

Analysis of Mathematics Learning in the Implementation of The Merdeka Curriculum at Muhammadiyah Palangka Raya Integrated Islamic Elementary School

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ABSTRACT

Background: The implementation of the Merdeka curriculum in schools, especially at muhammadiyah palangka raya integrated islamic elementary school has become a concern. This is because the results of initial observations found that teacher and student activities during learning could not support student learning outcomes, especially in Mathematics learning. Thus, it is important to analyze mathematics learning in implementing the Merdeka curriculum at muhammadiyah palangka raya integrated islamic elementary school. **Aim:** Aim of this research is to describe the analysis of mathematics learning in implementing the independent curriculum at SD IT Muhammadiyah Palangka Raya. **Method:** This type of research is a type of qualitative research where the data that is found will be described according to the research focus. Data collection techniques in this research are observation, interviews and documentation. The data that has been collected is then analyzed and reduced using data simplification and retrieval of supporting data in this research so that the conclusions drawn can be justified. **Results and Discussion:** The results of the research show that mathematics learning in implementing the independent curriculum has been carried out well at muhammadiyah palangka raya integrated islamic elementary school. This can be seen from the preparation and implementation stages which have gone well. **Conclusion:** Muhammadiyah Palangka Raya integrated Islamic Elementary School has implemented mathematics education well as part of its Merdeka curriculum. This is evident from the proficient execution of the majority of preparation and learning components.

Keywords: Mathematics Learning, Merdeka Curriculum

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INTRODUCTION

Education in Indonesia reflects a long and challenging history, along with social, political and economic developments in the country. Various curricula have been implemented in Indonesia, ranging from the Dutch Colonial Era in the 17th century to the mid-20th century to the current Merdeka curriculum. Education is a critical component in the progress and advancement of a country. Education has the capacity to alter human resources and mindset in a long term. Thus, the significance and magnitude of education's role in Indonesia cannot be understated.

Education in Kalimantan, which is one of the largest islands in Indonesia, reflects the challenges and diverse characteristics of the region. Some points providing an overview of education in Kalimantan include the limited access, ethnic and cultural diversity, indigenous education, nature-based education, infrastructure challenges, the use of technology in education, and education of indigenous peoples. Education in Kalimantan must accommodate the specific context of the region, and ongoing initiatives are required to guarantee that each child in the area has equitable access to high-quality learning that is pertinent to the local needs. The implementation of education,

especially the Merdeka curriculum, particularly in the largest province of Kalimantan, Central Kalimantan, is beset by a variety of obstacles.

The various subjects in the Merdeka curriculum afford teachers the opportunity to express themselves in the delivery of learning. All subjects have their own peculiarities, especially in mathematics. Mathematics is an integral part of the education curriculum in Indonesia. In 2020, Indonesia was hit by the Covid 19 pandemic, forcing every country to implement educational reform in their respective countries. The Indonesian government introduced the 2013 Curriculum with the intention of enhancing educational standards and fostering an environment that is more conducive to creativity and results-oriented learning. Several institutions subsequently adopted the Merdeka Curriculum initiative subsequent to its inception.

Education in Central Kalimantan, particularly in Palangka Raya, has undergone numerous updates and has consistently adapted to new developments. However, educational challenges persist and must be collectively addressed. Because the quality of

education will inevitably lead to an increase in quality human resources. In addition to teachers, various stakeholders including communities, parents, and peers contribute to the learning process and ensure that it is executed effectively in order to improve human resources and advance education for the nation's youth.

Palangkaraya is the capital of Central Kalimantan province and often serves as a reference point for surrounding districts. The Merdeka curriculum is implemented from the Foundation Phase (kindergarten B) to Phase F (high school grades 11-12). Particular attention is paid to the elementary level (phases A, B, and C), where teachers are obligated to impart specific learning outcomes to students.

Problems arise when elementary schools in Palangka Raya city must implement Merdeka curriculum in their respective schools with the funds owned by the school. The implementation of Merdeka curriculum is also divided into three, namely implementation of Merdeka curriculum independent changes, The implementation of Merdeka curriculum independent sharing and the implementation of Merdeka curriculum independent learning. Each school is required to choose one of Merdeka curriculum in implementing the Merdeka curriculum in the city of Palangka Raya. One of the schools that participated in the implementation of Merdeka curriculum Independent Learning is Muhammadiyah Palangka Raya integrated Islamic elementary school Elementary School

Muhammadiyah Palangka Raya integrated Islamic Elementary School as an educational institution that implements the Merdeka curriculum, places mathematics as a key subject that has an important role in shaping students' cognitive abilities. Therefore, it is necessary to have an in-depth analysis of the implementation of mathematics learning in the context of implementing the Merdeka Curriculum in this school.

The followings are reasons underlying this research:

1. Merdeka curriculum Innovation: The Merdeka Curriculum offers an innovative learning approach which is different from the traditional curriculum. Therefore, it is necessary to study the extent of the implementation of this curriculum in learning mathematics at Muhammadiyah Palangka Raya integrated Islamic Elementary School.
2. The Importance of Mathematical Skills: Mathematical skills has a central role in the development of students' intelligence. Therefore, it is important to analyze the extent to which Merdeka Curriculum supports the improvement of students' mathematical skills at Muhammadiyah Palangka Raya integrated Islamic Elementary School.
3. Impact on Student Achievement: Analysis of mathematics learning is required to evaluate the impact of Merdeka Curriculum on student achievement in this subject. Whether the curriculum has the potential to enhance

students' interest, comprehension, and application of mathematics.

4. Teacher and Student Participation: The involvement of teachers and students in the implementation of Merdeka Curriculum is an important factor. In the context of learning mathematics, it is necessary to determine to what extent teachers and students are actively and positively involved in this learning process.

The researcher intends to revise the research title "Analysis of Mathematics Learning in Implementing the Merdeka Curriculum at Muhammadiyah Palangka Raya integrated Islamic Elementary School", in light of the issues identified in the background description.

METHOD

This research employed qualitative descriptive research methodology. The rationale for selecting this topic was to describe the analysis of mathematics learning during the implementation of the Merdeka curriculum at Muhammadiyah Palangka Raya integrated Islamic Elementary School, which is the purpose of this research. The researcher devised a data collection method in the form of an observation guide for teachers in order to obtain an overview of the implementation of the Merdeka curriculum. The results of the observations were analyzed using the indicators that were created for that purpose. Additionally, the data was substantiated through interviews conducted with teachers and documentation pertaining to the learning aids employed by the teachers. By employing these methods of data collection, it is anticipated that insights can be gained that is analyzed with exhaustive and comprehensive details.

The data that had been collected and credible was then analyzed and reduced using data simplification and retrieval of data that supports this research. Thus, the conclusions drawn can be accounted for. The focus of this research is an analysis of mathematics learning in the implementation of the Merdeka curriculum at Muhammadiyah Palangka Raya integrated Islamic Elementary School. The process involved deriving conclusions from the reduction of data and subsequently verifying their validity using the theory triangulation method. In the concluding phase, data pertaining to the analysis of mathematics learning during the implementation of the Merdeka curriculum at Muhammadiyah Palangka Raya integrated Islamic Elementary School was described.

RESULTS AND DISCUSSION

The results of this research were derived from the observation of mathematics-learning activities conducted by teachers during the implementation of Merdeka curriculum. Observation was carried out using an observation sheet that is in accordance with the predetermined research indicators. The observation sheet has 2 (two) aspects, namely teacher's activity in lesson preparation and teacher's activity in lesson

implementation. This is carried out in order to acquire more comprehensive data spanning from pre-learning to learning implementation.

No	Kriteria Penilaian	1	2	3	4	5
Perangkat Pembelajaran (Persiapan Pembelajaran)						
1	Guru membuat modul ajar sesuai dengan ketentuan kurikulum Merdeka.				√	
2	Guru merencanakan kegiatan sesuai dengan capaian pembelajaran.			√		
3	Guru memasukan nilai profil pelajar pancasila dalam modul ajar.				√	
4	Guru mengetahui level kemampuan siswa.				√	
5	Guru membuat alat penilaian yang sesuai dengan materi dan capaian pembelajaran				√	
6	Guru membuat LKPD			√		
7	Guru sering memanfaatkan lingkungan sekitar pada pembelajaran matematika			√		
8	Seberapa penting guru mengaitkan pembelajaran dengan kearifan lokal			√		

Figure 1. Observation Sheet of Learning Preparation

The observation results showed that the teacher had carried out learning preparation, as evidenced by her proficiency in developing teaching modules that incorporated the Pancasila learner profile values and her awareness of students' ability levels. Furthermore, the teacher designed assessment instruments that aligned with the intended learning outcomes. This is in line with Nahdiyah et, al (2022) who states that enhancing the Pancasila learner profile entails cultivating personal character and competency in the everyday surroundings via educational means, enabling students to engage in communication, collaborate, and implement norms

within the school setting. Teachers have a responsibility to ensure that they are aware of the ability levels of their students in order to effectively implement differentiated learning, which is a component of the Merdeka curriculum. Differentiated learning puts forward the concept that each individual has different interests, potential and talents so that the teacher has a role in being able to coordinate and collaborate these differences with the appropriate strategy (Faiz A, et al, 2022). Teachers at Muhammadiyah Palangka Raya IT Elementary School have performed this role very well. This is evident when the teacher guides and assists students with low ability.



Figure 2. Teacher guiding students

The results of the observation sheet in Figure 1 also showed that indicate that teacher planning in terms of aligning learning

activities with learning outcomes, incorporating local knowledge into the learning process, and utilizing the

environment to facilitate student worksheet are all quite good. These results are further corroborated by interviews, in which the teacher acknowledged that adequate preparation had been conducted prior to learning. However, there were challenges, including insufficient time to create student worksheet and an unfavorable school environment due to the shared yard with other schools. The significance of student worksheet in the implementation of the Merdeka curriculum is supported by Harbaridota's (2023) assertion that student worksheet based on the Merdeka Learning Curriculum can increase students'

interest and motivation to learn while fostering the development of independent and creative problem-solving skills. One aspect that remains deficient in this learning is the absence of connections to local wisdom, as the teacher is not originally from the Palangka Raya region. It has been suggested that the incorporation of local cultural knowledge into the Merdeka curriculum could potentially aid in the development of Pancasila students' profiles (Mahlianurrahman, M., & Aprilia, R, 2022).

No	Kriteria Penilaian	1	2	3	4	5
Aktivitas Guru (Pelaksanaan Pembelajaran)						
1	Guru menanamkan nilai-nilai Pancasila pada pembukaan pembelajaran.				√	
2	Guru melakukan apersepsi dengan menghubungkan materi yang akan dipelajari dengan materi sebelumnya.				√	
3	Guru cenderung membuat kelompok heterogen dalam pembelajaran			√		
4	Guru menanamkan konsep matematika pada materi yang disampaikan.				√	
5	Guru melakukan tanya jawab terkait materi yang diajarkan.				√	
6	Guru menyuruh siswa mengamati contoh terkait materi yang disampaikan.				√	
7	Guru melakukan elaborasi untuk pemahaman konsep yang diberikan dalam pembelajaran.				√	
8	Guru memfasilitasi siswa berkemampuan rendah dalam memahami materi.				√	
9	Guru membuat penilaian pengetahuan sesuai dengan materi yang diajarkan.				√	
10	Guru membuat penilaian sikap sesuai dengan nilai profil pelajar Pancasila yang diterapkan dalam pembelajaran			√		

Figure 3. Learning Implementation Observation Sheet

Almost all teacher activities associated with the implementation of learning were successful. This is evident by the extensive range of teacher activities, ranging from the introductory to the assessment. The implementation of mathematical concepts has been executed well in this learning, as has the manner in which the teacher elaborates students' mathematical capabilities throughout the process. This is in line with the statement expressed by Sihotang, H (2021), which posits that students' mathematical skills can be enhanced through the elaboration process in mathematics education.

The mathematics topics observed was the fraction material. The teacher imparts the understanding of fractions through the conversion of common fractions to percentages. Umar et al. (2022) defined fraction learning as encompassing not only the child's capacity to compute fractions, but also a range of illustrative instances and models of fractions that are taught. These include fraction equations, fraction operations, the conversion of ordinary fractions and mixed numbers to decimal fractions, comparisons, and percentages or vice versa.



Figure 4. Implementation of Observation

The teacher, in delivering how to change the fraction, generates an illustration of a basic fraction form before connecting and performing simple calculations to derive the percent form of the exemplified fraction through the use of everyday problem examples derived from the percent material (Siahaan, P., 2021). Nonetheless, some challenges arise during the execution of the learning process such as the teacher cannot form heterogeneous groups due to the limited number of students in the classroom. In contrast, research by Pranata, O. D. (2023) indicates that implementing heterogeneous groupings of students for mathematics learning has demonstrated efficacy to enhance classroom management. Additionally, research by Zativalen, O. et al. (2022) indicates that student cooperation in group learning is becoming more prevalent when heterogeneous groups are utilized. Another challenge pertains to the attitude assessment procedure, as teachers remain uninformed about the methods for evaluating the Pancasila profile of students. The aforementioned challenges are also addressed in the study by Zuriah and Sunaryo (2022), which asserts that within the driving school curriculum, assessment and learning function as instruments of school policy and authority. Consequently, both components undergo a flexible process that adapts to the educational requirements of students and the design of the curriculum.

CONCLUSION

According to the aforementioned description, Muhammadiyah Palangka Raya integrated Islamic Elementary School has implemented mathematics education well as part of its Merdeka curriculum. This is evident from the proficient execution of the majority of preparation and learning components. The research results comprise the following: (1) A mathematics learning plan is developed to serve as a learning guide for teachers; (2) The integration of the mathematics learning plan into the operational curriculum of the educational unit (KOSP), which is administered by the Merdeka curriculum, provides direction for the implementation of mathematics learning. This integration takes place through learning processes, learning outcomes, learning materials, and learning methods; (3) Teachers employ differentiated learning to support students with lower abilities in mathematics learning; (4) The challenges identified in the Pancasila student profile regarding attitude assessment and group learning pertain to the teacher's motivation to enhance the integration of mathematics learning within the Merdeka curriculum.

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