

ABSTRAK

ABDA'U IKA QIFTIYANI. *Design Research: Pembelajaran Konsep Operasi Hitung Penjumlahan Dan Pengurangan Bentuk Aljabar Melalui Pendekatan PMRI Pada Siswa Kelas VII SMP Negeri 90 Jakarta.* Skripsi. Jakarta: Program Studi Pendidikan Matematika, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Jakarta, 2019.

Penelitian ini bertujuan untuk mengetahui bagaimana siswa dapat memahami konsep operasi hitung penjumlahan dan pengurangan bentuk aljabar.

Penelitian dilakukan mulai dari penyusunan proposal sampai dengan laporan hasil penelitian. Metodologi yang digunakan dalam penelitian ini adalah metode *design research*. Terdapat tiga fase penelitian yang digunakan pada penelitian *design research*, yaitu *thought experiment* (fase eksperimen hasil pemikiran), *instruction experiment* (fase eksperimen mengajar), dan analisis retrospektif. Subjek penelitian ini adalah enam siswa kelas VII-4 di SMP Negeri 90 Jakarta. Data yang dikumpulkan berupa rekaman video dan foto selama pembelajaran berlangsung, hasil wawancara siswa, hasil kerja siswa, hasil diskusi, serta catatan lapangan di setiap pertemuan. Instrumen yang digunakan antara lain dokumentasi berupa rekaman video dan foto, lembar wawancara, lembar aktivitas siswa, lembar catatan lapangan, dan Hipotesis Lintasan Belajar (HLB). Ada dua jenis validitas pada penelitian ini yakni validitas internal dan validitas eksternal, sedangkan reliabilitas yang ada yakni reliabilitas internal dan reliabilitas eksternal.

Pemahaman konsep operasi hitung penjumlahan dan pengurangan bentuk aljabar siswa mengalami perkembangan melalui aktivitas dalam pembelajaran yang telah dirancang. Proses pembelajaran melalui rangkaian aktivitas berjalan sesuai dengan HLB yang sudah dirancang sebelumnya. Rangkaian aktivitas yang berkaitan dengan pendekatan Pendidikan Matematika Realistik Indonesia (PMRI) yang memperhatikan karakteristiknya pada penelitian *design research* ini dapat mengembangkan pemahaman konsep operasi hitung penjumlahan dan pengurangan bentuk aljabar siswa. Berdasarkan hasil analisis retrospektif, karakteristik PMRI berperan dalam mengembangkan pemahaman konsep siswa pada pembelajaran operasi hitung penjumlahan dan pengurangan bentuk aljabar di SMP Negeri 90 Jakarta.

Kata kunci: Pemahaman Konsep, Pendekatan Pendidikan Matematika Realistik Indonesia (PMRI), Pembelajaran Operasi Hitung Penjumlahan dan Pengurangan Bentuk Aljabar.

ABSTRACT

ABDA'U IKA QIFTIYANI. *Design Research: Learning The Concept Of Addition And Subtraction Operation Of Algebraic With PMRI Approach To Students Of VII grade at Junior High School 90 Jakarta.* Essay. Jakarta: Mathematics Education Study Program, Faculty of Mathematics and Natural Sciences, State University of Jakarta, 2019.

This study aims to find out how students can understand the concept of counting operations and the reduction of algebraic forms.

The research was conducted starting from the preparation of proposals to the report of the research results. The methodology used in this research is design research method. There are three phases of research used in design research research, namely thought experiment (experimental phase of the results of thought), instruction experiment (teaching experimental phase), and retrospective analysis. The subjects of this study were six students of class VII-4 in junior high school 90 Jakarta. Data collected in the form of video recordings and photos during learning takes place, the results of student interviews, student work results, discussion results, and field notes at each meeting. The instruments used included documentation in the form of video and photo recordings, interview sheets, student activity sheets, field notes, and Learning Path Hypothesis (HLB). There are two types of validity in this study namely internal validity and external validity, while the existing reliability is internal reliability and external reliability.

Understanding the concept of counting operations and reducing the algebraic form of students experiencing development through activities in learning that have been designed. The learning process through a series of activities goes according to the HLB that has been previously designed. The series of activities related to the Indonesian Realistic Mathematics Education (PMRI) approach that pay attention to its characteristics in design research research can develop an understanding of the concept of counting operations and the reduction of student algebraic forms. Based on the results of the retrospective analysis, the characteristics of PMRI play a role in developing students' understanding of concepts in learning to calculate summation operations and reducing algebraic forms in Junior High School 90 Jakarta

Key Word: Understanding the Concept, Realistic Mathematics Education Approach Indonesia (PMRI), Addition And Subtraction Operation Of Algebraic.