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JCHR (2023) 13(6), 406-414 | ISSN:2251-6727



Contextual Learning in Merdeka Curriculum at Jakarta Coastal School to Develop Environmental Awareness

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(Received: 07 October 2023

Revised: 12 November

Accepted: 06 December)

KEYWORDS

Contextual Learning, Merdeka Curriculum, Jakarta Coastal School, Environmental Awareness.

ABSTRACT:

Jakarta is a major city situated in a coastal area with significant potential and challenges. Furthermore, pollution conflicts related to coastal land use, climate change, and biodiversity degradation pose strategic issues for coastal areas. To address these concerns, there is a pressing need for education to raise environmental awareness. In the latest Indonesian Merdeka Curriculum, social studies play a crucial role in enabling students to analyze the relationship between geographical conditions and community characteristics. However, several teachers still struggle to comprehend the nuances of this curriculum. Therefore, this study aimed to investigate the understanding of teachers regarding Merdeka Curriculum, the ability to apply ecopedagogics in teaching, and the use of the coastal school environment as contextual learning. A qualitative method was used, and data were obtained through documentation studies, observations, and interviews. The participants were social studies teachers in coastal schools in North Jakarta and the Thousand Islands. The results showed that (1) the average score of 74.2 signified the crucial need to improve teacher understanding of Merdeka Curriculum, particularly in terms of preparing modules and effectively implementing contextual learning, (2) even though several teachers used the environment for contextual learning to enhance environmental awareness, these efforts were suboptimal. This was largely due to the consistent reliance on textbooks and failure to develop teaching materials concentrated on the coastal environments.

I. INTRODUCTION

Indonesia is often referred to as a maritime country due to its vast coastline and numerous islands. Jakarta, as one of the Indonesian major cities, is characterized by coastal areas within the administrative region of North Jakarta and Seribu Islands.

The North Jakarta Administrative City is situated between 06 0 05' 80" – 06 0 18' 30" LS and 106 071' 20" – 106 0 97' 30" BT, with an altitude ranging between 0-20 m above sea level. Meanwhile, Seribu Islands Administration Regency spans from 05 0 10' 00" – 06 005' 80" LS and 106 019' 30" – 106 044' 50" BT, with an altitude between 0-1 m. These coastal areas have both potential and threats, such as pollution, conflicts over the use of coastal areas, climate change, and biodiversity degradation (1).

Environmental deterioration is exacerbated by urban development and river pollution in Jakarta Bay, causing a

significant threat to Seribu Islands (2). The degradation of coral reefs in Seribu Islands has been a subject of study, indicating the importance of preserving these ecosystems (3). Rapid urbanization in a coastal area, alongside development, can result in habitat loss, increased pollution, and other environmental impacts. Overfishing by the coastal communities can also threaten local economies (4).

Safeguarding the marine and coastal environment has become a collective concern, which necessitates strategic efforts from stakeholders. Addressing environmental damage requires ecological knowledge and consideration of sociodemographic conditions in society, which can be realized through education. There is a crucial need to foster positive environmental perceptions and awareness, which can help in reshaping ecological behaviour both at the individual and societal levels (5). Furthermore, social studies education can play an important role in promoting environmental awareness and sustainability, facilitating students to learn

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JCHR (2023) 13(4), 719-726 | ISSN:2251-6727



about the impact of human activities on the environment and the significance of sustainable living (6).

The newest Indonesian Merdeka Curriculum focuses on social studies, enabling students to analyze the relationship between geographical conditions and community characteristics. In Class VII Social Studies, under the theme "People, Places, and Environment," students can collaborate to explore three main topics in environmental awareness, namely, knowledge (what, where, when, and why), attitude (want-to), and skills (how-to). This promotes the exploration of environmental problems in a contextual learning framework.

Merdeka Curriculum not only imparts knowledge but also shapes attitudes. In the industrial era, the curriculum is designed to accommodate diverse perspectives on knowledge (7). Social studies education can be considered a means for developing 21st-century skills through the implementation of various learning models that foster critical thinking, communication, collaboration, and creativity. Therefore, it is crucial to relate curriculum content with these skills for students to acquire necessary competencies (8).

Addressing environmental challenges is significantly important in the 21st-century. Ecopedagogic is an educational approach that emphasizes action-oriented teaching, using democratic dialogue to deepen the understanding of how environmental problems impact society. It promotes creative and emancipatory action through reflection and dialogue (9).

Social studies teachers are required to provide contextual and meaningful learning experiences in order to foster creativity (10). This is because contextual learning is highly relevant to 21st-century education. Social studies can contribute to building an environmentally friendly society by incorporating environmental education into the curriculum and teaching materials, thereby nurturing the environmental awareness of students (11).

In social studies, teachers tend to rely on memorization and textbooks (12), prioritizing verbal reasoning and logical thinking in a convergent context and neglecting creative thinking (13). Several others have also failed to comprehend Merdeka Curriculum. In this context, this study aimed to investigate the understanding of teachers

concerning Merdeka Curriculum and the implementation of the coastal school environment in social studies education.

II. METHODS

This study used a qualitative method and the data were obtained through documentation, research observations, and interviews. The primary objective was to investigate the understanding of social studies education in Merdeka Curriculum, relevant ecopedagogic approaches implementation in coastal schools, and the use of the environment as a learning resource. Data were obtained in three phases, first, the use of questionnaires to assess the knowledge of social studies teachers concerning Merdeka Curriculum. Second, data were gathered through open interviews focusing on ecopedagogic approaches and contextual learning. Third, in-depth interviews were conducted with two practitioners from MGMP IPS. The collected data were subsequently analyzed, synthesized, and verified to draw conclusions. The participants were social studies teachers from 13 schools located in North Jakarta and Seribu Islands. These schools included Junior High School 53 Cilncing, 143 Cilincing, 290 Cilincing, 120 Cilitncing, 261 Cilincing, 201 Cilincing, 278 Cilincing, 133 Tidung Island, 01 Pari Island, 285 Untung Java Island, 288 Lancang Island, 241 Cilincing, At Taufiq Cilincing, Al Islamiyah Cilincing, and Hang Tuah 1 Cilincing.

III. RESULTS AND DISCUSSION

Merdeka Curriculum was designed to foster creative and innovative learning processes, with a sharp focus on catering to the diverse needs of students in line with 21st-century learning requirements. This comprised equipping students with the essential 4C skills, namely, critical thinking, communication, collaboration, and creativity. By engaging in strengthening projects, students were promoted to actively develop critical thinking skills from an early age, particularly in addressing environmental problems.

The Curriculum serves as a guiding framework for educational institutions to realize their objectives. The implementation of the curriculum in Indonesia has experienced several changes and modifications to correspond with the ever-evolving science and technology (zekri 2007 2014). In response to the rapid changes in science and technology, Indonesia, through the Ministry of Education,

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JCHR (2023) 13(4), 719-726 | ISSN:2251-6727



Culture, Research, and Technology, introduced Merdeka Curriculum. In the industrial era, Merdeka Curriculum was intended to accommodate various perspectives of knowledge, fostering fun learning experiences, recognizing the potentials of students, and promoting attitudes that enabled the acquisition of 21st-century skills (14). However, previous studies showed that several teachers still perceived themselves as primary sources of information rather than facilitators of learning. This mindset could lead to uncertainty regarding whether sufficient opportunities were provided for learning.

Understanding of Teachers concerning Merdeka Curriculum

Merdeka Curriculum can be implemented in educational units across all regions, regardless of the varying conditions. Coastal schools in Indonesia benefit significantly from Merdeka Curriculum due to its flexible framework, which allows for customization and adaptation to cater to the unique requirements of educational units and students. This adaptability extends to correlating the curriculum with the vision, mission facilities, and learning needs of students.

For effective curriculum development, teachers are required to be proficient in implementing learning in accordance with the current curriculum. The data gathered

from questionnaires filled out by *social studies teachers* revealed an average understanding score of 74.2. This value was derived from four dimensions: (1) Teacher Professional Competence; (2) Learning Assessment; (3) Curriculum Policy; and (4) Curriculum Concepts. The results are summarized as follows:

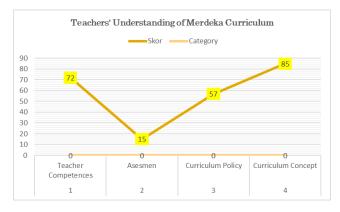


Figure 1. Understanding of Teachers Concerning Merdeka Curriculum

Teachers had an average score of 85 in understanding the concept of Merdeka Curriculum, although a low score was recorded in terms of assessment. The response by teachers can be categorized into three as follows:

Table 1. Question of Definition Merdeka Learning

	CHOICE STATEMENT			
Question	Α	В	С	D
Independent learning means that students are given the opportunity to be free. This				
competence indicates	24	1	2	0
Answer Choices				
A. Students can optimize their talents and can make the best contribution in working				
for the nation.				
B. Students are not burdened with excessive homework from their teachers.				
C. Students are not pressured to follow the learning process with too many subjects.				
D. Students have ample free time to rest and enjoy life in their teens				
Answer: A				

Table 1 shows that 24 students obtained an accurate score.

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JCHR (2023) 13(4), 719-726 | ISSN:2251-6727



Table 2. Definition of Differentially Learning

	CHOICE STATEMENT			
Question	A	В	C	D
To improve the quality of learning outcomes of students, teachers should be able to	22	4	1	0
carry out differentiated learning. What is differentiated learning?				
Answer Choices				
A. The learning process focuses on compatibility of students, where teachers need				
to know the competence of students				
In classroom and adjust learning accordingly				
B. The learning process is carried out variously to ensure students do not feel bored				
C. Teachers are able to implement different learning processes periodically				
D. The learning process is designed to the competence of teachers and the				
availability of learning facilities in schools.				
Answer: A				

Table 2 shows that 22 students obtained an accurate score.

Table 3. Knowledge of Project for Strengthening the Pancasila Student Profile

	CHOICE			
	STATEMENT			
Question	Α	В	С	D
The Implementation of Project for Strengthening the Pancasila Student Profile				
activities learned from each subject is no longer separated from the subject elements				
and learning is carried out contextually. This type of learning is called?	4	23	0	0
Answer Choices				
A. Thematic Learning				
B. Integrated Learning				
C. Scientific Learning				
D. Online learning				
Answer: B				

Table 3 shows that 23 students obtained an accurate score. However, understanding of teachers concerning assessment remained deficient due to the lack of adequate training.

Social studies teachers in the coastal schools had already started implementing Merdeka Curriculum. Approximately 75% of teachers collaborated on developing Merdeka Curriculum through Community Practitioners/Learning Community, such as the Subject Group Discussion (MGMP-Musyawarah Guru Mata

Pelajaran) of Social Studies. However, 12% did not engage in lesson planning (Teaching Module), while the remaining 88% were highly prepared. The lack of lesson planning could make it challenging to deliver high-quality instruction designed to the needs of students.

Several teachers still encountered difficulties in implementing the curriculum despite attending training sessions, resulting in persistent reliance on traditional teaching methods. A few others remained focused on textbooks and failed to develop teaching materials or embrace

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JCHR (2023) 13(4), 719-726 | ISSN:2251-6727



contextual learning.

Anggrek, a social studies teacher in Cilincing, stated "I ensure to create teaching modules, which are actually the responsibility of each teacher". However, there was a senior teacher who lacked the full understanding of Merdeka curriculum, particularly in terms of teaching modules, due to limited training exposure. Putik stated "Although we were trained in the field yesterday, there was limited time to practice, which fostered a theoretical approach. There was a clear need for teachers to grasp the understanding of Merdeka Curriculum, particularly regarding the preparation of teaching module administration and the implementation of contextual learning. A significant number still relied on traditional teaching methods and textbooks and failed to develop teaching materials or embrace contextual learning".

Environmental Awareness of Students through Contextual Learning in Coastal School

Coastal Schools in Indonesia are educational initiatives designed to enhance the understanding and knowledge of school-age children about coastal and marine environments. This region has significant potential for development, specifically the tourism industry. Another key sector that needs to be exploited and prioritized is education, as it plays a crucial role in elevating the degree and quality of the nation (15).

Contextual teaching and learning is an instructional approach that emphasizes the link between subject matter and real-world situations. It promotes students to draw connections between learning and personal experiences. Contextual learning models comprise various approaches, namely Contextual Teaching and Learning (CTL), Guided Discovery Learning, Problem-Based Learning (PBL), Inquiry-Based the Concept Attainment Model. Schools can leverage the coastal areas to educate students concerning the local ecosystem and the environmental challenges facing the community. This approach comprises hands-on activities, such as purification of beaches or water quality testing, which help students engage with the environment and comprehend the impact of human activities.

This study showed that nearly all social studies teachers used the contextual learning model in teaching, accounting for approximately 94%. This included discovery,

case-based, and project-based learning. In terms of teaching methods, approximately 30% adopted question and answer (Q&A), 12% used the lecture method, 19% preferred the practice method, 15% opted for observation, 12% utilized role-play, and 2% adopted various other learning approaches. As for learning media, approximately 47% were accustomed to using visual media, with about 29% preferring audio-visual aid, roughly 11% used concrete objects, 8% used audio, and 5% utilized other type of approaches. Concerning learning resources, around 31% preferred the internet, 25% relied on government textbooks, 27% used non-governmental books, 7% preferred teaching materials created by school teams, 5% relied on homemade books, and 5% utilized other sources.

The interviews with the head of Social Studies Subject Group Discussion (MGMP IPS) regarding the use of learning models/approaches showed that social studies teachers adapted the methods to address the specific challenges faced by students. Teachers used PBL models to investigate prevalent environmental problems directly and independently. In addressing Kamal Muara Beach, Mawar stated, "In order to engage in an active and enjoyable learning experiences, students are encouraged to contribute to the environment by collectively examining air quality, fostering creative thinking, and directly participate in problem-solving".

Anggrek, in teaching topics related to natural resources and sustainable development, used a project-based learning model, harnessing the potential of local resources, such as the production of tempeh and tofu. Other approaches, such as inquiry and discovery learning were used. This included observation and field trips, where students were directly invited to visit small-scale industrial centers after scheduling in advance.

Social studies teachers incorporated various devices as learning media to accommodate diverse learning styles, including auditory, visual, and kinesthetic. According to Mawar "We use multiple media types, including cellphones for recording, creating videos using TikTok application, and developing presentations through PPT/canvas. Teachers also capitalized on the immediate school environment as a practical learning resource for students, in addition to traditional sources like textbooks and the internet (Mawar; Anggrek).

www.jchr.org

JCHR (2023) 13(4), 719-726 | ISSN:2251-6727



Effective teaching materials, according to teachers, include LKPD, comprising comprehensive content for students to absorb and learn. LKPD materials not only cover essential subject matter but also offer links to additional resources such as e-books and videos. These supplementary resources can effectively enhance the potential of students (Anggrek). In addition, the changes in the teaching approach can make students more open and stimulate critical thinking, promoting the further exploration of the learning content.

The following viewpoints concerning social studies teaching materials were provided after the introduction of Merdeka Curriculum. Firstly, some teachers considered the materials to be overly simplistic, lacking depth and focus (Anggrek). This perspective was often related to the limited amount of instructional time available, particularly in the context of P5, which was only conducted three times a year.

Secondly, the current textbooks were suboptimal and challenging for teachers to comprehend. This was often attributed to the "mixed" themes, further causing confusion.

Teachers had consistently applied various strategies to enhance environmental awareness of students. One crucial approach was the engagement of students in concrete activities, such as observing the food consumed and conducting joint research. Students were promoted to participate in councils and explore the connection between food ingredients and the potential of natural resources. They also participated in planting activities, allowing for the understanding of the entire processes and the potential in the surrounding environment. This process incorporated education on the importance of healthy eating (Anggrek).

"Students were promoted to use organic waste, such as eggshell shells, onion, and garlic peels, in the context of sustainable development. This approach aimed to emphasize that all waste materials could be beneficial for sustainable development" (Mawar).

In Pari Island, students were given the opportunity to familiarize themselves with grouper farming. They were also directly exposed to fish farming, in order to facilitate environmental awareness and expand knowledge, particularly in the field of fisheries economies, from an early age. The implementation of this learning process is provided below:



Figure 2. Fish Farming Learning Observation Method

In the context of the image, students were promoted to engage in direct observation as part of a contextual learning approach. This enabled hands-on experience of the fishing process. In social studies education, fish farming is an integral component of the curriculum designed to introduce students to the potential of marine and coastal resources in building a blue economy.

Most teachers were unfamiliar with the ecopedagogic approach, which supported contextual learning models and enhanced environmental awareness.

The practice of using mangrove waste as a valuable resource has been largely overlooked and only recognized in the natural states. This situation has led to the suboptimal use of contextual learning in increasing environmental awareness in coastal schools.

The environment serves as a valuable learning resource in social studies education due to its proximity to students (16). Environmentally oriented local wisdom can be harnessed for the development of social studies learning, fostering environmental care attitudes (17).

The area of the school in a coastal environment is a crucial factor in determining teaching materials, particularly regarding the availability of natural resources. This is in accordance with the content of social studies subjects. Previous studies investigated the requirements for facilities and infrastructure in Junior High Schools situated in Indonesian coastal areas, locations primarily determined

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JCHR (2023) 13(4), 719-726 | ISSN:2251-6727



based on social demand and accessibility (18).

Merdeka curriculum prioritized flexibility by identifying essential materials designed to the school environment and the needs of students. The comprehensive understanding of curriculum implementation could optimize student-centered learning, effectively integrating environmental issues into problem-solving content. This approach was in line with a learning style rooted in real-life problems and life perspectives, underpinned by an ecopedagogic approach (19).

Students were promoted to explore the potential and identify the types of resources available in their environment. The availability of potential resources varies, and teachers were expected to exhibit creativity in developing teaching modules. This often-included modification and adjustment of existing teaching materials, specifically when teachers previously participated in workshops related to teaching module preparation at MGMP level.

The results showed that contextual learning could be initiated through the development of suitable learning plans and leveraging the school environment, such as the beach. However, not all teachers prepared a well-structured lesson plan in accordance with the school conditions. A few others had failed to develop teaching materials harnessing the potential of the school environment. Consequently, the learning experience was suboptimal, impacting the environmental consciousness of students and the ability to creatively address challenges, which was one of the keys 21st-century skills.

In Merdeka Curriculum, creativity was one of the dimensions of the Pancasila Student Profile and an essential character trait that students were expected to cultivate (Head of the Education Standard, Curriculum, and Assessment Agency of the Ministry of Education, Culture, Research 2022). However, the schools in the coastal areas lacked access to initiatives aimed at improving educational quality, and the students were most vulnerable to natural disasters. Coastal culture demonstrated local wisdom values that could be explored and developed (21). Therefore, it is imperative to consistently optimize efforts to enhance environmental awareness through contextual learning models and other approaches, specifically in coastal schools.

IV. CONCLUSION

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ACKNOWLEDGEMENTS

The authors are grateful to the Ministry of Education, Culture, Research, and Technology, for the funding provided, as well as to the Research Institutions and Community Service (LPPM) at Universitas Pendidikan Indonesia and the Social Studies Subject Group Discussion (MGMP) for the collaboration.

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