

# STUDENTS' MATHEMATICAL SENSEMAKING IN CLASSROOMS LOCATED IN CONTEXTS OF DISADVANTAGE

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This study focused on the opportunities available for students to engage in mathematical sensemaking during their lessons. Sensemaking is a critical component of mathematics learning, as it allows students to connect new mathematical ideas, procedures, and practices to their existing knowledge (Battista, 2017). This qualitative study was located in a South African context of disadvantage with classrooms that usually have between fifty or sixty students, where traditional forms of instruction predominate, and instances of inadequate resources are common. I was interested in the opportunities available for students to develop an understanding through sensemaking of the mathematical content they were learning. I formulated the following research question: What opportunities do South African students in contexts of disadvantage have to engage in sensemaking during mathematics lessons?

Seven high teachers (four male and three females) and their students from different public high schools in Gauteng, South Africa, were conveniently selected to participate in the study. I audio recorded three lessons of 45 minutes for each teacher. The audio recordings were transcribed, and I analysed the transcripts thematically.

The major finding from the study was that the lessons observed were teacher-centered, which resulted in the learning context not affording the students opportunities for mathematical sensemaking. Teachers in the study showed and explained the mathematics without providing students opportunities to make mathematical connections. The lessons appeared to be well structured, with students being led through the content straightforwardly. Students responded to teachers' questions in a chorus, and there was no evidence of students making mathematical connections. The Initiation-Response-Evaluation sequence was prevalent in the observed lessons. The teachers initiated (I) with questions, to which the students responded (R), and the teachers evaluated (E). Teachers frequently asked questions that required students to regurgitate already known information. There were no instances where teachers asked students probing questions or needed them to clarify their understanding. This study is an important contribution to the mathematics education research literature because it provides insights into opportunities available for students in contexts of disadvantage to engage in mathematical sensemaking.

## References

Battista M. T. (2017). *Reasoning and sensemaking in the mathematics classroom, grades 6–8*. NCTM.