

Abstract

Mathematics teaching that provides students opportunities to make sense of mathematical ideas through problemsolving requires more active classroom structures for students. In this study, we examine the participation structure of one teacher at different points during one school year.

Objectives

- How does a teacher's use of different participation structures vary across different lessons?
- For what purpose(s) does the teacher use small group structures?

Methods



· The study used video of 6 lessons from one 8th grade Algebra teacher's classroom



 \cdot The video was analyzed by coding participation structure: Whole Class, Small Group, Individual, Unstructured



Post-lesson interviews were examined to identify themes in the teacher's expressed purposes for using small group structures.



Small group work happens in several different ways



Classroom Cooperativeness:

An Observational Analysis of Participation Structure Within A Mathematics Classroom

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Results





Teachers perceived an increase in conceptual understanding when discussing after small group work







Teacher wanted to increase small group work in lessons because she felt it helped:



Processing Information



Student Engagement





Note. Each horizontal level represents one lesson. Each bar is horizontally aligned to begin at the beginning of video data collection rather than time in the day. The final lesson was shorter than the normal 90minute lesson to accommodate a field trip that day.







gauge student understanding

Conclusion

- The findings show that **the teacher regularly** used individual, small group, and whole class participation structures, and their use varied across lessons at different times in the school year.
- The teacher interviews suggest that **the use** of small group structures was purposeful and related to her Instructional goals.

Future research could:

- identify patterns across lessons in the sequence, length, and frequency of different participation structures, as well as identify routines of teachers' practices within these structures.
- examine additional teachers to explore whether they exhibit similar patterns and variability in participation structure.

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