

TEACHERS INCORPORATING 6-YEAROLDS' INPUT IN MATHEMATICS TEACHING

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The potential for student mathematics learning lies both in the teacher ability to ask questions and to follow up and incorporate student input into the teaching of a specific content (Murata, 2015). Swedish students are expected to engage in reasoning and collective problem solving in highly communicative teaching practice. To improve these learning situations, it is important to understand how teachers are making use of student input in teaching. In this study we seek to map and understand how teachers in preschool classes respond to and incorporate student input in mathematics teaching.

This paper reports on findings from a study focusing on mathematics teaching in preschool classes in Sweden (6-yearolds). The data consist of 145 observations (from 95 individual teachers) of mathematics teaching relating to whole numbers. The data for analysis consist of fieldnotes and was collected during fall 2021. The MPM-framework "Mediating Primary Mathematics" (Venkat & Askew, 2018) was used as an analytical tool to identify the ways teachers in preschool classes respond to and incorporate student input in their mathematics teaching. Following the four levels in the framework, the results show that in 61,4% of the observations, teachers give students very little opportunity to contribute with input beyond short responses, merely confirming or giving generally encouraging responses to the student. This is to be compared to 29,7% of the observations, where teachers take advantage of student input by incorporating these into the teaching situation to advance or verify students' mathematical reasoning. In the third largest group (8.3 % of the observations), the teachers pulled back or made no evaluation of the student input. Only in one case (0.7 % of the observations), the teacher took advantage of the student input and both advanced and explained it further to support learner progression.

The results raise questions about how teachers' ways of responding to and elaborating on students' input might influence students' opportunities for learning about numbers. In particular, when teachers advance, verify, and explain student input, significant connections and justifications for solution methods are highlighted.

References

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