategic spirit – the case of the working backwards strategy.

Rogerson, Alan (ed.), The mathematics education for the future project. Proceedings of the 13th international conference ‘Mathematics education in a connected world’, Catania, Sicily, Italy, September 16–21, 2015. Münster: WTM-Verlag (ISBN 978-3-942197-44-1/pbk; 978-3-942197-86-1/ebook). Conference Proceedings in Mathematics Education 1, 309-316 (2015).

Summary: Learning strategies for problem solving is an important process for developing strategic spirit. Learners who control many strategies can promote their thinking and learning. In the current research, we investigated the use of the working backwards strategy with talented 6th-grade math students. An explicit teaching approach was chosen for the research. Our findings showed that young students are capable of using the working backwards strategy in problem solving. We also found that teaching explicitly does not fix students’ ways of thinking; on the contrary, it helps them develop their strategic spirit. This, in turn, helps them to become active learners and fosters their independent thinking.

Classification: D53 C43

Keywords: problem solving; working backwards strategy; talented students; explicit teaching approach