

DESAIN DIDAKTIS BERBASIS *REALISTIC MATHEMATICS EDUCATION* (RME) PADA MATERI PECAHAN KELAS IV SEKOLAH DASAR

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ABSTRAK

Penelitian ini bertujuan untuk menyusun desain didaktis berbasis *realistic mathematics education* (RME) pada materi pecahan kelas IV Sekolah Dasar (SD). Penelitian ini dilakukan dalam tiga langkah yaitu penyusunan desain didaktis awal, pengimplementasian desain didaktis, dan analisis retrospektif untuk memperoleh desain didaktis akhir. Langkah pertama, dilakukan penyusunan desain didaktis awal yang terdiri dari situasi didaktis dan prediksi respon serta antisipasi respon tersebut. Penyusunan desain didaktis awal ini mengacu pada tiga hal yaitu hasil identifikasi *learning obstacles* materi pecahan kelas IV, *hypothetical learning trajectory* materi pecahan kelas IV, dan prinsip pembelajaran RME. Identifikasi *learning obstacles* dilakukan dengan menganalisis hasil wawancara dan jawaban siswa pada soal tes pecahan kelas IV yang diberikan kepada siswa kelas V SD N Cikeupeul. Hipotesis alur pembelajaran diperoleh berdasarkan studi literatur buku ajar siswa, standar materi pecahan tiap kelas, dan kurikulum yang berlaku. Sedangkan prinsip pembelajaran RME yang digunakan terdiri dari enam prinsip yaitu prinsip aktivitas, prinsip realitas, prinsip level, prinsip berjaln, prinsip interaksi, dan prinsip bimbingan. Langkah kedua, implementasi desain didaktis awal yang dilakukan pada siswa kelas IV SD N Cikeupeul di Kabupaten Tasikmalaya selama 20 x 35 jam pelajaran. Langkah ketiga, analisis retrospektif untuk memperoleh rekomendasi dalam merevisi desain didaktis awal. Pada desain didaktis revisi beberapa perubahan dilakukan sesuai dengan respon yang muncul saat implementasi. Hasil dari penelitian ini berupa suatu desain didaktis alternatif yang dapat digunakan dalam pembelajaran matematika sekolah dasar materi pecahan kelas IV. Desain didaktis yang disusun terdiri dari delapan desain yang dimuat dalam lima buah Lembar Kerja Siswa (LKS).

Kata kunci: desain didaktis, *learning obstacles*, *hypothetical learning trajectory*, *realistic mathematics education*, pecahan

DIDACTICALAL DESIGN BASED ON REALISTIC MATHEMATICS EDUCATION (RME) ON FRACTION MATERIALS OF GRADE 4TH OF ELEMENTARY SCHOOL

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ABSTRACT

The purpose of this research was to construct didacticalal design based on Realistic Mathematics Education (RME) on fraction materials of grade 4th of elementary school. This research was conducted in three steps consisting of preparation of beginning of didactical design, didactical design implementation, and retrospective analysis to obtain a final didactical design. The first step, arrangement of beginning of didactical design consisting of didactical situations and response prediction and anticipated the response. Preparation of beginning of didactical design refers to three things: the learning obstacles identification result of fractions material of grade 4th, hypothetical learning trajectory of fraction materials of grade 4th, and RME learning principles. Identification of learning obstacles by analyzing the student's results of interviews and answers on fractions materials tests of grade 4th which was given to grade 5th of SD N Cikeupeul. The hypothetical learning trajectory was obtained based on the study of students textbooks literature, fractions material standards of each class, and the applicable curriculum. RME learning principles used consists of six principles i.e. the activity principles, the reality principles, the principles of level, interwoven principles, principles of interaction and guiding principles. The second step, beginning of didacticalal design implementation conducted in grade 4th of SD N Cikeupeul in Kabupaten Tasikmalaya for 20 x 35 lessons hours. The third step, a retrospective analysis to obtain a recommendation on revising the beginning of didacticalal design. In the didacticalal design revisions, some changes were made according to the responses that occurred during implementation. The results of this study would be a didacticalal design alternatives that can be used in material fractions on mathematics teaching of grade 4th of primary school. Didacticalal design is composed of eight designs which is published in five Students Worksheets.

Keyword: didactical design, learning obstacles, hypothetical learning trajectory, realistic mathematics education, fractions.

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