Jurnal Pembelajaran Dan Biologi Nukleus p-ISSN: 2442-9481
Vol 11 (1): 340 - 351, March 2025 e-ISSN: 2685-7332

Feasibility Analysis of The First Grade High School Biological Textbook: *Evaluating Environmental Literacy Aspect in High School Students Around of Bahorok District*

Rika Armiati(*), Syarifah Widya Ulfa

Biology Education of Faculty of Tarbiyah and Teacher Training,
Universitas Islam Negeri Sumatera Utara
Jl. William Iskandar Pasar V, Medan Estate, Deli Serdang Regency, North of Sumatera, Indonesia, Postcode 20221

***Corresponding author:** rikaarmiati@uinsu.ac.id

Submitted December 30 Th 2024 and Accepted February 28 Th 2025

Abstract

The activity to determine the completeness and suitability of the content of the book material being analyzed, even though the books published and used by the school have passed validation tests both in terms of material content, completeness of material and images, as well as supporting learning. Evaluating the feasibility of biology textbook content in terms of environmental literacy is crucial to ensure that the presented materials go beyond fundamental biological concepts and effectively foster students' awareness and competencies in responding to environmental challenges. This research aims to evaluate the feasibility of biology textbook content from the perspective of environmental literacy, specifically examining 2 biology textbooks of first Grade high school which published by Grafindo Media Pratama and Erlangga, which are utilized in the teaching and learning process. This research uses quantitative methods with data analysis in this research using descriptive statistics. Assessment of Environmental Aspects in Textbook I and Textbook II for High School Biology has a score of 35.55 with fairly good criteria according to the assessment criteria. Environmental literacy that appears frequently in the analyzed biology textbooks is knowledge of ecology and natural history as well as knowledge of environmental problems and issues. This study reveals that while biology textbooks emphasize cognitive aspects of environmental literacy, they lack affective and contextual content essential for fostering responsible environmental behavior. Its novelty lies in the localized analysis of textbook content, highlighting gaps rarely addressed in existing research

Keywords: *Biology textbook; Environment; Suitability of Materials*

https://doi.org/10.36987/jpbn.v11i1.6789

INTRODUCTION

In the era of globalization and rapid environmental change, it is essential for education to prepare students with relevant knowledge and skills regarding the environment (Katon et al., 2024; Amadi, 2022). First grade of biology textbooks play a crucial role in equipping students with a basic understanding of biological concepts and how these concepts relate to environmental issues (Syahid et al., 2023). Therefore, it is important to evaluate the suitability of biology textbook material in terms of environmental literacy, to ensure that the material presented not only covers basic biological theory but is also able to increase students' awareness and skills in facing environmental challenges (Syahpitri et al., 2022).

Textbooks vary greatly in number, type and quality. In this case, textbooks are a reference for school educators to teach students. It is not uncommon for an educator to carry out the learning process not to follow the curriculum in planning and implementing learning but to follow the textbooks that are available as the main media in demanding knowledge at school (Wardani et al., 2023). Therefore, the knowledge sources used in the learning process must be arranged as well as possible and not cause misunderstandings among students, especially regarding concepts and applications (Aliah et al., 2024).

According to Syahid et al., (2023) textbooks are a source of knowledge for students in schools which are a tool that really supports the process of teaching and learning activities. Textbooks greatly determine the educational success of students in studying at school. Therefore, good and quality textbooks, besides being a source of knowledge that can support student learning success, can also guide and direct the teaching and learning process in the classroom towards a quality learning process.

Biology books are textbooks that cover living things, the environment, the interactions that exist between living things and other living things, and the relationship between living things and their environment. The science that discusses these reciprocal relationships or interactions between living things is called ecology. The relationship between living things and their environment forms an ecological system called an ecosystem (Pujiyanti et al., 2022).

A person's understanding of environmental conditions and interpreting these conditions so that they can do the right thing to restore, improve and protect the environment is what is called environmental literacy. According to Kusumaningrum (2018), environmental literacy is a conscious attitude in preserving the environment so that its balance is maintained. The efforts used to foster a sense of concern for the environment in students in learning activities at school are by integrating reading in textbooks with discourse, questions and activities in textbooks which can later build a sense of empathy for the environment in biology subject matter. Material regarding ecosystems and environmental change are two discussions in biology books that can provide students with an understanding of the environment, interactions in the environment, human needs for the environment, environmental preservation and good attitudes in maintaining environmental balance. Environmental literacy is important to foster in Indonesia, considering that Indonesia is a megabiodiversity country with high natural environmental potential. Natural resources need to be maintained with awareness so that they have sustainable benefits

for human life.

The process of cultivating environmental literacy is very important from an early age, as a character that students must have to raise awareness of the importance of the environment (Kusumaningrum, 2018). However, environmental education in Indonesia has not yet become a special subject in schools. Efforts can be made to develop environmental literacy through learning at school by integrating aspects of environmental literacy in textbooks, such as high school biology books. This is supported by the results of research by Goldman et al., (2014) which states that biology as the part of science considered most suitable for integrating environmental education, will become a reference in enriching environmental literacy content.

This research is an activity treatment to determine the suitability of books and materials used in schools, even though the books published and used by schools have passed validation tests in terms of material content, completeness of materials and images, and supporting learning. However, this research is an analysis of the content of biology textbooks in terms of environmental literacy aspects using an assessment of environmental literacy aspects. In line to Leksono (2020) the assessment of biology textbook can increase students' awareness and understanding of the environment or what is known as environmental literacy. According to Syahpitri et al., (2022) material regarding ecosystems and change is a discussion in biology books that can provide students with an understanding of the environment, interactions in the environment, human needs for the environment, environmental preservation and good attitudes in maintaining environmental balance.

This feasibility analysis also aims to assess the extent to which class X biology textbook material can support the development of students' environmental literacy. This involves checking the suitability of the material with the independent curriculum currently used in high schools in the Bahorok area, the relevance of environmental information, the delivery of concepts, as well as the existence of practical activities that can link theory with real applications. Thus, it is hoped that this analysis can provide a clear picture of the quality of textbooks in developing students' environmental awareness and skills in the context of biology. According to Hikmah et al., (2024); Rohweder (2004) state that the lowest environmental literacy factors because the intention to know and study various problems, therefore adeeper understanding is needed to make students aware of the importance of environmental literacy, and the teachers' efforts to provide various information about the environment to students, such as Triyanti et al., (2024) research, the implementation of edutourism can be one of the best solutions for improving environmental literacy. There are 4 components in environmental literacy, namely environmental knowledge, cognitive knowledge, attitudes and a person's behavior towards the environment (McBeth & Volk, 2010).

The environmental literacy component this time refers to first grade students (X-class) high school. This research focuses on the material in the Biology textbook for class. There are 2 sources of the books used in this research, namely the Biology Class from the explanation of the problem above, the researcher feels that analyzing biology textbooks by looking at the reading context can foster a sense of concern for the environment.

METHOD

The research method used by researchers in this research is a descriptive quantitative method, which aims to describe the content of environmental literacy aspects in class X high school Biology textbooks. Quantitative research is research that presents data in the form of numbers as the results of the research.

Sample or Participant

This research was conducted at 2 senior high schools around Bahorok district, namely SMAN 1 Bahorok and SMA/SMK PEMDA Langkat Bahorok with first grade biology textbooks as the research subject. Researchers analyzed 2 textbooks used in high schools which had the same books for use during the learning process including: 1) Biology books for first grade high schools by Yusa & Maniam (2016) (Grafindo Media Pratama publisher); 2) Biology book for first grade high schools by Pratiwi et al., (2016) (Erlangga publisher). The data obtained from the research consisted of material content in biology textbooks using two books from different schools, namely, SMAN 1 Bahorok high schools and SMA/SMK PEMDA Langkat Bahorok high schools.

Instrument

An instrument is a device that a researcher uses as a tool to collect data, documents and information relevant to research discussions. The research tools used are those that have successfully completed the theory validation stage refers to Chabalengula et al., (2008) under the guidance of a research supervisor. The research instrument was a questionnaire (teacher), and a validation sheet for the environmental literacy assessment instrument by the validation lecturer.

Data collection

The data collected and studied in this research is quantitative data. This research data is in the form of textual units in the form of verbal expressions (phrases, clauses, sentences, paragraphs and statements) and non-textual units (images, tables, graphs, layout, color, size). The data source in this research is the Biology Handbook for Class.

Data Analysis

The data collected in this study with documents, the research materials come from the analyzed textbooks. The data obtained from the study in the form of the contents of the material in the biology textbook using two books from different schools, namely, SMAN 1 Bahorok high schools and SMA/SMK PEMDA Langkat Bahorok high schools. The identities of the two books are as follows: which were analyzed by the researcher himself (found in Table 1).

Table 1. Identity of the Textbooks

No.	School	Publisher	Publication Year	Author book
1.	SMAN 1 Bahorok	Grafindo media pratama	2016	Yusa and Manickam Bala Subra Maniam
2.	SMA/SMK PEMDA Langkat Bahorok	Erlangga	2016	Dra. D.A. Pratiwi, M.Pd, Dra. Sri Maryati M.Pd, Drs. Suharno, M.P, Drs. Bambang Suseno, M.Pd

The type of sampling used is random sampling (simple random sampling). Look for the percentage score results from textbook analysis in terms of environmental literacy aspects using the formula referred by Sudijono (2005), as follows:

$$P = n/N \times 100\ \%$$

Description
n = Number of scores obtained;
N = Maximum number of scores;
P = Percentage

Table 2. The assessing of environmental literacy for class X biology textbooks (Marianingsih, 2021).

Intervals	Criteria
80% < X ≤ 100%	Very Worth It
60% <X ≤ 80%	Worthy
40% <X ≤ 60%	Decent Enough
20% < X ≤ 40%	not worthy

Note: code X is the total score for the percentage of environmental knowledge textbook assessments.

Table 3. Description of Biology Textbook Criteria Viewed from the Environmental Literacy Aspect (Marianingsih, 2021).

Criteria	Description
Very Worth It	If most (≥80%) are in textbooks biology presents all aspects of environmental literacy.
Worthy	If most (≥60%) are in textbooks biology presents all aspects of environmental literacy
Decent Enough	If there are several sections (≥40%) in the textbook biology presents all aspects of environmental literacy.
Not worthy	If there is little material (≤20%) in the biology textbook presents all aspects of environmental literacy.

RESULT AND DISCUSSION

Based on the results of the material feasibility analysis that was carried out on the biology textbooks at SMAN 1 Bahorok and SMA/SMK PEMDA Langkat Bahorok, this was carried out to determine the level of appropriateness of the material in the biology textbooks at SMAN 1 Bahorok and SMA/SMK PEMDA Langkat Bahorok from the aspect of environmental literacy. The textbooks used in the research were selected based on the 2013 curriculum. From the results of the book selection, 2 textbooks were obtained which were used as research objects. The textbooks were then labeled book I and book II. The results of the environmental literacy assessment research from the two class X high school biology textbooks are as follows.

Table 4. Percentage of Environmental Aspect Assessments in Biology Textbooks High School

No.	Dimension of Environmental Literacy	Text Book		
		I (%)	II (%)	Average (%)
1	Knowledge of ecologyand natural history	73.33	63.33	68.33
2	Knowledge of environmental problems and issues	90.00	60.00	75.00
3	Socio-political-economic knowledge	0	26.67	13.33
4	Factors that influence environmentally responsible behavior	0	0	0
5	Environmentally responsible behavior	13.33	26.67	40.00
Total Score		189.88	196.67	123.32
Average total score (x)		31.66	32.77	33.55

The table 4 showed that the assessment results are categorized as "fairly adequate" based on the results of book analysis in terms of the environmental literacy aspect of 2 class X high school biology textbooks, Book I (Grafindo Publisher) and Book II (Erlangga Publisher). The assessment results show that the aspects of environmental literacy that appear most in the 2 books are knowledge of ecology and natural history and environmental problems and issues.

In the research results, the results of the assessment of the environmental literacy aspects of the two textbooks were obtained, namely, the 1st dimension of ecological and natural history knowledge which obtained a result of 73.33 %, found in book 1, page 189, where the term "ecology" first appeared in 1869 by the German biologist, Ernst Haeckel. Ecology can be defined as the science of the relationship between living things and their environment, and in the second book 63.33 % is found on page 394 with the text of the branch of biology that studies ecosystems, namely ecology. Ecology is defined as a science that studies both interactions between living things and the interactions of living things with their environment. The lives of all types of living creatures that influence each other and interact with nature form a unity called an ecosystem. This dimension appears most often in the

content of textbooks in accordance with the results of research from textbooks published by Grafindo publisher which shows that the dimension is ecological and natural history knowledge that appears most often in the textbooks analyzed by the author.

The second dimension of environmental issues, this dimension places more emphasis on knowledge of information from the products of scientists' thoughts which include facts, concepts, principles, laws, theories, models and hypotheses in Grafindo publisher books. In this literacy, the researcher examines paragraph texts which fall into the categories of facts, concepts, principles, models, laws, theories and environmental (biology) hypotheses. Both books emphasize environmental knowledge/information in the material's content and the one that appears most often is the category of environmental facts, concepts and models (biology). Knowledge of environmental problems and issues as a way of investigation is the second literacy that is emphasized a lot in the two textbooks analyzed, namely 75 % found in book 1, namely pages 213, 215, 217, where the text is global warming or what is more popularly known as global warming, which is a process of increasing the average temperature of the atmosphere, sea and land. Waste that is not handled properly, including plastic waste. Forest damage due to fires and deforestation. The impacts of forest destruction caused by human activities include reduced biodiversity and loss of animal habitat in the forest. Water, land and air pollution caused by human activities. Then for the second book, it is on page 428 with the text that environmental balance can be disturbed if there are various changes, for example a reduction in the function of the food chain in the ecosystem.

The results of this research are in accordance with the research results of Chiappetta & Filman (2007) where in the five books analyzed the environmental dimension was the most superior avenue of investigation compared to other literacies and this environmental literacy was widely used to encourage students to study the surrounding environment. Chiappetta & Koballa (2010) added the Environmental literacy as a path of investigation is used to utilize several approaches to constructing knowledge. This activity is the basis for scientific activities and describes the scientific process which includes observing, guessing, hypothesizing, predicting, measuring, manipulating variables, calculating, experimenting and creating models. In this research, experiments and direct activities are included in this category that students can do to support understanding of concepts. In the two books analyzed, the situations that appear in the book are mostly environmental pictures, but few situations invite students to use calculations and activities that are directly related to the environment around them.

The 3rd dimension of socio-political-economic knowledge in both books has an average value of 13.33 % in book 2 pages 434 and 432 with the text of the basic provisions for environmental management ratified by the president of the Republic of Indonesia on March 11 1982. This law contains 9 chapters and 24 articles, environmental ethics. This literacy shows how a scientist thinks and how scientists conduct experiments, factors that influence a person's behavior such as belief, curiosity, imagination, thinking, understanding the relationship between self-testing and doubt, objectivity and open-mindedness that underlie discovery and research (Chiappetta & Koballa, 2010). The results of the analysis show that very few

situations invite students to think higher either on questions or on the content of environmental material which includes abiotic and biotic. This is in inline to Cobanoglu & Sahin (2009) research which shows that the analyzed biology textbooks show that there are important errors/misconceptions in the textbooks and also do not provide inquiry questions and the approach taken is still rote. Winanda et al. (2022) state that textbooks should initiate students' inquiry processes and attract students to conduct investigations because inquiry-oriented textbooks can stimulate students to be active, not just absorb information.

Even though the average assessment results for these two books are low, the percentage of scores for the first book is higher than for the two books. This is because in the contents of the book there are many questions/situations that invite students to think according to this dimensional category, such as questions that attract students' curiosity and think critically based on phenomena in the surrounding environment.

In the book studied, there are no factors at all that influence responsible behavior towards the environment. This literacy is related to the impacts that influence a person's attitude towards the environment or helps humans not to damage the environment which has a negative impact on humans. This literacy shows how humans play a role in environmental development. A good textbook is able to connect any environmental material with scientific research and science, and society by highlighting how environmental aspects are carried out and the role of individuals in life (Aprilia et al., 2023), as well as mentioning what is related to the material so that students have a view on related careers.

Environmental literacy as a body of knowledge has become a literacy that has emerged because in writing textbooks, writers and publishers place more emphasis on scientific knowledge such as concepts, facts, scientific principles as information that students must know and understand and less on improving students' thinking processes. This is supported by the results of Tiwery & Rachmadiarti (2023) research on textbook analysis and its implications in empowering high school students' thinking skills, showing that existing textbooks do not provide thinking stimulation and convenience for students towards understanding and improving critical thinking processes. In general, textbooks only cover general data, facts and concepts, not specific, actual and contextual matters with a high level of Bloom's taxonomy (Ratno et al., 2024). Textbooks do not have much contextual learning such as problem solving models, inductive thinking, inquiry, critical thinking, and cooperative learning (Pujiyanti et al., 2022).

Textbooks as teaching materials and sources of information widely used by teachers and students should present environmental literacy in their books because textbooks are an important variable in successful learning. A good biology textbook must describe science on every side properly and correctly. Learning science is related to efforts to find explanations for the surrounding environment. Textbooks can be used to improve the quality of students' scientific literacy to better protect the environment. manner on the six dimensions of environmental literacy: Ecological and natural history knowledge, Knowledge of environmental problems and issues, Socio- political-economic knowledge, Cognitive skills, Factors that influence environmentally responsible behavior, Environmentally responsible behavior in the

book's content/material. The balance of the six dimensions of environmental literacy in book content/material will increase students' environmental literacy levels, which can also improve the quality of students' education (Penny et al., 2003).

In this research, obstacles were also encountered, such as difficulties in entering elements of the text being analyzed into the environmental literacy category because it could be that the text being analyzed falls into another category such as scientific literacy. The researchers created the assessment instruments used, so some instruments have not assessed environmental literacy in depth and comprehensively (Hamidah et al., 2021). Apart from that, researchers also lack experience in this field, so other researchers are needed to obtain better data reliability and validity. Observers still lack experience in their field (Merta et al., 2020).

CONCLUSION

Based on the feasibility analysis of material on 2 high school biology textbooks reviewed specifically from environmental literacy used at the first grade high school (X-Class) around of Bahorok district was found that the aspects of environmental literacy that were mostly found in the textbooks analysed were knowledge of ecology and natural history (average 68.33 %) and knowledge of environmental problems and issues (average 75 %). However, the representation of material regarding socio-political-economic knowledge (average 13.33 %) and factors that influence environmentally responsible behaviour was very low (0 %). This research indicates that biology textbooks adequately address the cognitive aspects of environmental literacy and contextual dimensions. This highlights the need for more comprehensive textbook development to foster environmental awareness and promote real-world actions.

REFERENCES

Aprilia, N., Irawati, H., Asri, G. A., Suharno, S., Wulandari, I., & Sula, S.(2023). Analysis of Grade X High School Biology Textbooks Based on Environmental Literacy Aspects. *Bioedukasi, 14*(1), 130-145 **[*In Indonesian language*]**

Aliah, A., Fitria, F.., Sari, M., & Zubaidah, Z. (2024). The Importance of Learning Resources In School Education. *Jurnal Pendidikan Kita, 1*(1), 42-50 **[*In Indonesian language*]**

Amadi, A. S. M. (2022). Education in the Global Era: Preparing Students for an Increasingly Competitive World. *Educatio: Jurnal Ilmu Kependidikan, 17*(2), 153-164 **[*In Indonesian language*]**

Chabalengula, V.M., Mumba, F., Lorsbach, T., & Moore, C. (2008). Curriculum and Instructional Validity of Scientific Literacy Themes Covered in Zambian High School Biology Curriculum. *International Journal of Environment & Science Education 3*(4), 207-220.

Chiappetta, E.L., & Filman, D.A. (2007). Analysis of Five High School Biology Textbooks Used in The United States for Inclusion of the Nature of Science.

International Journal of Science Education, 29(15), 1847-1868.

Chiappetta, E.L., & Koballa, T.R. (2010). *Science Instruction in The Middle and Secondary Schools: Developing Fundamental Knowledge and Skills*. United State of America: Pearson Education Inc.

Çobanoğlu, E.M., & Şahin, B. (2009). Underlining the Problems in Biology Textbook for 10th Grades in High School Education Using the Suggestions of Practicing Teachers. *Journal of Turkish Science Education, 6*(2), 75-91.

Goldman, D., Yavetz, B., & Pe'er, S. (2014). Student Teachers' Attainment of Environmental Literacy in Relation to their Disciplinary Major during Undergraduate Studies. *International Journal of Environmental & Science Education, 9*(4), 369-383

Hamidah, I., Ratnasari, A., & Suparjo, J. (2021). Analysis of Science Literacy Categories in Science Teaching Materials for Grade VII of Senior High School SMP/MTs Curriculum 2013. *Kulidawa, 2*(2), 52-58 **[*In Indonesian language*]**

Hikmah, N., Nugroho, A. S., & Patonah, S. (2024). Environmental Literacy Profile of Students of SMA N 1 Gemuh. *Jurnal Inovasi Pembelajaran Di Sekolah, 5*(2), 512-518. https://doi.org/10.51874/jips.v5i2.295 **[*In Indonesian language*]**

Katon, D.S., Fayyadh, A.K., & Rosmalika, A. (2024). Environmental Curriculum Innovation to Increase Students' Awareness of Nature Conservation. *Jurnal Pengabdian kepada Masyarakat: Kreasi Mahasiswa Manajemen, 4*(3), 247-255 **[*In Indonesian language*]**

Kusumaningrum, D. (2018). Environmental Literacy in Curriculum 2013 and Science Learning in Elementary School. *Indonesian Journal of Natural Science Educattion, 1*(2), 408-430. **[*In Indonesian language*]**

Leksono, S.M., Nestiadi, A., Adriana, E., Firdausy, A., Nurjanah, E., Shofa, M., & Mariangingsih, P. (2020). Identification of Environmental Literacy Components in High School Biology Books. *Proceeding of Seminar Nasional Pendidikan FKIP Universitas Sultan Ageng Tirtayasa, 3*(1), 129-138. **[*In Indonesian language*]**

Marianingsih, P. (2021). The Content of Environmental Literacy Aspects in Biology Textbooks for First Grade High Schools. *Biodidaktika, 16*(2), 89-98. **[*In Indonesian language*]**

McBeth, W., & Volk, T. L. 2010. The National Environmental Literacy Project: A Baseline Study of Middle Grade Student in the United States. *Journal of Environmental Education, 6*(2),134-156.

Merta, I. W., Artayasa, I. P., Kusmiyati, K., Lestari, N., & Setiadi, D. (2020). Science Literacy Profile and Learning Models to Improve Science Literacy Skills. *Jurnal Pijar Mipa, 15*(3), 223–228. https://doi.org/10.29303/jpm.v15i3.1889 **[*In Indonesian language*]**

Penny K, Norris, S.P, Phillips, L.M., & Clark, G. (2003). The anatomy of junior high

school science textbook: an analysis of textual characteristics and a comparison to media reports of science. *Canadian Journal of Science, Mathematics and Technology Education, 3*(4), 415-436.

Pujiyanti, E., Sumarno, & Siswanto, J. (2022). The Effectiveness of RQA (Reading Question and Answering) Learning Model Assisted by LKPD to Increase Independence and Mathematics Learning Outcomes of Grade 4 Elementary School Students. *Jurnal Ilmiah Pendidikan Dasar, 7*(2), 822–831. **[*In Indonesian language*]**

Ratno, S., Humaira, N. U., Rayhan, N. A., Lestari, P. A., Tarigan, P. S. B., Saragih, E. K. O., Ginting F. M. B., & Sitinjak, F. (2024). Analysis of Creative Learning Using Bloom's Taxonomy in IPAS Subjects in Third Grade Elementary School. *Madani: Jurnal Ilmiah Multidisiplin, 2*(10), 816-826. https://doi.org/10.5281/zenodo.14219520 **[*In Indonesian language*]**

Rihanah, A., & Irma, C. N. (2022). Content and Language Appropriateness of Indonesian Language Textbooks in SMA Negeri 1 Sirampog. *Hasta Wiyata, 5*(1), 32–42 **[*In Indonesian language*]**

Rohweder, L. (2004), Integrating Environmental Education Into Business Schools Educational Plans in Finland. *GeoJournal, 60*, 175-81.

Sudijono. (2005). *Introduction to Educational Evaluation*. Jakarta: Paja Grafindo Persada. **[*In Indonesian language*]**

Syahid, N., Chandra, E., & Umami, M. (2023). Quality Analysis of Third grade Biology Textbooks on Cell Metabolism Material Based on 21st Century Skills. *Jurnal Pendidikan Biologi Undiksha, 10*(2), 60-78 **[*In Indonesian language*]**

Syahpitri, J., Febriani, H., & Rohani, R. (2022). Content Eligibility Analysis of Biology Textbook on The Curriculum 2013 of First Grade (Xst) Senior High School: Covered In Aspect Enviromental Literacy. *Jurnal Pembelajaran dan Biologi Nukleus, 8*(3), 807-819. https://doi.org/10.36987/jpbn.v8i3.3425

Tiwery, M., & Rachmadiarti, F. (2023). Analysis of First Grade High School Biology Textbooks used in Schools to Train Students' Critical Thinking. *Bioedu: Berkala Ilmiah Pendidikan Biologi, 12*(2), 414-431 https://doi.org/10.26740/bioedu.v12n2.p414-431 **[*In Indonesian language*]**

Triyanti, M. M. ., Siburian, J. ., Johari, A., & Anggereini, E. (2024). Review Literature: Implementation of Edutourism-Based Biology Learning to Improve Students' Environmental Literacy. *Dharmas Education Journal, 4*(3), 567–674. https://doi.org/10.56667/dejournal.v4i3.1063 **[*In Indonesian language*]**

Wardani, F., Khairuddin, K., & Rasyidah, R. (2023). Analysis of Socio-Scientific Issues in High School Biology Textbooks Third Grade Biotechnology Material. Bioedukasi: *Jurnal Pendidikan Biologi Universitas Muhammadiyah Metro, 14*(1), 38-48 **[*In Indonesian language*]**

Winanda, A. D., Suryanti, S., & Budijastuti, W. (2022). Development of Science Textbooks Based on Inquiry Learning Model to Train Elementary School

Students' Scientific Skills. *Jurnal Basicedu, 6*(5), 8971–8980. https://doi.org/10.31004/basicedu.v6i5.3987 **[*In Indonesian language*]**

How To Cite This Article, with *APA style* :

Armiati, R., & Ulfa, S. W. (2025). Feasibility Analysis of The First Grade High School Biological Textbook: Evaluating Environmental Literacy Aspect in High School Students Around of Bahorok District. *Jurnal Pembelajaran dan Biologi Nukleus*, *11*(1), 340-351. https://doi.org/10.36987/jpbn.v11i1.6789

Conflict of interest : The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Author contributions : All authors contributed to the study's conception and design. Material preparation, data collection and analysis were performed by all authors. The first draft of the manuscript was submited by [**Rika Armiati**]. All authors contributed on previous version and revisions process of the manuscript. All authors read and approved the final manuscript.