



The Validity of IPAS Module based on STEM to Improve Students' Scientific Literacy Skills

Umi Hanik¹, Erman², Pirim Setiarso³

^{1,2,3}University Negeri Surabaya, Surabaya, Indonesia



DOI: <https://doi.org/10.46245/ijorer.v4i6.321>

Sections Info

Article history:

Submitted: January 29, 2023

Final Revised: October 30, 2023

Accepted: October 30, 2023

Published: November 07, 2023

Keywords:

Inquiry;

Scientific Literacy;

STEM;

Textbooks;

Validity.



ABSTRACT

Objective: This study describes the validity of based inquiry change textbooks used to train students' scientific literacy skills. The validity of the developed inquiry-based textbooks is viewed from the aspects of content feasibility, presentation feasibility, linguistic feasibility, inquiry suitability, and scientific literacy. **Method:** This study used the development of the 4D model (define, design, and develop), which was modified and implemented in the Science Education Postgraduate Program at Surabaya State University. The data collection technique was carried out using the textbook validation method. The assessment instrument used was a textbook validation sheet that two chemistry lecturers validated as validators. Data analysis was carried out quantitatively and descriptively. **Results:** The research results are in the form of validation of STEM-based textbooks, with an average score of 91.20% in the very valid category. **Novelty:** The novelty of this research is that there are STEM-based features in textbooks about change that can improve students' scientific literacy skills. Based on the data analysis, the developed inquiry-based textbooks are valid and suitable for learning.

INTRODUCTION

The government is shifting from teacher-centered education to student-centered through the Independent Curriculum. The independent curriculum provides flexibility for educators to create quality learning that suits the needs and learning environment of students. Currently, the Merdeka Curriculum teaching module is considered a tool crucial for the smooth implementation of learning with a new mode or paradigm, mainly when it is associated with the transformation of the industrial and digital revolutions. The Independent Curriculum teaching module refers to several media tools or facilities, methods, instructions, and guidelines designed in a systematic, engaging, and specific way according to the needs of students. The teaching module implements the Learning Objective Flow (LOF) developed from Learning Outcomes (LO) with the Pancasila Student Profile as the target. Teaching modules are arranged according to the phases or stages of student development. The teaching module also considers what will be learned with clear learning objectives. Of course, its development base is also long-term oriented. Teachers also need to know and understand the concept of teaching modules to make the learning process more exciting and meaningful. Related to this, I developed the independent curriculum teaching module. The Natural and Social Sciences Teaching Module (TNSSTM) is one of the new subjects included in group C at the vocational education level and is only given in phase E in class X. The TNSSTM Project subjects integrate social sciences and natural sciences. The TNSSTM Project subjects function to equip students to be able to solve real-life problems in the 21st century that are related to natural and social phenomena around them scientifically by

7. 321-Article Text-Umi Hanik.doc

ORIGINALITY REPORT

25%

SIMILARITY INDEX

37%

INTERNET SOURCES

15%

PUBLICATIONS

7%

STUDENT PAPERS

PRIMARY SOURCES

1	journal.ia-education.com Internet Source	4%
2	eudl.eu Internet Source	4%
3	Submitted to Universitas Negeri Surabaya The State University of Surabaya Student Paper	3%
4	Choirunnisak, M Ibrahim, Yuliani. "The development of guided inquiry-based learning devices on photosynthesis and respiration matter to train science literacy skills", IOP Conference Series: Materials Science and Engineering, 2018 Publication	2%
5	repository.unesa.ac.id Internet Source	2%
6	tiikmpublishing.com Internet Source	2%
7	alhayat.or.id Internet Source	1%