IJORER : International Journal of Recent Educational Research
Homepage : https://journal.ia-education.com/index.php/ijorer
Email : ijorer@ia-education.com

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 3, No. 5, September 2022
Page 534-545

Improvement of Student's Critical Thinking Ability sin Physics Materials Through The Application of Problem-Based Learning

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DOI: https://doi.org/10.46245/ijorer.v3i5.247

Sections Info
Article history:
Submitted: September 8, 2022
Final Revised: September 23, 2022
Accepted: September 24, 2022
Published: September 30, 2022
Keywords:
Critical thinking skills
Literature review
Physics
Problem-based learning
Problem-solving

ABSTRACT
Students' skills in critical thinking are needed in learning for problem-solving. The purpose of this study was to analyze the concept of problem-based learning models, the implementation of problem-based learning models in improving students' critical thinking skills, the effectiveness of problem-based learning models in improving students' critical thinking skills, as well as the effect of problem-based learning models on improving high school students critical thinking skills. on physics. The method in this research is a descriptive research method through literature study. In this study, the results of a review of several articles related to the problem-based learning model were obtained. Based on the research that has been done, it can be concluded that the problem-based learning model is a problem-based learning model directly so that students are active in learning in class. The implementation problem-based learning model can train students to overcome various problems directly so that they can improve students critical thinking skills. The application of problem-based learning model is very effective when applied in the student learning process in the classroom because it can improve students' critical thinking skills. The application of the problem-based learning model affects improving high school critical thinking skills on physics material.

INTRODUCTION

The industrial revolution 4.0 in the 21st century, information and digital technology has become a part of human life, including in the field of education in Indonesia, so it becomes a challenge for educators in the learning process. Learning that will occur in the future uses a technology-based model that has a very important role in problem-solving according to the needs of students and the demands of the times and technology (Risdianto, 2019). The implementation of student learning is expected to be involved in 4C higher-order thinking activities (Creativity, Critical, Communication, and Collaboration). Higher Order Thinking Skills (HOTS) is the ability to take new information from related information in memory and then rearrange and expand the information to find possible answers in making decisions, innovating, and being able to create something (Keleman, 2021).

One of the key elements of HOTS is the ability to think critically. Critical thinking is the most valuable skill that schools can give to their graduates which is a learning goal at all levels of disciplines to solve increasingly complex life problems and generate creativity and innovation that is competitive and globally competitive so that it can meet the needs of the labor market (Siberian et al. al., 2019). Critical thinking skills are very much needed for the future of students in facing global competition, so learning models that are following 21st-century education are needed (Agoestanto, 2016; Hamdalia et al., 2018; Masrinah et al., 2019; Wulandari, 2016; Yahdi et al., 2020).

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