

THE ROLE OF ALGEBRA IN SCHOOL MATHEMATICS

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The aim of this paper is to discuss and reflect upon the role of algebra in school mathematics around the world. Algebra can be viewed as a language of mathematics; it plays a major role for students' opportunities to pursue many different types of educations in a modern society. For that reason, it may seem obvious that algebra should play a major role in school mathematics. However, a number of analyses based on data from several international large-scale studies have shown that there are great differences between countries when it comes to focus on algebra in school mathematics; in some countries algebra plays a major role, while this is not the case in other countries. We can talk about consistent patterns or profiles in different countries around the world when it comes to how much focus there is on algebra in school mathematics. These patterns or profiles for countries have shown to be consistent over two decades and at different levels in school for a great number of countries. This gives rise to a number of issues or questions we need to reflect upon and discuss. We need to discuss how such different approaches may interfere with individual students' rights and opportunities to pursue the educations they want, and we need to discuss how this may interfere with the societies' need to recruit people to a number of professions. We also need to discuss good ways to learn algebra. Some countries start teaching formal algebra at early levels in school, while other countries prefer to formalize algebra much later. In no way I intend to give final answers to these complicated issues, but I hope to point out how seriously these issues have to be taken. They have to be dealt with far more seriously than has been the case so far, especially in some countries like the Nordic and the English-speaking. In its core, it is not a question mainly about mathematics in school. It is important in a much wider perspective, as students' equal right to education, and how to develop our societies when it comes to economic growth and solving the environmental problems we are facing.