



Description of Students' Critical Thinking Skills After Implementing the Problem Posing Model Assisted by PheT in Distance Learning

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ABSTRACT

Objective: The primary objective of this research is to assess the development of critical thinking skills after implementing the PhET-assisted problem-posing learning model in distance education. **Method:** This study adopts a pre-experimental approach with a one-shot case study design. The study sample comprises 18 students enrolled in the 2023 cohort of the UNHAS Natural Science Education study program. **Results:** The findings indicate that the average critical thinking score is 79.86, falling within the high category. The distribution of students' critical thinking skills across various categories revealed that 44% belong to the highest category. Notably, the proportions of critical thinking skill indicators are exclusively concentrated in the medium, high, and very high categories, with no instances falling into the low categories. These results underscore the efficacy of employing the PhET-assisted problem-posing learning model as a viable strategy for enhancing students' critical thinking abilities. **Novelty:** The researcher chose the PhET-assisted problem-posing model, one of the media based on information and communication technology in the form of a virtual laboratory regarding critical thinking skills.

INTRODUCTION

The digitization of the educational sector, initially driven by technological advancements, is being further reinforced due to the impact of the COVID-19 pandemic. Observations of changes in the educational landscape are evident at various educational levels and tertiary education. The governmental mandate for individuals to stay at home has necessitated adjustments in both circumstances and regulations (Khasanah et al., 2020). Within higher education, the educational system utilizes distance learning (DL). This form of learning, whether remote or blended, involves using electronic devices such as computers, laptops, and smartphones for online learning, thereby digitalizing the learning process. Distance learning occurs when there is a physical separation between students and teachers who are not consistently present in the exact physical location at school (Setiawan, 2020). This approach's implementation can be entirely remote (hybrid) or a combination of remote and classroom-based learning (blended).

Distance education, commonly referred to as DL, denotes an educational initiative engaged in by both students and educators that does not take place in a traditional classroom setting but rather is conducted entirely through remote means utilizing communication technology, information, and various media with the aid of diverse communication tools for educational purposes (Yuangga & Sunarsi, 2020). Distance learning offers a unique educational setting for learners, encompassing students and instructors. Educators persist in delivering online instruction, while students can engage in remote study from their homes, commonly known as DL (Aziz, 2020). The presence frequently observed in the field suggests that students exhibit limited engagement in the

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