

*REALISTIC MATHEMATICS EDUCATION BERBASIS EMERGENT
MODELING UNTUK MENINGKATKAN KEMAMPUAN BERPIKIR
KRITIS DAN KREATIF MATEMATIS SERTA CURIOSITY
MAHASISWA CALON GURU*

DISERTASI

diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar
Doktor Pendidikan Matematika



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*REALISTIC MATHEMATICS EDUCATION BERBASIS EMERGENT MODELING UNTUK MENINGKATKAN
KEMAMPUAN BERPIKIR KRITIS DAN KREATIF MATEMATIS SERTA CURIOSITY MAHASISWA CALON
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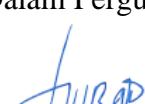
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ABSTRAK

Ekasatya Aldila Afriansyah (2021). *Realistic Mathematics Education Berbasis Emergent Modeling untuk Meningkatkan Kemampuan Berpikir Kritis dan Kreatif Matematis serta Curiosity Mahasiswa Calon Guru.*

Kemampuan Berpikir Kritis Matematis (KBKiM), Kemampuan Berpikir Kreatif Matematis (KBKeM), dan *curiosity* diperlukan mahasiswa calon guru untuk memecahkan suatu permasalahan matematis. Menurut berbagai penelitian relevan, kemampuan tersebut masih tergolong rendah. Perlu pembelajaran yang dapat mendukung peningkatan kemampuan tersebut. Penelitian ini bertujuan untuk menggambarkan pencapaian dan peningkatan KBKiM dan KBKeM serta *curiosity* sebagai dampak penggunaan *Realistic Mathematics Education* berbasis *Emergent Modeling* (RME-EM) ditinjau dari keseluruhan mahasiswa calon guru dan Kemampuan Awal Matematis (KAM). Dengan menggunakan metode kuasi eksperimen dengan desain kelompok kontrol *pretest-posttest*, 51 mahasiswa calon guru di Kota Garut mewakili satu institusi swasta. Dalam penelitian ini digunakan dua kelompok sebagai sampel penelitian, yaitu kelompok eksperimen yang memperoleh pembelajaran RME-EM (Kelompok RME-EM) dan kelompok kontrol yang memperoleh pembelajaran konvensional (Kelompok Konvensional). Analisis data menggunakan Anova satu jalur dan Anova dua jalur. Dari hasil penelitian disimpulkan: 1) Secara keseluruhan, pencapaian dan peningkatan KBKiM serta KBKeM kelompok RME-EM lebih baik daripada kelompok Konvensional. Ditinjau dari KAM, pencapaian dan peningkatan KBKiM dan KBKeM kelompok RME-EM lebih baik daripada kelompok Konvensional; 2) Tidak terdapat pengaruh interaksi antara pembelajaran dan KAM, terhadap pencapaian KBKiM, serta pencapaian dan peningkatan KBKeM, namun terdapat pengaruh interaksi antara pembelajaran dan KAM, terhadap peningkatan KBKiM; Secara keseluruhan, tidak terdapat pencapaian dan peningkatan *curiosity* antara kelompok RME-EM dan Konvensional; 4) Tidak terdapat pengaruh interaksi antara pembelajaran dan KAM, terhadap pencapaian dan peningkatan *curiosity*.

Kata kunci: kemampuan berpikir kritis matematis, kemampuan berpikir kreatif matematis, *curiosity*, *Realistic Mathematics Education* berbasis *Emergent Modeling*.

ABSTRACT

Ekasatya Aldila Afriansyah (2021). Realistic Mathematics Education Based on Emergent Modeling to Improve Mathematical Critical and Creative Thinking Abilities and Curiosity of Prospective Teachers.

Critical Mathematical Thinking Ability (KBKiM), Creative Mathematical Thinking Ability (KBKeM), and Curiosity are needed by prospective teacher students to solve mathematical problems. According to many relevant studies, this ability is still relatively low. Learning is needed to support the improvement of these abilities. This study proposes to describe the achievement and improvement of KBKiM and KBKeM as well as curiosity as the result of using Realistic Mathematics Education based on Emergent Modeling (RME-EM) in terms of overall prospective teachers and Mathematical Early Ability (KAM). Employing a quasi-experimental method with a pretest-posttest control group design, 51 prospective teachers in the City of Garut represent prospective teachers in Institut Pendidikan Indonesia. In this study, two groups were employed as research samples, namely the experimental group who experienced RME-EM learning (RME-EM group) and the control group who experienced conventional learning (Conventional Group). Data analysis employs one-way Anova and two-way Anova. The results of the study concluded: 1) Overall, the achievement and improvement of the KBKiM and KBKeM in the RME-EM group were better than the Conventional group. In terms of KAM, the achievement and improvement of KBKiM and KBKeM in the RME-EM group is better than the Conventional group; 2) There is no effect of interaction between learning and KAM, on the achievement of KBKiM, as well as the achievement and improvement of KBKeM, but there is an influence of interaction between learning and KAM, on increasing KBKiM; Overall, there was no achievement and increased curiosity between the RME-EM and Conventional groups; 4) There is no effect of interaction between learning and KAM, towards achieving and increasing curiosity.

Keywords: mathematical critical thinking ability, mathematical creative thinking ability, curiosity, Realistic Mathematics Education based on Emergent Modeling, quasi-experimental method.

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