

ABSTRACT

Hanifa Muslimah 2020. The Development of Social Arithmetic Learning Design Based on Realistic Mathematics Education to Improve Problem Solving Ability in Class VII SMP / MTs. Thesis. The Magister of Mathematics Education Program at Mathematics and Science Faculty Padang State University.

Problem solving ability is one of the abilities that students must have in learning mathematics. At the preliminary study of social arithmetic material in class VII, the social arithmetic learning was presented in the textbooks that was used and introduced by using formulas without using the concept and separate learning from the students daily experiences, so that the students' mathematical problem solving abilities were still low. This is the basis for designing the learning of social arithmetic topics and relates with activities based on the student experiences (experience-based activities). The purpose of this research is to design social arithmetic learning topics for class VII SMP / MTs with the Realistic Mathematics Education (RME) approach, which is implemented through valid, practical, and effective teacher and student books.

This research is a design research that combines the Plomp model with the Gravemeijer & Cobb model, which consists of 3 phases, the preliminary research phase (preliminary research/preparation for the experiment), the development phase (development or prototyping/design experiment) and the assessment phase (assessment phase/retrospective analysis). The research subjects were students in class VII MTsN 2 Pasaman.

This research is implemented through teacher and student books. The results of conducting the experiment show that the context contained in the student book can stimulate students to develop their knowledge in finding social arithmetic concepts. The results showed that the learning design of social arithmetic topics with the RME approach was valid, practical, and effective. Valid in aspects of content and language. Practical in aspects of implementation, ease and time that was needed. The effective in aspects of its potential impact on the management of students' mathematical problems.

Keywords: Learning Design Development, Social Arithmetic, Teacher's Book, Student Book, Realistic Mathematics Education.Arithmetic, Teacher's Book, Student Book, Realistic Mathematics Education.

ABSTRAK

Hanifa Muslimah 2020. Pengembangan Desain Pembelajaran Aritmatika Sosial Berbasis Realistic Mathematics Education untuk Meningkatkan Kemampuan Pemecahan Masalah Peserta Didik Di Kelas VII SMP/ MTs. Tesis Program Studi Magister Pendidikan Matematika Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Padang.

Kemampuan pemecahan masalah, merupakan salah satu kemampuan yang harus dimiliki oleh peserta didik dalam pembelajaran matematika. Pada saat studi pendahuluan mengenai materi aritmatika sosial pada kelas VII, alur pembelajaran aritmatika sosial yang disajikan dalam buku teks yang digunakan cenderung dikenalkan dengan penggunaan rumus tanpa melibatkan penemuan konsep itu sendiri dan pembelajaran terpisah dari pengalaman peserta didik sehari-hari sehingga mengakibatkan kemampuan pemecahan masalah matematika peserta didik masih rendah. Hal ini mendasari untuk mendesain alur belajar topik aritmatika sosial dan menghubungkannya dengan aktivitas berdasarkan pengalaman peserta didik (*experience-based activities*). Tujuan dari penelitian ini adalah untuk merancang alur belajar topik aritmatika sosial kelas VII SMP/MTs dengan pendekatan *Realistic Mathematics Education* (RME), diimplementasikan melalui buku guru dan buku siswa yang valid, praktis dan efektif.

Penelitian ini merupakan *design research* yang mengkombinasikan model Plomp dengan model Gravemeijer & Cobb, yang terdiri dari 3 fase yaitu fase penelitian pendahuluan (*preliminary research/preparing for the experiment*), fase pengembangan (*development or prototyping phase/design experiment*) dan fase penilaian (*assessment phase/retrospective analysis*). Subjek penelitian adalah peserta didik di kelas VII MTsN 2 Pasaman.

Penelitian ini diimplementasikan melalui buku guru dan buku siswa. Hasil dari *conducting experiment* menunjukkan konteks yang dimuat dalam buku siswa dapat menstimulir peserta didik untuk mengembangkan pengetahuannya dalam menemukan konsep aritmatika sosial. Hasil penelitian menunjukkan bahwa desain pembelajaran topik aritmatika sosial dengan pendekatan RME sudah valid, praktis dan efektif. Valid dari segi isi dan bahasa. Praktis dari segi keterlaksanaan, kemudahan dan waktu yang diperlukan. Efektif dari segi dampak potensialnya terhadap kemampuan pemecahan masalah matematis siswa.

Kata Kunci: Pengembangan Desain Pembelajaran, Aritmatika Sosial, Buku Guru, Buku Siswa, *Realistic Mathematics Education*.