

ABSTRACT

DEVELOPMENT OF E-WORKSHEETS USING THE PROBLEM-BASED LEARNING MODEL TO IMPROVE STUDENTS' MATHEMATICAL REPRESENTATION ABILITY

By

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This development research aims to produce E-LKPD based on Problem Based Learning using Wizer.me which is valid, practical, and effective in improving the ability of mathematical representation. This research uses the ADDI-E development model. The sample in this study were students of class XI.7 as the control class and XI.8 as the experimental class at SMA Negeri 1 Kotabumi in the 2024/2025 academic year. The research data were obtained through observation, interviews, questionnaires and the results of the mathematical representation ability test which were analyzed using the t-test and the N-Gain value. The results of the development of PBL-based E-LKPD were declared valid and practical. The results of the effectiveness test show that E-LKPD based on Problem Based Learning using Wizer.me can improve the ability of mathematical representation seen with the average N-Gain score of 0.596, as well as the results of student learning completeness as much as 70% of students get scores above KKM. Based on hypothesis testing with t -test it can be concluded that the use of E-LKPD based on Problem Based Learning is proven effective in improving students' mathematical representation ability

Keywords: *E-LKPD, Problem-Based Learning Mathematical Representation Skills*

ABSTRAK

PENGEMBANGAN E-LKPD BERBASIS *PROBLEM BASED LEARNING* DENGAN MENGGUNAKAN *WIZER.ME* UNTUK MENINGKATKAN KEMAMPUAN REPRESENTASI MATEMATIS

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Penelitian pengembangan ini bertujuan untuk menghasilkan E-LKPD berbasis *Problem Based Learning* dengan menggunakan *Wizer.me* yang valid dan praktis, serta untuk menguji keefektifannya dalam meningkatkan kemampuan representasi matematis. Penelitian ini menggunakan model pengembangan *ADDI-E*. Sampel pada penelitian ini adalah siswa kelas XI.7 sebagai kelas kontrol dan XI.8 sebagai kelas eksperimen pada SMA Negeri 1 Kotabumi Tahun Pelajaran 2024/2025. Data penelitian diperoleh melalui Observasi, Wawancara, Angket, dan hasil tes kemampuan representasi matematis yang dianalisis menggunakan uji-tdan nilai *N-Gain*. Hasil pengembangan E-LKPD berbasis PBL dinyatakan valid dan praktis. Hasil uji efektivitas menunjukkan bahwa E-LKPD berbasis *Problem Based Learning* dengan menggunakan *Wizer.me* dapat meningkatkan kemampuan representasi matematis terlihat dengan skor rata-rata *N-Gain* 0,596, serta hasil ketuntasan belajar siswa sebanyak 70% siswa mendapatkan nilai di atas KKM. Berdasarkan uji hipotesis dengan uji- *t* dapat disimpulkan bahwa penggunaan E-LKPD berbasis *Problem Based Learning* terbukti efektif dalam meningkatkan kemampuan representasi matematis siswa.

Kata kunci: E-LKPD, *Problem Based Learning*, Kemampuan Representasi Matematis