

# THE INTERPLAY OF STUDENTS' VIEWS ON MATHEMATICAL LEARNING AND THEIR MATHEMATICAL BEHAVIOR: INSIGHTS FROM A LONGITUDINAL STUDY ON THE DEVELOPMENT OF MATHEMATICAL IDEAS

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The importance of understanding students' views about mathematics, mathematical learning and the educational process, in general, has been extensively documented (Hofer and Pintrich, 1997; Konold et al, 1993, Schommer, 2002). Yet, despite the works of Schoenfeld (1983, 1983), Steiner (1987) and Carey and Smith (1993), more research is still needed that focuses on students' views on their mathematical learning in relation to their mathematical behavior and their educational experiences. For the most part, students' views on the educational process are considered separately from their behavior and the educational experiences in which they take shape. This study addresses these issues by jointly examining the views of a group of five students on their mathematical learning and their mathematical behavior in a longitudinal study on the development of mathematical ideas supporting open-ended student-centered mathematical investigations. The results offer interesting insights regarding such constructs as motivation, mathematical learning, proving and knowing in mathematics supported by compelling quotes from the students and detailed characterizations by the researcher of the students' mathematical behavior.

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