



E-Book on Ethno-conservation of Agricultural Land for Teaching Students' Critical Thinking Skills in Sidoarjo-Indonesia

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ABSTRACT

Objective: This research aims to test the effectiveness of an e-book on the ethno-conservation of agricultural land in Sidoarjo for teaching students critical thinking skills in environmental conservation material. Critical thinking ability is one of the higher-order thinking skills in Bloom's taxonomy and needs to be applied in the learning process. Critical thinking skills need to be trained in students to solve problems in their environment. **Method:** The method used in this study is a one-group pre-test and post-test design with 15 students from the science program. The e-book had already undergone feasibility and practicality tests before being implemented in the learning process. The effectiveness test consisted of 5 multiple-choice questions and six essay questions tested for feasibility. Data processing was done using Ms. Excel and SPSS. **Results:** The Wilcoxon test results showed that using the e-book oriented towards the local wisdom values of Sidoarjo in environmental conservation material affects teaching students critical thinking skills. **Novelty:** The results of this research can be used as a reference for learning media integrated with local wisdom values to teach students critical thinking skills.

INTRODUCTION

In this century, students must possess 21st-century skills known as lifelong learning. These skills are necessary for students to adapt to the rapid changes and developments in information to make accurate decisions and be productive in living their lives in the current era (Altun & Yildirim, 2023). Education in the current era demands 21st-century literacy, which involves analytical skills, reasoning, and individual cooperativity in identifying and solving problems according to their fields of interest (Kocak et al., 2022). Students are no longer required to filter knowledge and information but to construct knowledge, focusing on validating knowledge, known as higher-order thinking. Higher-order thinking skills are currently considered weak, and skills such as reasoning, which are necessary for developing critical thinking, are urgently needed and should be applied starting from school (Farias-Gaytan et al., 2023).

Based on data from the 2012 Program for International Student Assessment (PISA) survey, Indonesia's literacy score was 382, ranking 64th out of 65 countries. Teachers' questions in learning and assessments consist of 6 levels (level 1 being the lowest and level 6 being the highest) (Zhou et al., 2023). Students in Indonesia can only answer questions at level 1 and level 2, which merely require memorization and recalling of the material, thus not training their critical thinking skills (Putri, 2022). This results in students needing to be more capable of identifying problems, gathering relevant information, formulating alternative solutions, drawing conclusions, expressing opinions, and evaluating arguments (Putro & Sumardjoko, 2023). According to Widyaningsih and Yusuf (2018), students face obstacles when answering questions that require critical thinking because the textbooks they use in class are predominantly

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