

ABSTRAK

PENGEMBANGAN *e*-LKPD BERBASIS *PROBLEM BASED LEARNING* BERBANTUAN APLIKASI *THUNKABLE* UNTUK MENINGKATKAN KETERAMPILAN BERPIKIR KRITIS PESERTA DIDIK

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Penelitian ini bertujuan untuk mengembangkan *e*-LKPD berbasis *Problem Based Learning* (PBL) berbantuan aplikasi *Thunkable* pada materi suhu dan kalor guna meningkatkan keterampilan berpikir kritis peserta didik. Metode penelitian yang digunakan adalah *Design and Development Research* (DDR) yang terdiri dari empat tahap, yaitu *analysis*, *design*, *development*, dan *evaluation*. Pada tahap pengembangan, dilakukan pembuatan produk serta serangkaian uji kelayakan, meliputi uji validasi ahli, uji kepraktisan, dan uji Efektivitas. Uji validasi ahli menunjukkan hasil sebesar 92% dengan kategori sangat valid. Uji respons peserta didik memperoleh persentase 77% dengan kategori baik, sedangkan uji persepsi guru menghasilkan persentase 89% dengan kategori sangat baik. Uji efektivitas dilakukan melalui analisis *N-Gain* dan uji hipotesis menggunakan *Paired Sample T-Test*. Hasil uji hipotesis menunjukkan nilai *sig. (2-tailed)* $< 0,05$ dengan taraf kepercayaan 95%, yang berarti terdapat pengaruh signifikan dari penggunaan *e*-LKPD berbasis PBL terhadap keterampilan berpikir kritis peserta didik. Selain itu, hasil uji *N-Gain* menunjukkan nilai 0,65 dengan peningkatan sebesar 39%, yang mengindikasikan bahwa keterampilan berpikir kritis peserta didik mengalami peningkatan setelah diberikan *treatment*. Berdasarkan hasil uji kelayakan dan efektivitas, dapat disimpulkan bahwa *e*-LKPD berbasis *Problem Based Learning* berbantuan aplikasi *Thunkable* ini layak digunakan dalam pembelajaran suhu dan kalor di sekolah serta efektif untuk meningkatkan keterampilan berpikir kritis peserta didik.

Kata kunci: *e*-LKPD, keterampilan berpikir kritis, *problem based learning*, suhu dan kalor, *thunkable*.

ABSTRACT

DEVELOPMENT OF PROBLEM BASED LEARNING-BASED e-LKPD USING THE THUNKABLE APPLICATION TO IMPROVE STUDENTS' CRITICAL THINKING SKILLS

By

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This study aims to develop e-LKPD based on Problem Based Learning (PBL) assisted by the Thunkable application on temperature and heat material to improve students' critical thinking skills. The research method used is Design and Development Research (DDR) which consists of four stages, namely analysis, design, development, and evaluation. At the development stage, product creation and a series of feasibility tests were carried out, including expert validation tests, practicality tests, and effectiveness tests. The expert validation test showed a result of 92% with a very valid category. The student response test obtained a percentage of 77% with a good category, while the teacher perception test produced a percentage of 89% with a very good category. The effectiveness test was conducted through N-Gain analysis and hypothesis testing using Paired Sample T-Test. The results of the hypothesis test showed a sig. (2-tailed) <0.05 with a confidence level of 95%, which means that there is a significant effect of the use of PBL-based e-LKPD on students' critical thinking skills. In addition, the results of the N-Gain test showed a value of 0.65 with an increase of 39%, which indicates that students' critical thinking skills increased after being given treatment. Based on the results of the feasibility and effectiveness tests, it can be concluded that the e-LKPD based on Problem Based Learning assisted by the Thunkable application is feasible for use in learning temperature and heat in schools and is effective in improving students' critical thinking skills.

Keywords: *e-LKPD, critical thinking skills, problem based learning, temperature and heat, thunkable.*