

Fourth graders' mathematical noticing

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When solving a problem, distinguishing essential and inessential information is crucial. Furthermore, what students notice or not may have long-reaching consequences for their mathematical development, in particular the ability to generalize their problem-solving skills to novel situation – so-called transfer of learning (Lobato, Rhodehamel, & Hohensee, 2012). In the field of research on mathematics education, the notion of *noticing* has mostly been associated with problems of teacher practice and education (Mason, 2011). While some attention has been paid to students' mathematical noticing (Lobato, Hohensee, & Rhodehamel, 2013), the use of this notion in research on mathematics education has yet to reach its potential.

In this study, I describe and analyze mathematical noticing within a practice of developmental education in mathematics (DEM), with a focus on the fourth school year (students of the age of 10-11) in particular. In DEM, the development of students' observational skills is a focus. The purpose of the study is to investigate (1) what the students notice about mathematical objects and problems, and (2) how the teachers and the students interact to influence each other's noticing.

The primary data material consists of six video-recorded mathematics lessons from two different fourth grade classes. The regular teachers planned and conducted all lessons as part of their 'business as usual', and the researcher only performed video recordings (non-participant observation). Secondary data is drawn from a focus group interview in which the two teachers were among the participants. The analysis will be conducted according to the *focusing framework* (Lobato et al., 2013; Lobato et al., 2012). The framework describes what students and teachers notice mathematically (perceptual and conceptual centers of focus) and how their mathematical noticing is socially shaped through task features, focusing interactions, and the nature of the mathematical activity.

The present study is a work-in-progress and part of a larger PhD study at the University of Stavanger.

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Mason, J. (2011). Noticing: Roots and branches. In *Mathematics teacher noticing* (pp. 65-80): Routledge.