

**DESAIN DIDAKTIS TOPIK PECAHAN PADA KELAS 5
SEKOLAH DASAR:
SUATU KAJIAN TRANSPOSISI DIDAKTIK**

DISERTASI

Diajukan untuk memenuhi sebagian syarat memperoleh gelar
Doktor Pendidikan Dasar



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**PROGRAM STUDI PENDIDIKAN DASAR
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UNIVERSITAS PENDIDIKAN INDONESIA
2024**

**DESAIN DIDAKTIS TOPIK PECAHAN PADA KELAS 5
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SUATU KAJIAN TRANSPOSISI DIDAKTIK**

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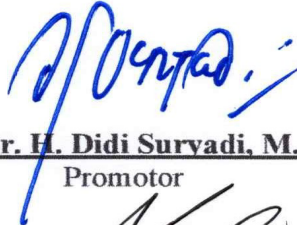
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ABSTRAK

Een Unaenah (2024). Desain Didaktis Topik Pecahan pada Kelas 5 Sekolah Dasar: Suatu Kajian Transposisi Didaktis.

Penelitian ini membahas tentang pentingnya melakukan transposisi didaktik pada pembelajaran penjumlahan dan pengurangan pecahan di sekolah dasar. Penelitian ini bertujuan menghasilkan desain didaktis rekomendatif untuk mengatasi hambatan belajar siswa dan kesenjangan yang terjadi pada pembelajaran pecahan di kelas V sekolah dasar melalui transposisi didaktik. Metode penelitian yang digunakan adalah penelitian kualitatif dengan pendekatan fenomenologi hermeneutik. Desain penelitian yang digunakan adalah *didactical design research* (DDR) yang memuat tiga tahap analisis, yaitu analisis prospektif, analisis metapedadidaktik, dan analisis retrospektif. Partisipan dalam penelitian ini terdiri dari 22 siswa kelas 6 SD, 21 siswa kelas 5 SD, 20 siswa kelas 5 SD, dan 3 orang Guru SD kelas 5 yang mengajar matematika. Hasil penelitian ini memaparkan temuan pada masing-masing analisis. Tahap analisis prospektif ditemukan: (1) hasil analisis transposisi didaktik eksternal menunjukkan adanya perbedaan materi antara kurikulum dan *scholarly knowledge* dan adanya perbedaan urutan materi serta materi pada buku teks matematika sekolah dengan *scholarly knowledge*; (2) hasil analisis transposisi didaktik internal guru menunjukkan adanya perbedaan sajian materi pada RPP dan *scholarly knowledge*, serta pada PBM terjadi kesenjangan *concept image* siswa dengan *formal concept definition* pada *scholarly knowledge*, *taught knowledge* dan *knowledge to be taught* materi penjumlahan dan pengurangan pecahan penyebut berbeda. (3) susunan *hypothetical learning trajectory* (HLT) siswa; dan (4) desain pembelajaran hipotetik yang memuat situasi didaktik, prediksi respon, dan antisipasi didaktik pedagogik (ADP). Tahap metapedadidaktik ditemukan: (1) adanya hubungan antara didaktik, pedagogik, dan ADP selama implementasi desain pembelajaran yang menunjukkan kesatuan, fleksibilitas, dan koherensi. Tahap retrospektif ditemukan: (1) hasil refleksi dan evaluasi desain pembelajaran menunjukkan adanya tambahan situasi didaktik yang dihadirkan selama implementasi desain pembelajaran awal yang berdampak pada penambahan *learning trajectory* yang dilalui siswa; (2) susunan HLT perbaikan; dan (3) susunan desain pembelajaran rekomendatif.

Kata Kunci: *didactical design research*, transposisi didaktik, siswa SD, penjumlahan, dan pengurangan pecahan penyebut berbeda.

ABSTRACT

Een Unaenah (2024). Didactical Design of Fraction Topics in Grade 5 Elementary School:
A Study of Didactical Transposition

This research discusses the importance of doing didactic transposition in learning addition and subtraction of fractions in elementary schools. This research aims to produce recommended didactic designs to overcome student learning barriers and gaps that occur in fraction learning in grade V elementary schools through didactic transposition. The research method used is qualitative research with a hermeneutic phenomenological approach. The research design used is didactical design research (DDR) which contains three stages of analysis, namely prospective analysis, metapedadidactic analysis, and retrospective analysis. Participants in this study consisted of 22 grade 6 elementary school students, 21 grade 5 elementary school students, 20 grade 5 elementary school students, and 3 grade 5 elementary school teachers who taught mathematics. The results of this research explain the findings in each analysis. The prospective analysis stage found: (1) the results of the external didactic transposition analysis showed that there were differences in material between the curriculum and scholastic knowledge and differences in the order of material and material in school mathematics textbooks and scholastic knowledge; (2) the results of the teacher's internal didactic transposition analysis show that there are differences in the presentation of material in lesson plans and scholastic knowledge, as well as in PBM there is a gap between students' concept image and the formal concept definition in scholarly knowledge, taught knowledge and knowledge to be taught material on addition and subtraction of fractions with different denominators. (3) the arrangement of students' hypothetical learning trajectory (HLT); and (4) hypothetical learning design containing didactic situations, response predictions, and pedagogical didactic anticipation (ADP). The metapedadidactic stage found: (1) there is a relationship between didactics, pedagogy, and ADP during the implementation of learning design that addresses unity, flexibility, and coherence. The retrospective stage found: (1) the results of reflection and evaluation of the learning design showed that there were additional didactic situations presented during the implementation of the initial learning design which had an impact on adding to the learning trajectory that students went through; (2) repair HLT arrangement; and (3) the composition of recommended learning designs.

Keywords: didactical design research, didactic transposition, elementary school students, addition, and subtraction fractions with different denominator.

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