

ABSTRAK

SALSABILA RIZQIA CHAHYANI SOFYAN (2026). **Pendekatan *Deep Learning* Melalui Model *Project Based Learning* Berbantuan *Wayground* Untuk Meningkatkan Pemecahan Masalah Matematis Dan *Self-efficacy* Murid**

Kemampuan pemecahan masalah matematis dan *self-efficacy* murid di Indonesia masih tergolong rendah. Hal ini terlihat dari hasil PISA 2022 yang menunjukkan skor matematika Indonesia sebesar 366, masih berada di bawah rata-rata OECD sebesar 472. Kondisi serupa ditemukan di salah satu SMA Swasta Bandung, di mana rata-rata hasil belajar matematika murid sebesar 35,02 masih berada di bawah KKTP sekolah, yaitu 75. Selain itu, sekitar 50% murid menunjukkan tingkat *self-efficacy* yang rendah dalam pembelajaran matematika. Oleh karena itu, diperlukan suatu inovasi pembelajaran yang mampu meningkatkan kemampuan pemecahan masalah matematis sekaligus memperkuat *self-efficacy* murid. Penelitian ini bertujuan untuk mengetahui pengaruh penerapan pendekatan *Deep Learning* melalui model *Project Based Learning* (PjBL) berbantuan *Wayground* terhadap kemampuan pemecahan masalah matematis dan *self-efficacy* murid, serta mengkaji hubungan antara kedua variabel tersebut. Penelitian menggunakan metode *Mixed Methods* tipe *Embedded Design* dengan metode dominan kuasi eksperimen dan desain *Posttest-Only Control Group*. Sampel penelitian terdiri atas kelas X E-1 sebagai kelas eksperimen dan kelas X E-4 sebagai kelas kontrol, yang dipilih melalui teknik *purposive sampling*. Data dikumpulkan melalui tes kemampuan pemecahan masalah matematis, angket *self-efficacy*, dan wawancara. Hasil penelitian menunjukkan bahwa kemampuan pemecahan masalah matematis murid yang memperoleh pembelajaran PjBL berbantuan *Wayground* lebih baik dibandingkan murid yang memperoleh pembelajaran konvensional. *Self-efficacy* murid pada kelas eksperimen juga lebih baik, ditunjukkan oleh meningkatnya keyakinan diri dan ketekunan dalam menyelesaikan tugas matematika. Selain itu, terdapat hubungan positif yang signifikan antara kemampuan pemecahan masalah matematis dan *self-efficacy* dengan koefisien korelasi Pearson sebesar 0,592 yang termasuk kategori sedang. Temuan ini menunjukkan bahwa penerapan pendekatan *Deep Learning* melalui model PjBL berbantuan *Wayground* dapat mendukung pengembangan aspek kognitif dan afektif murid secara bersamaan.

Kata Kunci: *Deep Learning*, *Project Based Learning*, *Wayground*, kemampuan pemecahan masalah matematis, *self-efficacy*.

ABSTRACT

SALSABILA RIZQIA CHAHYANI SOFYAN (2026). ***Deep Learning Approach Thru Project-Based Learning Model Assisted by Wayground to Improve***

Students' Mathematical Problem Solving and Self-efficacy The ability to solve mathematical problems and students' self-efficacy in Indonesia is still relatively low. This is evident from the PISA 2022 results, which show Indonesia's mathematics score of 366, still below the OECD average of 472. A similar condition is found in one of the private high schools in Bandung, where the average mathematics learning outcome of the students is 35.02, still below the school's KKTP, which is 75. In addition, around 50% of students show a low level of self-efficacy in mathematics learning. Therefore, an innovative learning approach is needed that can enhance mathematical problem-solving skills while simultaneously strengthening students' self-efficacy. This study aims to determine the effect of applying the Deep Learning approach thru the Project Based Learning (PjBL) model assisted by Wayground on students' mathematical problem-solving abilities and self-efficacy, as well as to examine the relationship between these two variables. The research uses the Mixed Methods approach of the Embedded Design type with a dominant quasi-experimental method and a Posttest-Only Control Group design. The research sample consists of class X E-1 as the experimental class and class X E-4 as the control class, selected thru purposive sampling techniques. Data were collected thru mathematical problem-solving ability tests, self-efficacy questionnaires, and interviews. The research results show that the mathematical problem-solving abilities of students who received Wayground-assisted PjBL learning were better compared to students who received conventional learning. The self-efficacy of students in the experimental class was also better, as evidenced by increased self-confidence and perseverance in completing math tasks. Additionally, there is a significant positive relationship between mathematical problem-solving ability and self-efficacy with a Pearson correlation coefficient of 0.592, which falls into the moderate category. These findings indicate that the application of the Deep Learning approach thru the Wayground-assisted PjBL model can support the simultaneous development of students' cognitive and affective aspects.

Keywords: Deep Learning, Project Based Learning, Wayground, mathematical problem-solving skills, self-efficacy.

RINGKESAN

SALSABILA RIZQIA CHAHYANI SOFYAN (2026). Pendekatan Deep Learning Ngaliwatan Modél Project Based Learning Dibantuan ku Wayground pikeun Ngaronjatkeun Kamampuh Ngaréngsékeun Masalah Matematis jeung Self-efficacy Murid.

Kamampuh ngaréngsékeun masalah matematis jeung self-efficacy murid di Indonésia masih kénéh kawilang handap. Ieu hal katitén tina hasil PISA taun 2022 anu némbongkeun yén skor matematika Indonésia ngan ngahontal 366, masih aya di handapeun rata-rata OECD nyaéta 472. Kaayaan anu sarupa kapanggih di salah sahiji SMA Swasta di Bandung, anu rata-rata hasil diajar matematika muridna ngan ngahontal 35,02, masih handapeun KKTP sakola nyaéta 75. Salian ti éta, kira-kira 50% murid miboga tingkat self-efficacy anu handap dina pangajaran matematika. Ku kituna, diperlukeun hiji inovasi pangajaran anu mampuh ngaronjatkeun kamampuh ngaréngsékeun masalah matematis sakaligus nguatkeun self-efficacy murid. Panalungtikan ieu miboga tujuan pikeun mikanyaho pangaruh panerapan pendekatan Deep Learning ngaliwatan modél Project Based Learning (PjBL) dibantuan ku Wayground kana kamampuh ngaréngsékeun masalah matematis jeung self-efficacy murid, sarta nalungtik hubungan antara éta dua variabel. Panalungtikan ngagunakeun métode Mixed Methods tipe Embedded Design kalayan métode dominan kuasi ékspérimén sarta desain Posttest-Only Control Group. Sampel panalungtikan ngawengku kelas X E-1 salaku kelas ékspérimén jeung kelas X E-4 salaku kelas kontrol anu dipilih ngaliwatan téknik purposive sampling. Data dikumpulkeun ngaliwatan tés kamampuh ngaréngsékeun masalah matematis, angkét self-efficacy, jeung wawancara. Hasil panalungtikan némbongkeun yén kamampuh ngaréngsékeun masalah matematis murid anu meunang pangajaran PjBL dibantuan ku Wayground leuwih hadé batan murid anu meunang pangajaran konvensional. Self-efficacy murid dina kelas ékspérimén ogé leuwih hadé, anu katitén tina ngaronjatna kayakinan diri jeung katekunan dina ngaréngsékeun pancén matematika. Salian ti éta, aya hubungan positif anu signifikan antara kamampuh ngaréngsékeun masalah matematis jeung self-efficacy. Ieu hasil panalungtikan némbongkeun yén panerapan pendekatan Deep Learning ngaliwatan modél PjBL dibantuan ku Wayground mampuh ngarojong kamekaran aspék kognitif jeung aféktif murid sacara babarengan.

Kecap Konci: Deep Learning, Project Based Learning (PjBL), Wayground, kamampuh ngaréngsékeun masalah matematis, self-efficacy.