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. 4, No. 4, July 2023
Page 457-468

Validity of Inquiry-Based Textbooks on Scientific Literacy Skills

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DOI: https://doi.org/10.46245/ijorer.v4i4.313

Sections Info

Article history:
Submitted: January 22, 2023
Final Revised: May 13, 2023
Accepted: May 20, 2023
Published: July 7, 2023

Keywords:
Biology;
Inquiry;
Scientific literacy;
Textbooks;
Validity.

ABSTRACT

Objective: This study describes the validity of inquiry-based environmental 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 method with 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 biology lecturers validated as validators. Data analysis was carried out quantitatively and descriptively. **Results:** The research results are in the form of validation of inquiry-based textbooks, with an average score of 94.88% in the very valid category. **Novelty:** The novelty of this research is that there are inquiry-based features in textbooks about environmental 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

Education in the 21st century has heavy demands, so the community or students must have extensive knowledge to become a quality society (Wijaya, 2016). Students are facing significant changes in all aspects of life (Fitriani, 2022). Several skills must be possessed by students in 21st-century education, namely critical thinking, communication, collaboration, and creativity, or what is known as the 4C (Septikasari, 2018). These skills are very necessary so that students are ready and able to keep up with the demands of the times and achieve one of the goals of 21st-century education, which is to increase students' scientific literacy skills (Sutrisna, 2021), in line with Simmamora (2020), which states that scientific literacy skills are one of the skills needed by students to deal with every aspect of global life in the 21st century.

Scientific literacy is an individual's ability to use their knowledge to identify problems, acquire new knowledge, explain scientific phenomena, and draw conclusions based on evidence related to scientific issues (Wulandari, 2016). This is supported by Probosari's (2016) finding that scientific literacy skills are needed in everyday life to help solve problems. Literacy is focused on reading and writing and other activities such as observing, asking, trying, reasoning, and communicating (Djamahar, 2018). Someone who has good scientific literacy skills will be able to survive in the 21st century. Factors that can increase scientific literacy skills are science-related literacy problems related to identifying, analyzing, and making decisions to solve problems (Winarni, 2019). Students with scientific literacy skills can use scientific knowledge, identify questions, and draw conclusions based on facts about issues related to nature and technology through their activities. Students can solve problems using scientific

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