STUDENTS' INITIAL UNDERSTANDING OF THE CONCEPT OF CONSERVATION OF AREA

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Abstract

This study answers how the students understand the initial idea (recomposing shape) of the concept of conservation of area. The instructional activity which was made in this study is based on realistic mathematics education. The activity was created for third grade elementary school students in SD Al-Hikmah Surabaya. The third grade students were used since they have not learned about area measurement. So they could focus just on the shape without disturbance of the area formula. The result of this study suggest that students still need more similar activities to ensure their understanding toward the idea that recomposing shape will preserve the area of the shape.

Keywords: Concept of Conservation of Area, Initial Understanding, Recomposing Shape

Abstrak

Penelitian ini menjawab bagaimana siswa memahami ide awal (*recomposing shape*) dari konsep konservasi luas. Aktivitas instruksional yang dibuat dalam penelitian ini berdasarkan Realistic Mathematics Education (RME). Aktivitas ini dibuat untuk siswa SD Al-Hikmah Surabaya kelas 3. Siswa kelas 3 dirasa cocok karena mereka belum belajar tentang konsep pengukuran luas. Sehingga mereka bisa lebih fokus kepada bentuk bangun datarnya tanpa diganggu oleh rumus luas. Hasil dari penelitian ini menyarankan bahwa siswa masih butuh beberapa aktivitas serupa untuk memastikan pemahaman mereka bahwa *recomposing shape* mengawetkan luas dari suatu bangun.

Kata kunci: Konsep Konservasi Luas, Ide Awal, *Recomposing Shape*

The concept of conservation of area is preliminary step in students' adequate mastering of area measurement (Kospentaris, Spyrou & lappas, 2011). This concept is suggested to be mastered by children in the concrete operation (7-12 years old) of the Piaget's cognitive development. Also, Piaget argued that understanding the concept of conservation of area is necessary and prerequisite to students understanding the concept of area measurement as well as multiplication structure (Kordaki, 2003). Kordaki (2003) conducted a study to investigate the strategies developed by 14-years old students regarding the concept of conservation of area. Meanwhile Kospentaris, Spyrou & lappas (2011) also investigate the strategies employed on the concept of conservation of area by advanced high school and university students. Since previous research concerning area conservation investigated performance of the junior, senior and even university students, it would of interest to assess deeper the way of the concept of conservation of area being understood by the children of 9-10 years old.

In this study, we designed a contextual problem based on RME (Realistic Mathematics Education) in order to give the students opportunity to infer from immediate experience rather than