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**ASSESSING PRESERVICE SECONDARY SCHOOL MATHEMATICS TEACHERS'
KNOWLEDGE OF THE RELATIONSHIP BETWEEN PERIMETER AND AREA**

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Abstract

The purpose of this study was to assess preservice secondary school mathematics teachers (PSSMTs)' knowledge of the relationship between perimeter and area. The researchers employed case study research design to assess their knowledge of the relationship between perimeter and area. Clinical interview technique was employed to collect the data. Materials collected for analysis consisted of audiotapes and videotapes of clinical interview, subject's notes and drawings, and researchers' notes during the interview. This article presents the analysis of the responses of eight preservice secondary school mathematics teachers, related to a particular task, Task 5.2. Finding of the study suggests that most of the PSSMTs in this study had a misconception that there is direct relationship between perimeter and area. They thought that the garden with the longer perimeter has the larger area. The implication of the finding was also discussed.

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

Introduction

Ferrer, Hunter, Irwin, Sheldon, Thompson, and Vistro-Yu (2001) noted that student in many parts of the world encountered difficulty in understanding the concepts of perimeter and area. Moreover, it is even harder to fully understand the nonconstant relationship between perimeter and area (Ferrer et al., 2001). Bennett and Nelson (2001) pointed out that:

Intuitively, it may seem that the area of a region should depend on its perimeter. For example, if a person uses more fences to close in a piece of