

Reasoning and proving in Algebra. Examples from 8th grade school mathematics textbooks in Italy

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Abstract. Some research studies concerning the didactics of Algebra discuss how learning to solve problems using symbolic algebraic language can be hard for students (Bohlmann et al., 2014; Palm, 2009). Students, in fact, have often difficulty to learn the ways in which the symbols should be manipulated to argue or to prove an assertion in order to reach a problem solutions. Although many studies conducted by mathematics educators discussed important contributions to this subject (e.g. Arzarello, Robutti & Bazzini, 2005; Boero, 2001; Carraher, Schliemann, Brizuela & Earnest, 2006; Lins & Kaput, 2004; Ursini & Trigueros, 2001), not many analysis were conducted on the role of the School textbook in this complex teaching /learning context. The paper, focusing on this aspect, discusses some preliminary MaTeK (*Enhancement of Research Excellence in Mathematics Teacher Knowledge*) Horizon 2020 project results, related to the analysis of some algebraic reasoning and proving tasks, discussed in 8th grade school mathematics textbooks in Italy.

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