

**CARA BERPIKIR PESERTA DIDIK DALAM MEMAHAMI  
MATERI PECAHAN MELALUI PEMBELAJARAN DENGAN  
MODEL TRANSLASI LESH DI SEKOLAH INKLUSIF**

**DISERTASI**

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# **Students' Ways of Thinking in Understanding Fractions Topic through Learning with Lesh Translation Model in Inclusive School**

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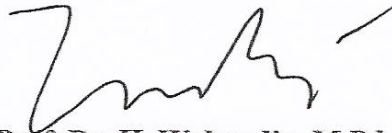
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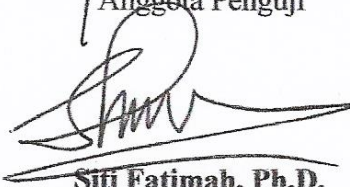
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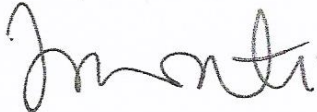
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# CARA BERPIKIR PESERTA DIDIK DALAM MEMAHAMI MATERI PECAHAN MELALUI PEMBELAJARAN DENGAN MODEL TRANSLASI LESH DI SEKOLAH INKLUSIF

## ABSTRAK

Tujuan penelitian ini adalah melakukan kajian secara mendalam tentang cara peserta didik di sekolah inklusif berpikir dan memahami materi pecahan melalui pembelajaran Model Translasi Lesh. Jenis penelitian yang digunakan adalah penelitian kualitatif dengan desain *case study* dan *grounded theory*. Subjek yang diteliti adalah peserta didik Sekolah Menengah Pertama Inklusif di Kota Cimahi, Jawa Barat. Data dikumpulkan melalui tes, wawancara, dan observasi terhadap subjek sebanyak 27 peserta didik. Hasil analisis menunjukkan 1) *Mental acts* yang ditemukan pada peserta didik di kelas inklusif adalah sebagai berikut: *interpreting*, *explaining*, *problem solving*, dan *inferring*. *Ways of thinking* yang ditemukan adalah beragam interpretasi simbol matematika, cara menjelaskan (*way of explaining*), pendekatan dalam pemecahan masalah (*problem solving approach*), dan cara menarik kesimpulan. *Ways of understanding* yang ditemukan adalah makna dari simbol matematika, penjelasan dari suatu masalah, solusi, dan kesimpulan, 2) Peserta didik kelompok rendah pada umumnya mengalami kesulitan dengan beragam metode untuk pemecahan masalah, beberapa peserta didik di kelompok ini diduga mengalami kesulitan belajar matematika, 3) Peserta didik kelompok sedang memiliki kemampuan aplikasi, generalisasi, dan *problem solving* yang lebih rendah dari pada peserta didik pada kelompok tinggi 4) Peserta didik kelompok tinggi pada umumnya cocok dengan metode pemecahan masalah yang beragam, beberapa peserta didik di kelompok ini diduga sebagai peserta didik berbakat matematika, 5) Beberapa pola kesalahan berupa miskonsepsi ditemukan pada hasil kerja peserta didik, yakni sebagai berikut: kurangnya pemahaman terhadap representasi pecahan, kurangnya pemahaman terhadap perbandingan pecahan, keliru dalam menerapkan prosedur penyamaan penyebut pada operasi penjumlahan pecahan, menerapkan prosedur penyamaan penyebut pada operasi perkalian pecahan, dan suku pertama yang dibalik pada operasi pembagian pecahan. Analisis *grounded theory* menghasilkan suatu rumusan teoritik hubungan antara cara berpikir peserta didik dan kemampuannya dalam pemecahan masalah, yakni semakin beragam cara berpikir peserta didik, semakin tinggi kemampuannya dalam memecahkan masalah pecahan.

**Kata kunci:** Model Translasi Lesh, *Mental acts*, *Ways of thinking*, *Ways of understanding*, Sekolah inklusif

# **STUDENTS' WAYS OF THINKING IN UNDERSTANDING FRACTIONS TOPIC THROUGH LEARNING WITH LESH TRANSLATION MODEL IN INCLUSIVE SCHOOL**

## **ABSTRACT**

This research aims to investigate students' ways of thinking when they learn fractions through Lesh Translation Model. This study was qualitative, with the case study and grounded theory designs. The participants were 27 students of the 7<sup>th</sup> graders in inclusive school. The data were collected through paper and pencil measure, observation, and interview. The results of the analysis show that 1) four mental acts are found in inclusive school students; those are interpreting, explaining, problem-solving, and inferring; ways of thinking that are found: diverse interpretations of mathematical symbols, ways of explaining, problem-solving approach, and ways of inferring; ways of understanding that are found: the meanings of mathematical symbols, an explanation of a problem, a solution, and a conclusion, 2) low-group students generally experience difficulties with various methods for problem-solving, some students in this group are suspected of having mathematics learning disabilities, 3) middle group students have application abilities, generalizations, and problem-solving that are lower than students in high groups, 4) high group students are appropriate to a variety of problem-solving methods, some students in this group are suspected of being mathematically gifted, 5) some patterns of errors in the form of misconceptions are found as follows: a lack of understanding of fraction representations, a lack of understanding of fraction comparisons, a mistake in applying the common denominator procedure to the fractions addition operation, applying the common denominator procedure to fractions multiplication operations, and in the fraction division operation, the first term is reversed, not the second term. Furthermore, grounded theory analysis produces a theoretical proposition of the relationship between students' ways of thinking and their ability, that is the more various ways of thinking, the more abilities in solving fraction problems.

**Keywords:** Lesh Translation Model, Mental Acts, Ways of Thinking, Ways of Understanding, Inclusive School

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