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Preliminary Study of College Students' Creative Thinking Skills on Electromagnetic Material

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ABSTRACT

Objective: This study aims to analyze the initial ability of student creative thinking skills on electromagnetic materials and find a solution method of learning model that is suitable to the students conditions. **Method:** The design of this study was pre-experimental. The data collection technique used test method using creative thinking skills test instrument. The test instruments used in this study were tested for validity and reliability before being used. **Results:** The results of this study showed different results. The percentage of fluency indicator is 96.71% with very good category, the percentage of flexibility indicator is 51.97% with medium category, the percentage of elaboration indicator is 36.18% and originality is 16.45% with less category, and the average of all indicators is 50.32% with medium category. **Novelty:** Students' creative thinking skills can be developed through a variety of methods, including the PjBL model, the Inquiry Social Learning model, PBL combined with Flashcard media, and PjBL integrated with STEM-based e-learning. The implications of this study can be used as a reference and basic alternative for future researchers to design learning tools using specific learning methods/models in order to increase the creative thinking skills of students or college students.

INTRODUCTION

Creativity is crucial to a prospective teacher's success in becoming a competent teacher. Creativity can be a person, a process, a motive, or a product. This stage of the process involves creative thinking (Priyambodo, Probosari, & Indriyanti, 2021). Creative thinking is a (dynamic) mental activity that moves progressively over time and alternates between convergent and divergent thinking (Webster, 1990). Every student should develop creative thinking skills because it is one of the abilities required to meet the demands of the twenty-first century. In the context of 21st century learning, there are four very crucial talents for every individual to master: critical thinking and problem solving skills, creative thinking, communication, and collaboration (referred to as the 4C skill) (Lestari, 2021). As a result, creative thinking skills become one of the skills that must be well learned.

Creative thinking abilities are required for physical learning. Determinement and confidence in tackling a challenge can be developed through creative thinking (Saadah, Hobri, & Irvan, 2019). Individuals with a high level of creativity are able to solve issues (Iskandar, Sastradika, Jumadi, Pujianto, & Defrianti, 2020). Creative thinking skills are required for physics learning. Individuals with creative thinking talents can freely use their imaginations to develop new ideas, new possibilities, and new innovations, which

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