

Mathematics teachers' communication about educational goals – A comparison between students' beliefs, teachers' descriptions and teaching

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The aim of this study is to explore Swedish upper elementary school students' experiences of mathematics teachers' assessment practices, with a focus on educational goals communicated between the teacher and the class. Research reviews about assessment identify a need for further research into younger students' perspectives, perceptions and experiences. In this study, students' experiences in three cases are viewed from a holistic perspective, by adapting *Visual model of the curriculum policy, design and enactment system* by Remillard and Heck (2014) to a Swedish context. Teachers' and students' perceptions of teaching objectives and assessment criteria are in this study explained and discussed out of several theoretical aspects such as formative assessment, in which knowledge and understanding of teaching objectives and evaluation criteria is a key strategy (Black & Wiliam, 2009; Wiliam, 2013). Furthermore, studies show that students find it difficult to understand and use assessment criteria if they do not receive support in applying them to concrete examples (Sadler, 2009, 2010; Hendry, Armstrong & Bromberger, 2012; Smith, et.al 2011). Price, et.al. (2012) visualizes different approaches to develop student's understanding of standards. Moreover Remillard & Heck's model reveals various factors that affect the *Operational curriculum*, which in this study, for example, is made up of teachers' conditions of work in the form of implementation efforts, working conditions, but also by the influence of tradition and culture of mathematics teaching (Stodolsky & Grossman, 1995). Student's perceptions are analysed and compared with the teacher's view on educational goals and the implemented teaching. I use a multiple-case study method with an ethnographic approach suitable in a qualitative explorative study that investigates a phenomenon in depth within its real-life context, in this study by triangulation the empirical data. Each case, selected out of geographical location, is analyzed separately for later cross-case analysis of all three cases.

Results of the study show the complexity of communication about educational goals and each case's unique context. There is considerable variation between the three cases according to communication about educational goals, in relation to the syllabus in mathematics. Regardless of the level of information required, it appears that

teachers do not reconnect to the communicated teaching goals during observations. It appears that in cases in which teachers express lack of knowledge of syllabus content, students get less information about teaching goals based on the syllabus content. Instead students express that the teacher assesses such matters as how much they work in class and if they have clear presentations and responses of tasks. This is also communicated by the teachers during lessons. Students in all three cases express and show a lack of knowledge of syllabus in mathematics, especially when it comes to the mathematical abilities and knowledge requirements, even in the case in which students receive a lot of information. It is obvious that the textbooks influence is larger than the explicit impact from the syllabus. From a student perspective the textbook is considered as a concretization and visualization of the syllabus content. Teachers' expressed lack of knowledge about the syllabus in mathematics is probably due to insufficient implementation efforts of the curriculum, *Lgr11*. Moreover, the teachers say that they have a workload situation that causes the natural sciences a priority in Mathematics expense, which leads to lessons largely consists of individual students work in the textbook. With this study I hope to contribute with new knowledge of assessment practices in Swedish classrooms, from both a teacher and student perspective, and thereby hopefully improve decision makers', teachers' and students' awareness and knowledge of teachers' assessment practice.

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