

The space between pre-service primary teachers' first year status and their goals

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Students' mathematics teacher identity is formed in various settings. A study with 45 pre-service students in their first year of education was conducted as part of a longitudinal study of year 4-6 mathematics teachers' identity formation, to study the development during their education in terms of mathematical knowledge, pupils' learning and the teacher role. Questionnaires and interviews were used to collect data. The result shows that many students were reluctant to use mathematics and had conceptions that may mislead pupils. The students' learning focus was less on pupils' learning than mathematics and teacher role, but their ideal teacher focused on pupils' learning.

Introduction, aim and study

Mathematics is mandatory in primary teacher education in Sweden. Some students find it hard or lack an interest in the subject, even though they are going to teach it in their pending profession. The students' own conceptions of mathematics affect their roles as mathematics teachers and both pedagogical and conceptual beliefs may evoke parts of the other (Wilson & Cooney, 2002). Lerman (2006) claims that a sense of identity is inseparable from learning. Students' identities as students, mathematics teachers and mathematicians are parts of their selves and develop from various mathematics experiences and learning- and teaching situations. The different situations generate different patterns of participation (Skott, 2010) for the students as parts of their identities.

A research and development project to learn more about students' development to become mathematics teachers in the years 4-6 and to improve the teacher education program started in the autumn 2016. It is a longitudinal project where students are followed during their teacher education of four years. Two groups, 45 students, have responded to an openly formulated questionnaire about the mathematics teacher role, practice in schools, subject knowledge in mathematics and their goals as educated mathematics teachers. Six students have been interviewed a first time and will be regularly interviewed through their education. The questions are designed to cover different situations and practices in which the students' identities develop, to find patterns in the sense described by Skott (2010). The students' roles as mathematics teachers and as mathematics students are investigated and their role as teachers is divided in two, one with a

focus on themselves as teachers and one with a focus on pupils' learning. Three areas are used in the analysis from this separation: The *teacher role*, *pupils' learning* and *mathematics content knowledge*.

The preliminary results indicate that a majority of the students wanted to learn more about the teacher role or the teacher role together with mathematics content knowledge. Pupils' learning was mentioned less frequently. The students were asked to explain three mathematics tasks to fictitious pupils in year 4-6 and 21 students explained without solving the task or even using mathematics. 27 students did not give a correct answer to any of the tasks and only one gave correct answers to all three. This uncertainty in mathematics content knowledge shows the need for further mathematics education which many students found a need for. A goal picture of the students' descriptions is depicted in Figure 1 (a letter or digit for each student). It is an amalgam of the students' descriptions of the most important features of a mathematics teacher and what kind of mathematics teacher they want to become themselves. The students' descriptions have been categorised in the three areas showing a focus on teacher role and pupils' learning as a contrast to what they want to learn. Content knowledge is not mentioned by 19 students. Further details will be presented at the conference.

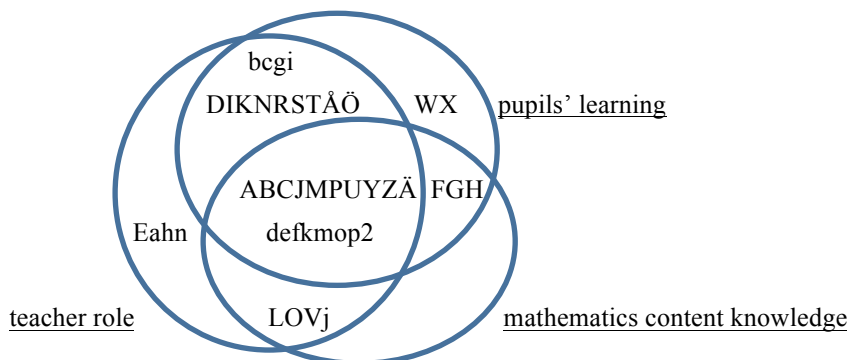


Figure 1: Types of important aspects of a mathematics teacher according to the students. Each letter or number represent a student.

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