

## Abstrak

**Muhammad Aldi, NIM 4202111002 (2024). Pengembangan Bahan Ajar Digital Berbasis *Problem Based Learning* (PBL) untuk Meningkatkan Kemampuan Literasi Matematis Siswa Kelas VIII SMP.**

Penelitian ini bertujuan untuk (1) mengetahui kualitas bahan ajar digital berbasis *Problem Based Learning* (PBL) dalam hal validitas, (2) mengetahui kualitas bahan ajar digital berbasis *Problem Based Learning* (PBL) dalam hal kepraktisan, dan (3) mengetahui kualitas bahan ajar digital berbasis *Problem Based Learning* (PBL) dalam hal efektivitas sehingga dapat meningkatkan kemampuan literasi matematis siswa dengan menerapkan bahan ajar digital. Metode penelitian yang digunakan dalam penelitian ini adalah model pengembangan ADDIE (*Analysis, Design, Development, Implementation, and Evaluation*). Subjek dalam penelitian ini adalah siswa kelas VIII-1 SMPN 2 Percut Sei Tuan, dan objek penelitian ini adalah bahan ajar digital berbasis *Problem Based Learning* (PBL) yang bertujuan meningkatkan literasi matematis siswa. Instrumen yang digunakan dalam penelitian ini adalah angket dan tes. Hasil penelitian memperlihatkan bahwa: (1) Bahan ajar digital yang dikembangkan valid dengan skor 4,42 pada ahli materi dan 4,10 pada ahli media, keduanya dalam kategori sangat layak (SL), ahli materi pada rentang  $> 4,2$  dengan kategori sangat valid sedangkan ahli media pada rentang  $3,4 < V \leq 4,2$  pada kategori valid. (2) Bahan ajar digital yang dikembangkan telah mencukupi kriteria kepraktisan ( $80 < V_p \leq 100$ ), yaitu pada kepraktisan guru sebesar 91,25% dan kepraktisan siswa sebesar 89,37%, (3) Bahan ajar digital yang dikembangkan telah mencukupi kriteria efektif berdasarkan (a) ketuntasan belajar klasikal siswa sebesar 93,75%, (b) tercapainya indikator/tujuan pembelajaran individu sebesar 84,00, (c) respon positif dari siswa sebesar 98,43% pada kriteria sangat positif, dan (d) peningkatan kemampuan literasi matematis siswa dari rata-rata *pretest* 40,10 menjadi 84,00 pada *posttest* pada setiap indikator, sedangkan rata-rata kemampuan literasi matematis secara keseluruhan diperoleh skor 47,5 pada *pretest* dan skor 84,5 pada *posttest*, dengan analisis N-Gain menunjukkan peningkatan sebesar 0,742 dalam kategori tinggi.

**Kata Kunci:** Bahan Ajar Digital, *Problem Based Learning*, Kemampuan Literasi Matematis

## Abstract

**Muhammad Aldi, NIM 4202111002 (2024). *Development of Digital Teaching Materials Based on Problem Based Learning (PBL) to Improve Students' Mathematical Literacy Abilities in Class VIII SMP.***

*This research aims to (1) determine the quality of digital teaching materials based on Problem Based Learning (PBL) in terms of validity, (2) determine the quality of digital teaching materials based on Problem Based Learning (PBL) in terms of practicality, and (3) determine the quality of digital teaching materials based on Problem Based Learning (PBL) in terms of effectiveness so that it can improve students' mathematical literacy skills by applying digital teaching materials. The research method used in this study is the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) development model. The subjects in this study were students of class VIII-1 of SMPN 2 Percut Sei Tuan, and the object of this study was digital teaching materials based on Problem Based Learning (PBL) which aimed to improve students' mathematical literacy. The instruments used in this study were questionnaires and tests. The research results show that: (1) The digital teaching materials developed are valid with a score of 4.42 for material experts and 4.10 for media experts, both in the very appropriate (SL) category, material experts in the range  $> 4.2$  in the very valid category while media experts in the range  $3.4 < V \leq 4.2$  in the valid category. (2) The digital teaching materials developed have met the criteria of practicality ( $80 < Vp \leq 100$ ), namely teacher practicality of 91.25% and student practicality of 89.37%, (3) The digital teaching materials developed have met the criteria of effectiveness based on (a) students' classical learning completion of 93.75%, (b) achievement of individual learning indicators/objectives of 84.00, (c) positive responses from students of 98.43% in the very positive criteria, and (d) an increase in students' mathematical literacy skills from an average pretest of 40.10 to 84.00 in the posttest for each indicator, while the average overall mathematical literacy skills obtained a score of 47.5 in the pretest and a score of 84.5 in the posttest, with the N-Gain analysis showing an increase of 0.742 in the high category.*

**Keywords:** *Digital Teaching Materials, Problem Based Learning, Mathematical Literacy Abilities*