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Mathematical assessments for six-year-old students in Sweden and Norway

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This paper presents a study focused on early mathematics assessments in Sweden and Norway. In many countries, including those in the Nordic region, there has been a growing trend towards measuring students' knowledge and understanding, a trend that is seen even in early education. Since 2011, a mathematics assessment tool has been available for six-year-old students in Norway. In Sweden, an assessment intended for students of the same age has become obligatory from autumn 2019. When a new assessment becomes obligatory in early mathematics, its content influences the present discourse on mathematics education. In addition, as the discourse on mathematics education changes, the content that is taught, as well as the teaching and learning of mathematics, may also change.

Research aim

This study on early mathematics assessments in Sweden and Norway is divided into two parts. The first part focuses on the mathematical content of two assessment materials, one from Sweden and one from Norway, that at first sight appear to differ greatly. The research questions are: Which mathematical skills are prioritised in the two assessments? What implications may the assessments induce considering the discourse on early mathematics education in the two countries of Norway and Sweden?

The second part that has just been initiated will focus on Swedish preschool class teachers' views on the new obligatory assessment tool, *Hitta matematiken* (Skolverket, 2019). In this part four focus groups interviews with preschool class teachers' will be conducted before and after them using the assessment tool with their students.

Theoretical Framework & Methodology in part one

In the first part discourse analysis has been used both as a theoretical framework and as a methodological device. To highlight and compare the mathematical

discourses that form the foundation of the two assessments, the written language has been analysed. According to Gee (2014b), language creates meaning in social practices while also deriving its meaning from social practices. In this study, early mathematics education in the two countries in focus are considered social practices.

Gee (2014a) offers a toolkit for discourse analysis and relevant parts of that toolkit has been used as a methodological tool. Gee's toolkit is used to investigate big and small discourses where this study focuses on both small and big discourses in the two assessments.

Results

Through the discourse analysis, five discourses became visible in both the Swedish and in the Norwegian assessment tool. In the Swedish assessment the following discourses became visible: Curriculum Discourse, Competence Discourse, Equality Discourse, Activity Discourse and Mandatory Support Discourse. In the Norwegian assessment tool the following discourses became visible: Curriculum Discourse, Arithmetic Discourse, Solicitude Discourse, Formative Assessment Discourse and Management Discourse. Thus, the Curriculum Discourse were common between the two assessments while the others differ.

A well-known international development in education seems to be the increasing trend towards measuring student knowledge and understanding. As the content of assessments often influence the ongoing mathematics teaching in school (Lazear, 2006; Popham, 2001; Posner, 2004; Volante, 2004) the differences between the Swedish and Norwegian assessments may imply that the teaching among six-years old in the two countries will also become very different.

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