

Students of Different Engagement and Achievement Levels Responses to Mathematics Lessons Involving Challenging Tasks

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Student engagement plays a significant role in their achievement in mathematics (Martin et al., 2012). However, little is known about the learning preferences of students of different engagement and achievement levels. Although Skilling, Bobis, & Martin (2021) explored the engagement of 37 grades 6–7 students with high and low achievement levels using semi-structured interviews and questionnaire data, they did not adopt an intervention design nor obtain qualitative information specific to the students' perceptions of different lesson structures that incorporate challenging tasks. Extending the existing body of knowledge, the focus of this study is on how students of different engagement and achievement levels respond to different lesson structures (Task-first and Teach-first) involving challenging tasks. Adopting a qualitative, exploratory design with multiple data sources, students ($n = 18$) from two composite Year 3 and 4 classes (aged 8–10 years) completed surveys and participated in 5 individual semi-structured interviews following a series of lessons over a 4-week period as part of this intervention study. Thematic analysis indicated similar enjoyment response patterns to the different lesson structures and the challenging tasks regardless of differences in student enjoyment and achievement levels. However, closer inspection of the reasons as to why students preferred a lesson structure over another provide insights into the learning preferences of students with different engagement and achievement profiles. The results have implications for teachers to help engage students of diverse engagement and achievement backgrounds during mathematics lessons. Theoretically, findings from this study will extend existing theories of learning and of instruction by deepening our understanding of how students effectively learn challenging mathematics.

References

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