



## Profile of Student's Critical Thinking Skills and The Effectiveness of Problem-Based Learning Models Assisted by Digital Worksheet in Science Learning on Motion and Force Materials

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DOI: <https://doi.org/10.46245/ijorer.v4i4.291>

### Sections Info

#### Article history:

Submitted: December 24, 2022

Final Revised: June 7, 2023

Accepted: June 7, 2023

Published: July 7, 2023

#### Keywords:

Critical thinking;  
Digital worksheets;  
Motion and force;  
Problem-based learning;  
Science learning.



### ABSTRACT

**Objective:** Critical thinking skills are one of the 21st-century skills that must be possessed by students in order to be able to adapt and compete on a global scale. This study aims to describe the profile of students' critical thinking skills and the effectiveness of the Problem-Based Learning (PBL) models assisted by digital worksheets to improve students' critical thinking skills in Learning Science On Motion And Force Materials. **Method:** The research design is quantitative descriptive research. The subjects of this study were 102 students at SMPN 4 Waru with a simple random sampling method. Critical thinking skills tests are analyzed per indicator, which consists of giving simple explanations, building basic skills, concluding, giving advanced explanations, and setting strategies and tactics. **Results:** Based on the results of the analysis, it was obtained that the average proportion of students' thinking skills was in the low category. The indicator that gets the highest percentage is giving a simple explanation at the lowest indicator is setting strategy and tactics. Several factors cause this: learning rarely leads students to train and improve their critical thinking skills, the evaluation instruments used primarily using low cognitive tests, and the learning loss factor students experience while studying at home due to the effects of the COVID-19 pandemic. **Novelty:** Based on several research sources, it was concluded that applying the PBL model assisted by digital worksheets could effectively improve students' critical thinking skills in science learning.

### INTRODUCTION

The industrial revolution 4.0 is characterized by the rapid and dynamic development of information technology, which has brought many changes in various sectors of life. These changing situations and conditions require the readiness of qualified Human Resources (HR) to adapt and compete on a global scale. Global competition requires us to have independence and the ability to solve problems. A quality education process is one effort to improve human resources (Suciono et al., 2021). Education plays a significant role in improving reliable and competent human resources. The world of education must be able to educate students so that they can develop according to the times, meaning that education must be able to provide provisions to students, not from the experiences of each teacher but according to the aspects students need in the future (Syahrul et al., 2021).

The government has made various efforts to create human resources by implementing the Independent Curriculum. The current independent curriculum is a refinement of the 2013 curriculum and an effort to restore learning due to the co-19 pandemic. The independent curriculum directs learning to higher-order thinking skills. According to the Ministry of Education and Culture (2016) the The educational process applied in schools must contain the competencies contained in 21st-century skills,

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