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Reflective Questions on Relation on a Set: Learning from Undergraduate Students Taking Computer Networks and Information Security Engineering Program

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Abstract

Tanzanian universities offering mathematics programs are faced with significant challenges, especially in preparing university students so that they can reflect on their learning in mathematics classes for improved lesson delivery and learning achievement. Reflective practice stipulates that these students must be able to understand mathematics and manage complex thinking processes for high level achievement of professional skills. Apart from that, the use of reflective questions can be used to evaluate professional development in mathematics. This study aims to explore the ways that reflective questions were used to enhance university undergraduate students' understanding of a relation on a set in the research meeting. Individual students constructed mathematical ideas based on the asked questions. It was found that reflective questions helped university students to share, process, generalize and apply the concept of the relation on a set. The findings have implications on reflective teaching and learning practice in mathematics classes, including meaning making process, thinking about thinking, and community-based practice.

Keywords: relation on a set; reflective practice; reflective questions; undergraduate students