

**PROSES BERPIKIR REFLEKTIF MATEMATIS MAHASISWA  
CALON GURU MATEMATIKA MELALUI PEMBELAJARAN  
METAKOGNITIF DALAM SETTING KOLABORATIF**

**DISERTASI**

**Diajukan untuk Memenuhi Sebagian Syarat Memperoleh Gelar  
Doktor Ilmu Pendidikan dalam Bidang Pendidikan Matematika**



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**PROSES BERPIKIR REFLEKTIF MATEMATIS**  
**MAHASISWA CALON GURU MATEMATIKA MELALUI**  
**PEMBELAJARAN METAKOGNITIF DALAM SETTING KOLABORATIF**

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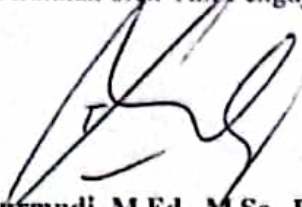
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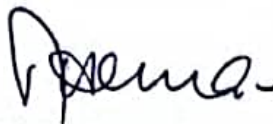
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## PERNYATAAN

*Dengan ini saya menyatakan bahwa disertasi dengan judul “Proses Berpikir Reflektif Matematis Mahasiswa Calon Guru Matematika Melalui Pembelajaran Metakognitif dalam Setting Kolaboratif” ini beserta seluruh isinya adalah benar-benar karya saya sendiri. Saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika ilmu yang berlaku dalam masyarakat keilmuan. Atas pernyataan ini, saya siap menanggung resiko/sanksi apabila di kemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.*

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**PROSES BERPIKIR REFLEKTIF MATEMATIS MAHASISWA CALON GURU MATEMATIKA MELALUI PEMBELAJARAN METAKOGNITIF DALAM SETTING KOLABORATIF**

**Abstrak**

**Penelitian ini bertujuan** mengkaji secara komprehensif dan mendalam tentang proses berpikir reflektif matematis yang terjadi pada mahasiswa calon guru matematika yang belajar dengan pembelajaran metakognitif dalam *setting* kolaboratif serta proses berpikir reflektif matematis yang terjadi pada mahasiswa calon guru matematika yang belajar dengan pembelajaran metakognitif dalam *setting* kolaboratif ditinjau dari *prior knowledge*. **Penelitian ini menggunakan paradigma interpretif** dengan pendekatan kualitatif. **Metodologi penelitian** yang digunakan adalah fenomenologi, yaitu mahasiswa memaknai pengalaman proses berpikir reflektif matematisnya yang di stimulus melalui pembelajaran metakognitif dalam setting kolaboratif. **metode penelitian** menggunakan *grounded theory*. Partisipan merupakan mahasiswa program studi pendidikan matematika di salah satu Universitas swasta di Sumatera Utara. **Penelitian ini menghasilkan** kesimpulan bahwa proses berpikir reflektif matematis merupakan proses kognitif dan afektif yang dapat dipicu melalui pembelajaran metakognitif dalam *setting* kolaboratif. Proses kognitif yang dimaksud adalah proses mengintegrasikan *prior knowledge* yang dimiliki dengan pemahaman matematis untuk digunakan sebagai dasar pengambilan keputusan atas permasalahan matematis yang sedang dihadapi serta proses afektif berupa resiliensi matematis yang menghantarkan untuk terjadinya proses berpikir reflektif matematis tersebut. Dalam konteks belajar matematika, semakin tinggi *prior knowledge* yang dimiliki seseorang maka akan semakin baik pula proses berpikir reflektif matematisnya.

**Kata Kunci** : Proses Berpikir Reflektif Matematis, Mahasiswa Calon Guru Matematika, Metakognitif dalam setting kolaboratif

MUNTAZHIMAH (1707211)

**MATHEMATICAL REFLECTIVE THINKING PROCESS OF  
PROSPECTIVE MATHEMATICS TEACHER STUDENTS THROUGH  
METACOGNITIVE LEARNING IN COLLABORATIVE SETTINGS**

**Abstract**

**This study aims** to thoroughly examine the mathematical reflective thinking processes in prospective mathematics teacher students who learn by metacognitive learning in a collaborative setting. It also investigates the mathematical reflective thinking processes in prospective mathematics teacher students experiencing metacognitive learning in a collaborative setting based on prior knowledge. This study employed an interpretive paradigm with a qualitative approach. This research applied phenomenology, where students define their mathematical reflective thinking experience stimulated by metacognitive learning in a collaborative setting. This research also applied the grounded theory method. Participants are students of the mathematics education study program at a private university in North Sumatra. This research concludes that mathematical reflective thinking is a cognitive and affective process that can be triggered through metacognitive learning in a collaborative setting. The cognitive process integrates prior knowledge with mathematical understanding as a basis for decision-making for mathematical problems and affective processes is mathematical resilience, leading to the mathematical reflective thinking process. In learning mathematics, the higher a person's prior knowledge, the better the mathematical reflective thinking process will be.

**Keywords:** Mathematical Reflective Thinking Process, Mathematics Student Teacher, Metacognitive in a collaborative setting

## KATA PENGANTAR

Bismillahirrahmanirrahim,

Puji syukur penulis sampaikan pada Allah SWT atas limpahan rahmat dan karuniaNya, sehingga disertasi yang berjudul “PROSES BERPIKIR REFLEKTIF MATEMATIS MAHASISWA CALON GURU MATEMATIKA MELALUI PEMBELAJARAN METAKOGNITIF DALAM SETTING KOLABORATIF” ini dapat diselesaikan.

Penyusunan disertasi ini dilakukan dalam rangka memenuhi sebagian syarat untuk memperoleh gelar Doktor Pendidikan Matematika (Dr.) pada Fakultas Pendidikan Matematika dan IPA Universitas Pendidikan Indonesia. Penulisan disertasi dibagi menjadi lima bab. Bab I berisi pendahuluan yang meliputi latar belakang masalah, tujuan penelitian, pertanyaan penelitian dan manfaat penelitian. Bab II berisi kajian literatur mengenai proses berpikir reflektif matematis, *prior knowledge*, pemahaman matematis, resiliensi matematis, pembelajaran metakognitif, pembelajaran kolaboratif, pembelajaran metakognitif dalam *setting* kolaboratif, dan *State of The Art* proses berpikir reflektif matematis. Bab III berisi metodologi penelitian yang mencakup desain penelitian, partisipan, prosedur pengumpulan data, dan teknik analisis data. Bab IV hasil dan pembahasan penelitian, serta Bab V kesimpulan, implikasi serta rekomendasi.

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Lampiran 1 data hasil prior knowledge

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