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Analysis of Teachers' Perceptions on the Values of Local Wisdom in the Implementation of Biology Learning

Alif Reza Pahlevy✉, Nur Kusuma Dewi, Siti Alimah

Pascasarjana, Universitas Negeri Semarang, Indonesia

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Abstract

Scientific learning can be realized with local wisdom-based learning that elaborates biology learning materials with local wisdom in the school environment. The purpose of this study was to analyze the perception of biology teachers about the application of local wisdom-based learning on Ecosystem material. The research method is a Pre-Experimental Design approach with the type of One-Shot Case Study. The subjects in this study were the class X biology teachers from three schools in Grobogan Regency. Biology learning tools based on local wisdom of ecosystem materials are declared to be very valid so that they can be used for research. Teachers have enthusiasm and interest in the implementation of local wisdom-based learning. Teachers' perceptions of biology learning tools based on local wisdom of ecosystem materials applied to the learning process have very positive criteria. The teachers have enthusiasm for local wisdom-based biology learning to be applied to biology learning in other materials. Teachers agree that learning biology based on local wisdom is very beneficial for the formation of students' character and personality. The teachers think that the integration of local wisdom in biology learning is very good even though there are technical obstacles experienced in the field. Based on the results of the study, it can be concluded that the enthusiasm and interest of teachers is very high towards learning based on local wisdom, the teacher appreciates the learning tools of research instruments, the teachers are enthusiastic and intend to implement learning based on local wisdom in other learning processes, explore the benefits of learning biology based on wisdom. local to other materials. More in-depth research is needed to define the types of local wisdom in Grobogan Regency that can be applied to other biology learning materials.

✉ correspondence:
Jalan Kelud Utara III No.37, Kota Semarang,
Jawa Tengah, Indonesia 50237
E-mail: alif.pattimura@gmail.com

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INTRODUCTION

Education is a human's need as well as obligation. Education can to filter out positive and various negative influences from the rapid development of the times (Zaitun, 2019). The government through the Ministry of Education and Culture published the 2013 Curriculum with the aim of facilitating schools as formal educational institutions that can increase their role in developing students' attitudes, knowledge, and skills competencies (Ilhami et al., 2018).

As a pluralistic country that has social and cultural diversity, Indonesia has been known as a multicultural country (Ufie, 2016). Culture is the complexity of an entirety in which there are systems of knowledge, belief, art, laws/rules, morals, customs and so on. Culture in each region has a characteristic called local wisdom (Kartawinata, 2011; Thamrin, 2013).

Local wisdom is derived from two different words, namely "wisdom" which means the nature that sticks to the personality of a wise person, and "local" which indicates a location or place. The combined words have different and a broader meaning. Local wisdom includes values, habits, traditions, culture, religion and so on to become rules which are mutually agreed upon by the community in one place (Kemendikbud, 2015).

Local wisdom can function as a bridge between the previous generation and the current generation to prepare for the future of the next generations (Ballard et al., and Sudarna et al., 2020). Local wisdom can be implemented in the learning process as well as an effort to conserve cultural values in the midst of rapid globalization (Kemendikbud, 2015; Oktavianti et al., 2017).

Local wisdom-based learning forms the cultural character of students in exploring their potential and activating cognitive structures to be critical of problems that occur in the surrounding environment (Alimah, 2019). The teachers' role in implementing local wisdom values is as a facilitator in the learning process. In this case, the challenges of the teachers are limited not only to implementing the concept of biology but also the ability to elaborate learning that can counteract cultural degradation in students at school (Ufie, 2016).

Teachers' perceptions in the learning process is one of the aspects that influence the achievement of learning outcomes. Through positive teacher perceptions, ideas will emerge to innovate in the learning process (Suluh et al., 2020). Local wisdom that has become a tradition in Grobogan Regency such as Apitan, Asrah Batin and Sambatan have elements of high ecosystem conservation values. This tradition can be used as an alternative learning media by teachers to help students get contextual biology learning, to measure the teachers' perceptions of local wisdom-based biology learning in Grobogan Regency.

METHODS

This study uses a quantitative approach with experimental methods. The design used was Pre-Experimental Design. The type of study applied was One-Shot Case Study which was done by providing treatment after the results were observed. The subjects in this study were biology teachers for class X (ten) as many as three people from three high schools in Grobogan Regency who taught Ecosystem, The research instrument used in this research was a biology learning module based on local wisdom of ecosystem material that has obtained very good validity criteria by expert validators and closed interview questionnaires that have received validation from expert validators. Analysis of teachers' perceptions of biology learning based on local wisdom refers to the percentage criteria by Sugiyono, 2015 using the description of very enthusiastic to very unenthusiastic.

RESULTS AND DISCUSSION

The results of this study include data validation of data collection instruments in the form of learning tools and questionnaires to determine teachers' perceptions of local wisdom values in the implementation of local wisdom-based biology learning in Grobogan Regency. Analysis of the data collection instrument by the validator obtained had a very good percentage and overall criteria so that it can be used.

Table 1. Results of the Validity of Research Instrument of Teachers' Perceptions on Biology Learning Based on Local Wisdom

Research Instrument	Validity	
	Score (%)	Criteria
Learning Tools	86.67	Very Valid
Research Questionnaire	95	Very Valid

The teacher enthusiasm data obtained from this study were then interpreted to determine the categories of teachers' perceptions on the local wisdom-based Biology learning.

Table 2. Overall Data Recapitulation of Teacher's Enthusiasm About Biology Learning Based on Local Wisdom

Name of the Schools	Percentage of Teachers' Perceptions	Descriptions
SMA Yasiha Gubug	93.75	Very Enthusiastic
SMA N 1 Gubug	93.75	Very Enthusiastic
MAN 2 Grobogan	75.78125	Enthusiastic

Table 3. Data of Biology Teachers' Perceptions on Developed Learning Devices

Name of The Schools	Percentage of Teachers' Perceptions	Descriptions
SMA Yasiha Gubug	100	Very Enthusiastic
SMA N 1 Gubug	93.75	Very Enthusiastic
MAN 2 Grobogan	75	Enthusiastic

Table 4. Data of Teachers' Perceptions on Biology Learning Based on Local Wisdom

Name of the School	Percentage of Teachers' Perceptions	Descriptions
SMA Yasiha Gubug	75	Enthusastic
SMA N 1 Gubug	87.5	Very Enthusiastic
MAN 2 Grobogan	75	Enthusiastic

Table 5. Data of Teachers' Perceptions on the Benefits of Applied Learning

Name of The Schools	Percentage of Teachers' Perceptions	Descriptions
SMA Yasiha Gubug	100	Very Enthusiastic
SMA N 1 Gubug	96.875	Very Enthusiastic
MAN 2 Grobogan	75	Enthusiastic

Tabel 6. Data of Teachers' Perceptions on the Integration of Local Wisdom in Biology Learning

Name of the Schools	Percentage of Teachers' Perceptions	Description
SMA Yasiha Gubug	100	Enthusiastic
SMA N 1 Gubug	96.875	Very Enthusiastic
MAN 2 Grobogan	78.125	Enthusiastic

The results of the research presented in Table 1 show that biology learning tools are based on local wisdom on ecosystem materials and questionnaires has a percentage of 86.67% for learning tools. Meanwhile, the data collection questionnaire is 95%. With these results, the research instrument used for data collection is stated to be very valid so that it can be used for the data collection process.

The results of the recapitulation of teachers' enthusiasm about learning Biology based on local wisdom as a whole which are listed in table 2 show a high percentage. The criteria for teacher enthusiasm are included in the good category. The

responses given by the teachers show that learning based on local wisdom is an innovative learning process to develop students' characters (Surdana et al., 2020). With the enthusiasm of teachers for good local wisdom-based Biology learning, innovative and interesting ideas will emerge to conduct local wisdom-based Biology learning on other learning materials.

Biology learning tools based on local wisdom of ecosystem materials developed in this study received positive enthusiasm from the teachers. The development of learning tools can be used if they get good validation results and positive teacher responses (Eka et al., 2021). It is hoped that the learning tools developed can be a reference and inspiration for teachers to arrange similar learning tools on other materials. Biology learning tools based on local wisdom that teachers want have criteria that can increase student learning enthusiasm, improve creative thinking skills, increase learning activities, improve learning outcomes, develop teaching materials, are easy to use, the teaching materials are in the form of modules based on local wisdom (Erwanto et al., 2018). Teachers have interest in Biology learning tools based on local wisdom because they can be used as an alternative to additional Biology teaching materials in facing 21st century learning (Sudarna et al., 2021). The results of this study confirm that the implementation of local materials can be done through teaching materials and learning tools that have been tested for feasibility.

Teachers' perceptions on learning Biology based on local wisdom obtained an overall percentage value of 79.17% and obtained enthusiastic criteria. The obstacle experienced by teachers in compiling learning tools based on local wisdom is the lack of scientific references about local wisdom around the school environment (Suardana et al., 2020). The learning process using local wisdom approach as a learning resource provides new learning experiences for students. An interesting learning experience is very important for students to get and as a form of innovation and creativity of teachers in carrying out the learning process. The enthusiasm for learning experienced by good students makes it easier for teachers to help students solve problems about negative behavior (Ufie, 2016).

The benefits of local wisdom-based Biology learning that have been implemented to students obtained an overall percentage of 90.65% and classified as very good criteria. Local wisdom-based learning has positive benefits for students from personal to social aspects (Affandy, 2017 ; Riyan et al., 2021). Making local values a source of learning will show caring behavior for others, humility, tolerance, love of peace and high solidarity (Ufie, 2016). Tirtarahardja et al., (2008) explains that studying culture and local wisdom is not to make students think and behave primitively, but culture and local wisdom are implemented in learning as a provision for students to determine the direction and purpose of life in the middle of the fast and rapid transfer of foreign cultures. The main benefit of implementing local wisdom-based Biology learning is that students can distinguish between scientific local wisdom and non-scientific local wisdom that exist in the student's area (Rochman et al., 2018).

Teachers' perceptions of the integration of local wisdom in Biology learning that has been done obtained an overall percentage of 91.67% which belongs to the very enthusiastic criteria. The teachers have the desire to conduct Biology learning based on local wisdom in other learning materials. In this study, the teachers introduced the cultures and traditional rituals students often encounter in everyday life on ecosystem materials. Suardana et al., (2020) explained that after the introduction of local wisdom-based learning, teachers were motivated to try reflecting on local wisdom-based learning in the future. The application of local wisdom values in biology learning is very important to improve cultural literacy through scientific learning. So that learning biology is not only oriented to learning about nature alone. However, it can also introduce students to the social aspects of the student environment (Tarrapa, et.al., 2021).

CONCLUSION

Based on the analysis of the overall data, the conclusion in this study is that the teachers' perceptions in implementing local wisdom-based Biology learning is classified as very enthusiastic.

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