

**KEMAMPUAN *COGNITIVE FLEXIBILITY* DAN *SELF-EFFICACY*  
PESERTA DIDIK DALAM PEMECAHAN MASALAH MATEMATIS**

**DISERTASI**

Diajukan untuk memenuhi sebagian dari persyaratan memperoleh gelar  
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Rama Nida Siregar, 2023

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MASALAH MATEMATIS**

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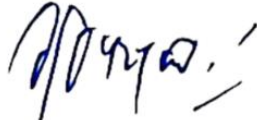
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PESERTA DIDIK DALAM PEMECAHAN MASALAH MATEMATIS**

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## ABSTRAK

**Rama Nida Siregar (2023).** Kemampuan *Cognitive Flexibility* dan *Self-Efficacy* Peserta Didik dalam Pemecahan Masalah Matematis.

Kemampuan *cognitive flexibility* dan *self-efficacy* begitu urgen bagi peserta didik ketika memecahkan permasalahan matematis. Dalam penelitian ini yang dimaksudkan dengan *cognitive flexibility* matematis yakni memiliki berbagai alternatif pilihan terhadap kemampuannya dalam memecahkan masalah sehingga dapat mencapai keberhasilan prestasi belajar peserta didik. Kemudian, diperlukan *self-efficacy* matematika yakni memiliki kegigihan yang lebih besar dalam memecahkan permasalahan matematis yang kompleks dan sederhana serta memiliki keyakinan diri bahwa dia mampu memecahkan permasalahannya. Selanjutnya, dalam penelitian terdahulu menunjukkan bahwa Kemampuan Pemecahan Masalah Matematis (KPMM) begitu urgen dianalisis karena berpengaruh pada hasil penyelesaiannya, namun kebanyakan dari studi tersebut dilaksanakan secara terpisah dan melihat hasil akhir saja tanpa melakukan analisis terhadap prosesnya. Tujuan penelitian ini yakni agar diperolehnya suatu gambaran mengenai deskripsi dan interpretasi tentang kemampuan *cognitive flexibility* dan *self-efficacy* peserta didik dalam pemecahan masalah matematis. Adapun metodologi yang digunakan yakni menggunakan pendekatan kualitatif dengan desain fenomenologi hermeneutika. Subjek penelitian ini yakni peserta didik SMPN 12, SMPN 29, dan SMP Kartika XIX - 2 Bandung kelas VIII semester ganjil tahun ajaran 2022/2023. Sebanyak 136 subjek dilibatkan, lalu dipilih 5 subjek KPMM tinggi, 5 subjek KPMM sedang, serta 5 subjek KPMM rendah. Adapun teknik pengumpulan data dengan tes, angket, observasi dan wawancara. Peneliti memaknai fenomena yang muncul pada diri subjek. Kemudian peneliti mengkonfirmasi hasil pemaknaan peneliti tersebut kepada subjek yang bersangkutan. Dari hasil penelitian yang ditetapkan pada 15 peserta didik diperoleh bahwa subjek kategori KPPM tinggi merupakan subjek yang dapat memenuhi semua indikator KPMM serta dapat melakukan pemeriksaan kembali pada masalah matematis yang diberikan mulai dari mengecek jawaban maupun ketika membentuk kesimpulannya. Sedangkan subjek KPMM sedang dan rendah belum dapat memenuhi indikator KPMM secara keseluruhan, serta tidak dapat melakukan pengecekan ulang dimulai daripada saat mengecek jawaban maupun membentuk kesimpulannya. Kemudian subjek pada kategori KPPM tinggi mampu memenuhi indikator Kemampuan *Cognitive Flexibility* (KCF) secara keseluruhan dengan baik. Sedangkan subjek KPPM sedang dan rendah tidak mampu memenuhi semua indikator KCF dengan baik. Selanjutnya *Self-Efficacy* (SE) peserta didik berdasarkan KPMM yakni dengan kategori KPPM tinggi mampu memenuhi semua indikator SE serta memenuhi semua karakteristik SE terkait penilaian tingkat kesulitan tugas (*magnitude*), keragaman tugas (*generality*), dan derajat kemantapan dalam menyelesaikan suatu tugas (*strength*) dirinya terkait dengan topik aritmetika sosial. Terakhir, subjek pada kategori SE tinggi mampu memenuhi indikator Kemampuan *Cognitive Flexibility* (KCF) secara keseluruhan dengan baik. Sedangkan subjek SE sedang dan rendah tidak mampu memenuhi semua indikator KCF dengan baik.

**Kata Kunci:** Kemampuan *cognitive flexibility*, *self-efficacy*, peserta didik, pemecahan masalah matematis.

## ABSTRACT

**Rama Nida Siregar (2023).** The Ability of Students' Cognitive Flexibility and Self-Efficacy in Mathematics Problem Solving.

The ability of cognitive flexibility and self-efficacy is so urgent for students when solving mathematical problems. In this study what is meant by mathematical cognitive flexibility is having various alternative choices for their ability to solve problems so that students can achieve successful learning achievements. Then, mathematical self-efficacy is needed, namely having greater persistence in solving complex and simple mathematical problems and having self-confidence that he is able to solve the problem. Furthermore, previous research has shown that Mathematical Problem Solving Ability (KPMM) is so urgent to be analyzed because it affects the results of its completion, but most of these studies were carried out separately and only looked at the final results without analyzing the process. The purpose of this study is to obtain an overview regarding the description and interpretation of students' cognitive flexibility and self-efficacy abilities in solving mathematical problems. The methodology used is a qualitative approach with a hermeneutical phenomenological design. The subjects of this study were students of SMPN 12, SMPN 29, and SMP Kartika XIX - 2 Bandung, class VIII, odd semester of the 2022/2023 academic year. A total of 136 subjects were involved, then 5 subjects with high KPMM, 5 subjects with moderate KPMM, and 5 subjects with low KPMM were selected. As for data collection techniques with tests, questionnaires, observation and interviews. Researchers interpret the phenomena that appear in the subject. Then the researcher confirmed the results of the researcher's meaning to the subject concerned. From the research results assigned to 15 students, it was found that subjects in the high KPMM category were subjects who could fulfill all KPMM indicators and could re-examine given mathematical problems starting from checking answers and when forming conclusions. Meanwhile, moderate and low KPMM subjects could not meet the KPMM indicators as a whole, and could not re-check starting from when checking answers or forming conclusions. Then subjects in the high KPMM category were able to fulfill the overall Cognitive Flexibility (KCF) indicator well. Meanwhile, moderate and low KPMM subjects were unable to fulfill all KCF indicators properly. Furthermore, students' Self-Efficacy (SE) based on KPMM, namely those with high KPMM categories are able to fulfill all SE indicators and fulfill all SE characteristics related to the assessment of the level of task difficulty (magnitude), task diversity (generality), and the degree of stability in completing a task (strength) himself related to the topic of social arithmetic. Finally, subjects in the high SE category were able to fulfill the overall Cognitive Flexibility (KCF) indicator well. Meanwhile, moderate and low SE subjects were unable to fulfill all KCF indicators properly.

**Keywords:** Cognitive flexibility, self-efficacy, students, mathematics problem solving.

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