

**Making Sense of Mathematics through Perception, Operation & Reason: The Case of Divisibility of a Segment**

**ABSTRACT**

The conception of infinity as a process (potential infinity) or as an object (actual infinity) is important for students to acquire understanding in many other related areas in mathematics. This study attempts to describe the infinite divisibility thinking of mathematics student teachers in an Institute of Teacher Education in Malaysia by making sense of mathematics through perception, operation and reason. Data were collected through a self-reporting questionnaire that was administered to 238 elementary school pre-service teachers from selected Teacher Education Institutes in Malaysia. Researchers categorised qualitatively different types of thinking and reported them by using descriptive statistics. The result revealed that the percentage of respondents who conceived infinity as an object was just slightly lower as compare to the percentage of respondents who conceived infinity as a process. Additionally, this study found that there were respondents with problematic conceptions as shown by their inconsistent answers. The open-ended explanations given by all the respondents revealed that most of the pre-service teachers used perception to make meaning on finite and infinite divisibility.