

DEVELOPING LEARNING TRAJECTORY USING TRADITIONAL GAMES IN SUPPORTING STUDENTS LEARNING GREATEST COMMON DIVISOR IN INDONESIAN PRIMARY SCHOOL

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This paper reports an experimental study on the development of exemplary curriculum materials for the teaching of Greatest Common Divisor in Indonesian primary schools. Indonesian version of Realistic Mathematics Education (PMRI) that was introduced in Indonesia approximately ten years ago is one of the current paradigms in learning mathematics. With its tenets, PMRI in Indonesia has an important role for a new pedagogy in mathematics classroom whereas students are encouraged to construct mathematical idea within their daily life. Students must be active in exploring and developing knowledge. The study was carried out in two cycles of teaching experiments in two primary schools. The findings of the design research signified the importance of collaboration between mathematics educators and teachers in developing PMRI curriculum materials. The availability of PMRI curriculum materials is an important component in the success of the PMRI movement, particularly in supporting students and teachers in activity-based mathematics learning. Teachers perform as facilitators who guide students toward the construction of students' knowledge itself. Design research methodology, comprising design, teaching experiment, and retrospective analysis phase, was employed as a research method in this research. This research was conducted in grade four PMRI classrooms on learning Greatest Common Divisor and this is the initial try-out of exploration Indonesian traditional games. Our findings suggest that the teacher's questions could be exploring the students' understanding to get different strategies and reasonable explanation. Since the teachers were actively involved in developing the materials, they felt a sense of ownership and recognized that their students' classroom experiences of the materials helped them avoid standard difficulties. That appears to be a particular benefit of the bottom-up approach characteristic of the PMRI movement.

Key word: PMRI, Design Research, Traditional Games, Greatest Common Divisor

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