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Introduction

Algebra is, at various points to be considered a teaching problem in education that has persisted for more than 50 years. During this period, Portugal has participated in major international large scale assessment in school students' knowledge in mathematics, actually, even when they appeared in the early 1980s. This shows the teachers overall results have improved, there have been positive gains and results, but two periods with good results. However in algebra, which has been a distinct topic for the very first time as introduced by the Institute Association for the Evaluation of Educational Achievement (IAE) in 1984, the results were worse than last time. In Portugal and Europe in 2006, 2009, 2012 and 2015 the IEA test is known as TIMSS, that is Trends in International Mathematics and Science Study.

This raises questions about why the low results have occurred and why they have occurred. This paper can be considered a small battle in an arena of that question, even though there is no intention of giving an explanation. It is rather a matter of analyzing what is the nature of the potential factors of these uncorrelated factors.

The potential factor in focus in this paper is the national national curriculum. This is a relevant object to study if we want to understand why things changed or not changed in mathematics education. We know that they have been a lot of changes in the efforts to improve and drive changes of mathematics teaching. An aspect of importance and contribution is that the objectives to achieve can be designed in different ways. If we assume that algebra is an area of knowledge, the objectives can put more or less emphasis on different parts of the area.

¹ In the present I use words about the curriculum and its teaching in a broad sense. This is only to index the original source.