

**PENINGKATAN KEMAMPUAN REPRESENTASI MATEMATIS DAN  
RESILIENSI MATEMATIS MELALUI *BLENDED LEARNING*  
BERBASIS PENDIDIKAN MATEMATIKA REALISTIK**

**DISERTASI**

Diajukan untuk Memenuhi Syarat untuk  
Memperoleh Gelar Doktor Program Studi  
Pendidikan Matematika



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FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM  
UNIVERSITAS PENDIDIKAN INDONESIA**

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**PENINGKATAN KEMAMPUAN REPRESENTASI MATEMATIS  
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Disetujui dan Disahkan oleh Panitia Disertasi



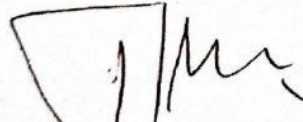
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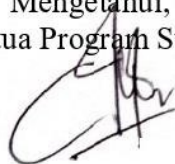


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## PERNYATAAN KEASLIAN

Dengan ini saya menyatakan bahwa disetasi dengan judul “Peningkatan Kemampuan Representasi Matematis dan Resiliensi Matematis melalui *Blended Learning* Berbasis Pendidikan Matematika Realistik” beserta seluruh isinya adalah benar-benar karya saya sendiri, dan saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika keilmuan yang berlaku. Saya siap menanggung resiko/sanksi yang dijatuhkan kepada saya apabila kemudian hari ditemukan adanya pelanggaran terhadap etika keilmuan dalam karya saya ini, atau ada klaim pihak lain terhadap keaslian karya saya ini.

Bandung, Agustus 2023  
Yang membuat pernyataan



Laelasari

## ABSTRAK

### **Laelasari (2023). Peningkatan Kemampuan Representasi Matematis dan Resiliensi Matematis melalui *Blended Learning* Berbasis Pendidikan Matematika Realistik**

Penelitian ini bertujuan untuk mengkaji secara komprehensif tentang peningkatan kemampuan representasi dan resiliensi matematis mahasiswa melalui pembelajaran *blended learning* berbasis pendidikan matematika realistik. Desain yang digunakan dalam penelitian ini adalah desain eksperimen jenis pretest-posttest-control group design. Desain penelitian menggunakan jenis kuasi eksperimen dengan kelompok control non-equivalen. Populasi penelitian ini meliputi seluruh calon guru matematika yang sedang mengampu mata kuliah Program Linear di salah satu perguruan tinggi swasta di Wilayah III Cirebon pada Tahun Akademik 2018-2019. Sampel penelitian diambil secara purposif sebanyak 42 orang yang terbagi menjadi 22 orang mahasiswa pada kelas eksperimen dan 20 orang pada kelas kontrol. Penelitian ini menggunakan dua kelas untuk setiap kelasnya dibagi menjadi kategori tinggi, sedang dan rendah berdasarkan kategori KAM. Analisis data dilakukan secara kuantitatif terhadap data pretes dan postes untuk melihat pencapaian serta peningkatann data angket untuk melihat kemampuan resiliensi matematis. Hasil penelitian menunjukkan bahwa: 1) Pencapaian kemampuan representasi matematis mahasiswa yang memperoleh pembelajaran BLMPR lebih baik dari pada yang memperoleh BL; 2)Peningkatan kemampuan representasi matematis mahasiswa yang memperoleh perkuliahan BLPMPR lebih baik dari pada yang memperoleh BL; 3) Pencapaian kemampuan resiliensi matematis mahasiswa yang memperoleh pembelajaran BLMPR lebih baik dari pada yang memperoleh BL; 4) Peningkatan kemampuan resiliensi matematis mahasiswa yang memperoleh pembelajaran BLMPR lebih baik dari pada yang memperoleh BL; 5) Tidak terdapat efek interaksi model pembelajaran (BLPMR dan BL) dan KAM (tinggi, sedang, dan rendah) terhadap pencapaian kemampuan representasi matematis; 6) Tidak terdapat efek interaksi model pembelajaran (BLPMR dan BL) dan KAM (tinggi, sedang, dan rendah) terhadap peningkatan kemampuan representasi matematis; 7) Terdapat efek interaksi model pembelajaran (BLPMR dan BL) dan KAM (tinggi, sedang, dan rendah) terhadap pencapaian kemampuan resiliensi matematis. 8) Terdapat efek interaksi model pembelajaran (BLPMR dan BL) dan KAM (tinggi, sedang, dan rendah) terhadap peningkatan kemampuan resiliensi matematis.

**Kata Kunci:** Peningkatan, Kemampuan Representasi Matematis, Resiliensi Matematis, *Blended Learning*, Pendidikan Matematika Realistik.

## ABSTRACT

### **Laelasari (2023). Improving Mathematics Representation Ability and Mathematics Resilience through Blended Learning Based on Realistic Mathematics Education**

This study aims to comprehensively examine the improvement of students' mathematical representation abilities and resilience through blended learning based on realistic mathematics education. The design used in this study was an experimental design with a pretest-posttest-control group design. The research design uses a quasi-experimental type with a non-equivalent control group. The population of this study includes all prospective mathematics teachers who are teaching Linear Programming courses at a private university in Region III Cirebon in the 2018-2019 Academic Year. The research sample was taken purposively as many as 42 people which were divided into 22 students in the experimental class and 20 people in the control class. This study uses two classes for each class divided into high, medium, and low categories based on the KAM category. Data analysis was carried out quantitatively on pre-test and post-test data to see the achievement and improvement of the questionnaire data to see the ability of mathematics resilience. The results of the study show that: 1) The achievement of the mathematics representation abilities of students who receive BLMPR learning is better than those who receive BL; 2) Improving the mathematics representation ability of students who receive BLMPR lectures is better than those who receive BL; 3) Achievement of students' mathematics resilience abilities who received BLMPR learning was better than those who received BL; 4) Increasing the mathematics resilience ability of students who receive BLMPR learning is better than those who receive BL; 5) There is no interaction effect of learning models (BLPMR and BL) and KAM (high, medium, and low) on the achievement of mathematical representation abilities; 6) There is no interaction effect of learning models (BLPMR and BL) and KAM (high, medium, and low) on increasing the ability of mathematics representation; 7) There is an interaction effect of learning models (BLPMR and BL) and KAM (high, medium, and low) on the achievement of mathematics resilience abilities. 8) There is an interaction effect of learning models (BLPMR and BL) and KAM (high, medium, and low) on increasing mathematics resilience abilities.

**Keywords:** Improvement, Mathematics Representation Ability, Mathematics Resilience, Blended Learning, Realistic Mathematic Education.

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