

**PENGEMBANGAN *FLIPPED PROBLEM-BASED LEARNING (FPBL)*
UNTUK MENINGKATKAN
KEMAMPUAN BERPIKIR REFLEKTIF MATEMATIS
DAN *SELF EFFICACY* CALON GURU MATEMATIKA**

DISERTASI

diajukan untuk memenuhi sebagian syarat untuk memperoleh
gelar Doktor Pendidikan Matematika



Oleh :

RIVA LESTA ARIANY

NIM 1802969

**PROGRAM STUDI
PENDIDIKAN MATEMATIKA
FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS PENDIDIKAN INDONESIA
2024**

**Pengembangan *Flipped Problem – Based Learning* (FPBL) untuk
Meningkatkan
Kemampuan Berpikir Reflektif Matematis dan *Self Efficacy* Calon
Guru Matematika**

Oleh

Riva Lesta Ariany

S.Pd. Universitas Islam Negeri Sunan Gunung Djati, 2011

M.Pd. Universitas Pendidikan Indonesia, 2014

Sebuah Disertasi yang diajukan untuk memenuhi salah satu syarat memperoleh gelar
Doktor Pendidikan (Dr) pada Fakultas Pendidikan Matematika dan Ilmu Pengetahuan
Alam

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Maret 2024

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HALAMAN PENGESAHAN

RIVA LESTA ARIANY
NIM. 1802969


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UNTUK MENINGKATKAN KEMAMPUAN BERPIKIR REFLEKTIF MATEMATIS
DAN *SELF EFFICACY* CALON GURU MATEMATIKA

Disetujui dan Disahkan oleh Panitia Disertasi:

Promotor


Prof. Dr. Rizky Rosjanuardi, M.Si.
NIP.196901191993031001


Ko-Promotor


Prof. Dr. H. Dadang Juandi, M.Si.
NIP.196401171992021001

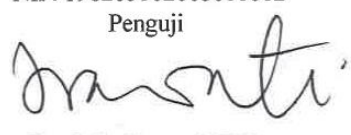
Penguji


Prof. Turmudi, M.Ed., M.Sc., Ph.D.
NIP.196101121987031003

Penguji



Prof. Al Jupri, S.Pd., M.Sc., Ph.D.
NIP. 198205102005011002

Penguji


Prof. Dr. Irawati, MS.
NIP. 195904181983032001

Mengetahui,

Ketua Program Studi Pendidikan Matematika
FPMIPA Universitas Pendidikan Indonesia


Prof. Al Jupri, S.Pd., M.Sc., Ph.D.
NIP.198205102005011002

ABSTRAK

Riva Lesta Ariany (2023). Pengembangan *Flipped Problem – Based Learning* (FPBL) untuk Meningkatkan Kemampuan Berpikir Reflektif Matematis dan *Self Efficacy* Calon Guru Matematika

Berpikir reflektif matematis dan *self efficacy* merupakan aspek penting yang perlu dimiliki calon guru matematika. Pengembangan model pembelajaran *Flipped Problem – Based Learning* (FPBL) merupakan salah satu upaya dosen untuk meningkatkan kemampuan berpikir reflektif matematis dan *self efficacy* calon guru matematika. Penelitian ini bertujuan untuk mengembangkan model pembelajaran yang dapat meningkatkan kemampuan berpikir reflektif matematis dan *self efficacy* mahasiswa, memberikan deskripsi peningkatan kemampuan berpikir reflektif matematis, *self efficacy*, karakteristik berpikir reflektif, kontribusi kemampuan berpikir reflektif matematis terhadap keterampilan mengajar. Metode penelitian ini adalah *research and development*, dengan 10 tahap pengembangan. Mahasiswa yang terlibat dalam uji coba awal sejumlah 12 mahasiswa, 24 mahasiswa pada uji coba produk utama, 10 orang mahasiswa pada uji coba empiris, dan tahap implementasi melibatkan 12 mahasiswa tingkat III semester genap di salah satu Perguruan Tinggi Keagamaan Islam Negeri di Jawa Barat. Hasil penelitian menunjukkan bahwa model pembelajaran FPBL memberikan kontribusi terhadap peningkatan kemampuan berpikir reflektif matematis dan *self efficacy*. Rata-rata peningkatan kemampuan berpikir reflektif mahasiswa secara keseluruhan berada pada kategori sedang. *Self efficacy* mahasiswa menunjukkan peningkatan hanya saja peningkatannya masih pada kategori rendah. Hasil analisis terhadap karakteristik berpikir reflektif menunjukkan bahwa 1 orang mahasiswa berada pada level teknis, 7 orang pada level kontekstual dan 2 orang pada level dialektik. Kontribusi kemampuan berpikir reflektif matematis terhadap keterampilan mengajar mahasiswa sebesar 67.90%. Kemampuan berpikir reflektif matematis mahasiswa yang memiliki *self efficacy* awal tinggi unggul pada indikator mengidentifikasi soal yang mungkin ambigu dan menentukan berbagai kemungkinan solusi, mengidentifikasi informasi yang hilang, mengidentifikasi penalaran logis, mengevaluasi/memeriksa kebenaran argumen/alasan berdasarkan konsep/sifat matematika yang digunakan.

Kata Kunci: Berpikir Reflektif, *Flipped Classroom*, *Problem-Based Learning*, *Self Efficacy*

ABSTRACT

Riva Lesta Ariany (2023). Development of Flipped Problem - Based Learning (FPBL) to Improve Mathematical Reflective Thinking Ability and Self Efficacy of Prospective Mathematics Teachers

Mathematical reflective thinking and self-efficacy are important aspects that prospective mathematics teachers need to have. The development of the Flipped Problem – Based Learning (FPBL) learning model is one of the lecturers' efforts to improve mathematical reflective thinking skills and the self-efficacy of prospective mathematics teachers. This research aims to develop a learning model that can improve students' mathematical reflective thinking abilities and self-efficacy, providing a description of increasing mathematical reflective thinking abilities, self-efficacy, characteristics of reflective thinking, the contribution of mathematical reflective thinking abilities to teaching skills. This research method is research and development, with 10 development stages. There were 12 students involved in the initial trial, 24 students in the main product trial, 10 students in the empirical trial, and the implementation phase involved 12 even semester III students at one of the State Islamic Religious Universities in West Java. The research results show that the FPBL learning model contributes to increasing mathematical reflective thinking abilities and self-efficacy. The average increase in students' overall reflective thinking abilities is in the medium category. Student self-efficacy shows an increase, but the increase is still in the low category. The results of the analysis of the characteristics of reflective thinking show that 1 student is at the technical level, 7 people are at the contextual level and 2 person is at the dialectical level. The contribution of mathematical reflective thinking skills to students' teaching skills is 67.90%. The mathematical reflective thinking ability of students who have high initial self-efficacy excels in the indicators of identifying questions that may be ambiguous and determining various possible solutions, identifying missing information, identifying logistical reasoning, generating/checking the correctness of arguments/reasons based on the mathematical concepts/properties used.

Keywords: Reflective Thinking, Flipped Classroom, Problem-Based Learning, Self Efficacy

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