

**PENGEMBANGAN PEMBELAJARAN *SYNCHRONOUS* DAN
ASYNCHRONOUS BERBANTUAN MODUL DIGITAL UNTUK
MENGOPTIMALKAN PENINGKATAN KECAKAPAN MATEMATIS SISWA
DENGAN MEMPERHATIKAN *LEARNING LOSS* MATERI OPERASI HITUNG
PADA PECAHAN**

(Research and Development di kelas 5 Sekolah Dasar)

DISERTASI



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**PROGRAM STUDI PENDIDIKAN DASAR
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UNTUK MENGOPTIMALKAN PENINGKATAN KECAKAPAN MATEMATIS SISWA DENGAN MEMPERHATIKAN
LEARNING LOSS MATERI OPERASI HITUNG PADA PECAHAN***

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SISWA DENGAN MEMPERHATIKAN *LEARNING LOSS* MATERI
OPERASI HITUNG PADA PECAHAN**

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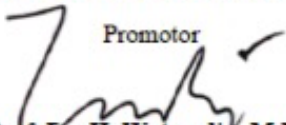
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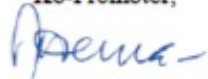
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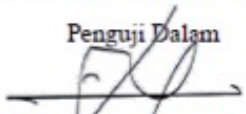
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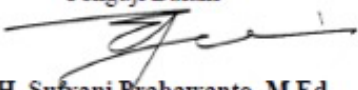
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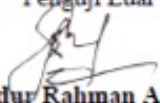
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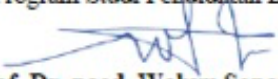

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**PENGEMBANGAN PEMBELAJARAN *SYNCHRONOUS* DAN
ASYNCHRONOUS BERBANTUAN MODUL DIGITAL UNTUK
MENGOPTIMALKAN PENINGKATAN KECAKAPAN MATEMATIS
SISWA DENGAN MEMPERHATIKAN *LEARNING LOSS* PADA MATERI
OPERASI HITUNG PECAHAN**

Purnomo Saputro

Abstrak

Penelitian ini bertujuan untuk mengembangkan model pembelajaran *synchronous* dan *asynchronous* berbantuan modul digital serta menganalisis keefektifan kedua model tersebut. Metode yang digunakan dalam penelitian ini adalah kombinasi R&D dan Kuantitatif. Pada tahap pertama menggunakan metode R&D tipe 4D, sedangkan pada tahap kedua menggunakan tipe kuasi eksperimen dengan desain eksperimennya one group pretest posttest design dan desain faktorial 3x2. Subjek penelitian ini adalah sejumlah guru dan siswa kelas V yang berada di wilayah Dinas Pendidikan Kota dan Kabupaten Tasikmalaya. Hasil dari penelitian ini adalah (i) model pembelajaran *synchronous* dan *Asynchronous* berbantuan modul digital yang berkarakteristik layak, bermanfaat, mudah, jelas dan praktis, (ii) Pembelajaran *synchronous* dan *asynchronous* berbantuan modul digital masing-masing berpengaruh secara significant terhadap perolehan kemampuan pemahaman matematis, (iii) Terdapat pengaruh interaksi antara pembelajaran dan tingkat learning loss terhadap perolehan kemampuan pemahaman matematis (dalam uji coba terbatas). (iv) rata-rata perolehan kemampuan pemahaman matematis siswa yang learning lossnya tinggi lebih rendah dari rata-rata perolehan kemampuan pemahaman matematis siswa yang learning lossnya rendah dan sedang, (v) tidak terdapat pengaruh interaksi antara pembelajaran dan tingkat learning loss terhadap peningkatan kemampuan matematis (dalam uji coba terbatas).

Kata Kunci : Kemampuan pemahaman matematis, Synchronouse,
Asynchronouse, Modul Digital, Learning Loss.

Purnomo Saputro, 2023

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DEVELOPMENT OF SYNCHRONOUS AND ASYNCHRONOUS LEARNING WITH THE ASSISTANCE OF DIGITAL MODULES TO OPTIMIZE THE IMPROVEMENT OF STUDENTS' MATHEMATICAL PROFICIENCY BY ATTENTION TO LEARNING LOSS IN FRACTION COUNTING OPERATIONS

Purnomo Saputro

Abstract

This study aims to develop synchronous and asynchronous learning models assisted by digital modules and to analyze the effectiveness of the two models. The method used in this study is a combination of R&D and Quantitative. The first stage used the 4D R&D method, while the second stage used the quasi-experimental type with the experimental design being one group pretest posttest design and 3x2 factorial design. The subjects of this study were a number of teachers and fifth-grade students in the Tasikmalaya City and District Education Offices. The results of this study are (i) synchronous and asynchronous learning models assisted by digital modules which are characterized as feasible, useful, easy, clear and practical, (ii) synchronous and asynchronous learning assisted by digital modules each have a significant effect on the acquisition of mathematical understanding skills, (iii) There is an interaction effect between learning and the level of learning loss on the acquisition of mathematical understanding abilities (in limited trials). (iv) the average acquisition of students' mathematical understanding abilities with high learning loss is lower than the average acquisition of students' mathematical understanding abilities with low and moderate learning losses, (v) there is no interaction effect between learning and the level of learning loss on increasing mathematical abilities (in limited trials).

Keywords: Mathematical Understanding Proficiency, Synchronouse,
Asynchronouse, Digital Module, Learning Loss

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Disertasi ini berisikan tentang pengembangan media pembelajaran modul digital tentang operasi hitung pecahan yang dikembangkan bersamaan dengan penggunaan model pembelajaran *synchronous* dan *asynchronous*. Hasil penelitian ini diharapkan dapat memberikan referensi bagi pendidik dalam menghadapi pembelajaran jarak jauh.

Penulisan disertasi ini, penulis banyak mendapatkan dorongan serta bimbingan dari berbagai pihak, oleh karena itu pada kesempatan ini penulis ingin menyampaikan ucapan terima kasih kepada:

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