

PRESERVICE SECONDARY SCHOOL MATHEMATICS TEACHERS' SUBJECT MATTER KNOWLEDGE OF CALCULATING PERIMETER AND AREA

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ABSTRACT

This purpose of this article is to examine preservice secondary school mathematics teachers' subject matter knowledge of calculating perimeter and area of composite figure. Clinical interview technique was employed to collect the data. Interview sessions were recorded using digital video camera and tape recorder. Subjects of this study consisted of eight preservice secondary school mathematics teachers enrolled in a Mathematics Teaching Methods course at a public university in Peninsula Malaysia. They were selected based on their majors (mathematics, biology, chemistry, physics) and minors (mathematics, biology, chemistry, physics). This article presents the analysis of the responses of the subjects related to a particular task. The finding suggests that most of the preservice secondary school mathematics teachers in this study had adequate procedural knowledge of calculating perimeter and area of composite figure. All the preservice teachers in this study understand the general measurement convention that perimeter and area is measured by linear units and square units respectively. All of them wrote the measurement units (without being probed) for the answers of the perimeter and area of the composite figure that they have calculated. Nevertheless, none of the preservice teachers in this study check the correctness of their answers. Once getting an answer, they seemed to satisfy that the task was finished. When probed to check answer, then only they suggested the strategies that they would use to check the answers. The preservice teachers in this study employed two types of strategies to verify their answers for calculating perimeter and area of composite figure, namely recalculating strategy and alternative method. The similarities and differences of the findings of this study in comparison with the findings of previous studies were discussed.

Keywords: preservice secondary school mathematics teachers, subject matter knowledge, perimeter and area, case study, clinical interview.