STUDI META-ANALISIS: EFEKTIVITAS MODEL *PROJECT-BASED LEARNING* DALAM PEMECAHAN MASALAH DAN BERPIKIR KREATIF MATEMATIS SISWA

TESIS

Diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar

Magister Pendidikan Matematika

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TESIS

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ABSTRAK

Yunita, (2021) Studi Meta-analisis: Efektivitas Model *Project-Based Learning* dalam pemecahan masalah dan berpikir kreatif matematis siswa.

Kajian literatur mengenai efektivitas model *Project-Based Learning* (PjBL) dalam pemecahan masalah (PM) dan berpikir kreatif (BK) matematis siswa sangat massive dari tahun ke tahun. Studi meta-analisis ini bertujuan untuk mengetahui besar ukuran efek yang terjadi apabila model PjBL diterapkan mampu meningkatkan PM dan BK matematis siswa, dan menganalisis karakteritik studi. Studi bersumber dari mesin pencarian google scholar, ERIC (Institute of Education Science), IOP Publishing, dan Repository dari Januari 2014 hingga Juni 2021 diperoleh 24 ukuran efek terdiri dari 12 ukuran efek PM dan 12 ukuran efek BK matematis siswa dari 23 studi dan 1472 jumlah keseluruhan siswa. Untuk meningkatkan presisi dalam perhintungan data, menggunakan perangkat *Comprehensive Meta-analysis* (CMA) Ver. 3.3 dan Ms. Excel. Ukuran efek ini berdasarkan pada persamaan hedges dengan tingkat kepercayaan sebesar 95%. Diperoleh informasi bahwa ukuran efek yang mempengaruhi terhadap PM matematis siswa sebesar 1,284 dan ukuran efek yang mempengaruhi terhadap BK matematis siswa sebesar 1,190 dengan menggunakan model efek acak. Ada lima kajian karakterisitik studi penelitian. Berdasarkan karakterisitik studi menunjukan bahwa model PjBL lebih efektif meningkatkan PM diterapkan pada jenjang SMP, jumlah siswa dalam satu kelas terdiri dari $\leq$30 siswa, teknik sampling *random* tepat untuk dipilih, jenis publikasi berupa jurnal dan lebih massive pada tahun 2017. Hal ini pun hampir sama pada penerapan model PjBL yang mampu secara efektif meningkatkan BK, adapun perbedaanya, jumlah siswa dalam satu kelas terdiri lebih dari 30 siswa. Temuan ini membantu mempermudah penerapan model PjBL yang lebih efektif oleh pendidik dimasa yang akan datang dalam meningkatkan PM dan BK.

Kata Kunci: *Project-Based Learning,* Pemecahan Masalah, Kemampuan Berpikir Kreatif, Matematika, Meta-analisis

ABSTRACT

Yunita, (2021) Meta-analysis Study: Effectiveness of Project-Based Learning Model in students' problem-solving and mathematical creative thinking.

Literature studies regarding the effectiveness of the Project-Based Learning (PjBL) model in problem-solving abilities (PS) and creative mathematical thinking (CT) are very massive from year to year. This meta-analysis study aims to determine the effect that occurs when the PjBL model is applied to improve students' mathematical PS and CM and analyse the study's characteristics. Studies sourced from search engines google scholar, ERIC (Institute of Education Science), IOP Publishing, and Repository from January 2014 to April 2021 obtained 24 effect sizes consisting of 12 PS effect sizes and 12 student mathematical CT effect sizes from 23 studies and 1472 total the whole student. To increase precision in data calculations, using the *Comprehensive Meta-analysis* (CMA) Ver. 3.0 and Ms Excel. This effect size is based on the hedges equation with a 95% confidence level. Information obtained that the effect size that affects students' mathematical PS is 1.284 and the effect size that affects students' mathematical CT is 1.190 using a *random*-effects model. There are five studies of research study characteristics. Based on the characteristics of the study, it shows that the PjBL model is more effective in increasing the PS applied at the junior high school level, the number of students in one class consists of 30 students, the *random sampling* technique is appropriate to choose, the type of publication is in the form of a journal and is more massive in 2017. This is almost the same. On applying the PjBL model that can effectively improve CT, as for the difference, the number of students in one class consists of more than 30 students. These findings help facilitate the implementation of a more effective PjBL model by educators to improve PS and CT.

Keywords: Project-Based Learning, Problem Solving, Creative Thinking, Mathematics, Meta-analysis

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