

ABSTRACT

Sari Puspita Kurnia, 2021. Development of Mathematics Learning Tools Based on Realistic Mathematics Education to Improve Concept Understanding Ability of Class IV Elementary Students. Thesis. Master of Basic Education Study Program, Faculty of Education, State University of Padang

The results of literature studies and preliminary studies state that the ability of students to understand the concept of the circumference and area of a flat shape is still low. This is due to the teaching of teachers who are too focused on textbooks. Meanwhile, the presentation of the circumference and area of a flat shape in the textbook is not optimal and does not relate the material to problems in the daily lives of students. Therefore, a learning device was designed with the topic of the circumference and area of a flat shape based on Realistic Mathematics Education which is implemented in the RPP and LKPD.

This development research uses the Plomp development model which consists of three stages, namely the initial investigation phase, the development phase, and the assessment phase. The initial investigative phase consists of needs analysis, curriculum analysis, and analysis of learners and concepts. In the development phase, a formative evaluation is carried out which consists of self-design and evaluation, validation by experts, individual evaluation, and small group evaluation. Validation is carried out by education experts and practitioners, educational technology, and the Indonesian language. In the last phase, the learning device was tried out on fourth grade students of SDN 41 Kinali. The practicality of learning tools is seen from the results of practicality questionnaires on the implementation of learning, student and teacher response questionnaires. Effectiveness is seen from the results of students' conceptual understanding abilities.

Based on the results of the validity data analysis, it shows that the Realistic Mathematics Education-based learning tools that have been developed meet the valid criteria in terms of content and construct. Learning tools are practical in terms of feasibility, ease and time required, because the learning tools developed can be applied in mathematics learning activities. Learning tools have also been effective because they can improve the ability to understand concepts. Based on these results, it can be concluded that the mathematical learning tools based on Realistic Mathematics Education for grade IV SD semester 2 students that have been produced can be declared valid, practical and effective.

Keywords: Learning Tools, Realistic Mathematics Education, Concept Understanding Ability, Plomp Development Model.

ABSTRAK

Sari Puspita Kurnia, 2021. Pengembangan Perangkat Pembelajaran Matematika Berbasis *Realistic Mathematics Education* untuk Meningkatkan Kemampuan Pemahaman Konsep Peserta Didik Kelas IV SD. Tesis. Program Studi Magister Pendidikan Dasar Fakultas Ilmu Pendidikan Universitas Negeri Padang

Hasil studi literatur dan studi pendahuluan menyatakan bahwa kemampuan pemahaman konsep peserta didik materi keliling dan luas bangun datar masih rendah. Hal ini disebabkan pengajaran guru yang terlalu fokus pada buku teks. Sementara penyajian materi keliling dan luas bangun datar pada buku teks belum optimal dan kurang mengaitkan materi dengan permasalahan dalam kehidupan sehari-hari peserta didik. Oleh sebab itu, dirancanglah perangkat pembelajaran dengan topik keliling dan luas bangun datar berbasis *Realistic Mathematics Education* yang diimplementasikan pada RPP dan LKPD.

Penelitian pengembangan ini menggunakan model pengembangan Plomp yang terdiri dari tiga tahap, yaitu fase investigasi awal, fase pengembangan, dan penilaian. Fase investigasi awal terdiri dari analisis kebutuhan, analisis kurikulum, dan analisis peserta didik dan konsep. Pada fase pengembangan dilakukan evaluasi formatif yang terdiri atas perancangan dan evaluasi sendiri, validasi oleh pakar, evaluasi perorangan, dan evaluasi kelompok kecil. Validasi dilakukan oleh pakar pendidikan dan praktisi, teknologi pendidikan, dan bahasa Indonesia. Pada fase terakhir, perangkat pembelajaran diujicobakan pada peserta didik kelas IV SDN 41 Kinali. Kepraktisan perangkat pembelajaran dilihat dari hasil angket praktikalitas terhadap pelaksanaan pembelajaran, angket respon peserta didik dan guru. Kefektivan dilihat dari hasil kemampuan pemahaman konsep peserta didik.

Berdasarkan hasil analisis data validitas menunjukkan bahwa perangkat pembelajaran berbasis *Realistic Mathematics Education* yang telah dikembangkan memenuhi kriteria valid dari segi isi dan konstruk. Perangkat pembelajaran sudah praktis dari segi keterlaksanaan, kemudahan dan waktu yang diperlukan, karena perangkat pembelajaran yang dikembangkan dapat diterapkan dalam kegiatan pembelajaran matematika. Perangkat pembelajaran juga telah efektif karena dapat meningkatkan kemampuan pemahaman konsep. Berdasarkan hasil tersebut, dapat disimpulkan bahwa perangkat pembelajaran matematika berbasis *Realistic Mathematics Education* untuk peserta didik kelas IV SD semester 2 yang telah dihasilkan dapat dinyatakan valid, praktis dan efektif.

Kata kunci: Perangkat Pembelajaran, Realistic Mathematics Education, Kemampuan Pemahaman Konsep, Model Pengembangan Plomp.