

Analysis of Mathematical Understanding of Mathematics Prospective Teachers

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ABSTRACT

This quantitative-qualitative descriptive study aims to describe the mathematics understanding of prospective teacher students, describe the types of student mistakes in mathematics understanding and recommend appropriate learning of mathematics understanding. The subjects of this study were 34 first-year students in the Geometry course in the Mathematics Education Study Program, FMIPA UNY. The study was conducted in September 2020. The study instrument is four problems consisting of 2 problems of procedural instrumental understanding and 2 problems of relational understanding. Data were analyzed through the stages of reducing data, presenting data and concluding data. The results showed that students' mathematical understanding was categorized as good (87.75%). Students' procedural instrumental understanding (87.75%) is better than relational understanding (77.52%) which is in good and sufficient category, respectively. Some student mistakes occur in representing theorems, performing mathematical procedural using appropriate concepts/theorems and interpreting conclusions/proofs using appropriate notation and representation. Based on the results of this study, it is recommended that mathematical learning should prioritize relational understanding by exploring a concept with other concepts and using various representations, situations and contexts. Learning should focus more on relational understanding, namely discussing a concept and its relationship with other concepts with different representations, situations, and contexts.

Kata Kunci: *procedural instrumental understanding, relational understanding, mathematical representation, prospective mathematics teacher.*