

1046-Z1-1952 **Nermin Bayazit*** (nt04@fsu.edu), 205 Stone Building, School of Teacher Education, Florida State University, Tallahassee, FL 32306. *Role of Mathematical Definitions in Proof: A Case of Prospective Mathematics Teachers*. Preliminary report.

This study investigated preservice mathematics teachers' perceptions of mathematics, mathematical definition and proof as well as their use of mathematical definitions in doing proof. Five secondary mathematics education students were interviewed four times. The focus of the first interview was on their perceptions of mathematics, mathematical definitions and proof. The other three interviews focused on their understanding of a given definition, use of definitions in doing proofs and assessment of the validity of a given proof in three content areas: set theory, geometry, and linear algebra. The initial findings of the study showed a connection between students' perceptions of mathematics and proof, and their approaches to proof. In addition to this, it has been observed that students' previous knowledge can be a barrier for their understanding of a given definition or using the definition to construct a proof.

Key words: Proof, mathematical definition, prospective teachers (Received September 16, 2008)