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The Problems in Implementing the Independent Learning Curriculum at the Motivator School of Sambaliung Elementary School

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Abstract

The Merdeka Curriculum is an educational program for primary and secondary school students that focuses on instilling national ideals and encouraging pupils to think critically, creatively, independently, and socially intelligently. In order to successfully implement the Merdeka Curriculum, this study seeks to offer ideas and actions that can be implemented in that direction. This study focuses on SD Negeri 005 Sambaliung's (one of the Mover Schools) endeavours to determine the barriers to and solutions for implementing the Merdeka Curriculum and the learning strategies put in place to achieve these goals. The Principal, VP of curriculum, teachers, and students are the subjects of this descriptive qualitative study. This study relies on observation, interviews, and recording to ensure that the data collected is reliable and comprehensive. Data analysis involved sorting, reducing, presenting, and drawing conclusions. The study's results found that the obstacles educators face include preparing teaching tools that could be more optimal, limited internet networks, and a lack of infrastructure. However, concrete efforts continue to be made by the Principal and educators at SD Negeri 005 Sambaliung, such as implementing coaching clinics for educators and education personnel, aligning local knowledge, and utilizing open spaces.

Keywords: Problems, Implementation, Merdeka Curriculum.

Abstrak

Kurikulum Merdeka merupakan program pendidikan bagi siswa sekolah dasar dan menengah yang menitikberatkan pada penanaman cita-cita kebangsaan dan mendorong siswa berpikir kritis, kreatif, mandiri, dan cerdas sosial. Untuk mensukseskan implementasi Kurikulum Merdeka, penelitian ini berupaya menawarkan gagasan dan tindakan yang dapat diimplementasikan ke arah tersebut. Fokus penelitian ini adalah upaya SD Negeri 005 Sambaliung (salah satu Sekolah Penggerak) dalam mengetahui hambatan dan solusi penerapan Kurikulum Merdeka, serta strategi pembelajaran yang diterapkan untuk mencapai tujuan tersebut. Kepala sekolah, VP kurikulum, guru, dan siswa menjadi subjek penelitian deskriptif kualitatif ini. Untuk memastikan bahwa data yang dikumpulkan dapat diandalkan dan komprehensif, penelitian ini mengandalkan observasi, wawancara, serta pencatatan. Analisis data meliputi pemilahan, reduksi, penyajian, serta penarikan kesimpulan. Adapun hasil penelitian yang menemukan kendala yang dihadapi oleh pendidik terkait antara lain penyusunan perangkat ajar yang belum optimal, terbatasnya jaringan internet dan minimnya prasarana. Namun upaya kongkrit terus dilakukan oleh Kepala Sekolah dan pendidik di SD Negeri 005 Sambaliung seperti pelaksanaan coaching clinik untuk pendidik dan tenaga kependidikan, menyelaraskan pengetahuan lokal, dan pemanfaatan ruang-ruang terbuka untuk peserta didik.

Kata kunci: Problematika, Implementasi, Kurikulum Merdeka.

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INTRODUCTION

Education based on Pancasila and the nation's cultural values is a continuous effort to shape future humans in a way that ensures quality over time (Sujana, 2019, p. 29). Education includes all efforts that encourage the growth and development of a person's mind and body, regardless of age. According to Law No. 20 of 2003 concerning the National Education System, "education is a means to educate the nation's life, the ability to form the character and civilization of a dignified nation and state, aimed at developing the potential of students to become dignified human beings who are faithful and pious to God Almighty, noble, knowledgeable, and become democratic and responsible citizens." Think of it this way: The education system in Indonesia has changed a lot over the years. It all started with improving the quality of teaching staff by restructuring the education system framework and curriculum and developing teaching and assessment systems.

Educational institutions faced both opportunities and challenges during the Fourth Industrial Revolution. For educational institutions to advance and develop, they need to be creative and able to collaborate. Significant gaps will open for you if you cannot think outside the box and work with others. Adapting the education system to new circumstances is a crucial competency educational institutions must possess (Yamin & Syahrir, 2020). This can only be realized through curriculum revisions, considering rapid technological developments. The need for reforms will force the Indonesian education system to lag behind other countries regarding teaching and learning. Curriculum updates can help the learning process become more effective and efficient, ultimately helping to achieve the set national goals. Using old curriculum techniques may no longer be applicable, so it is essential to update the curriculum.

Improving a country's human resource (HR) standards requires updating its education programs. The formal education system, also known as the school system, depends on its curriculum. This includes learning plans that guide educators on how best to educate their students to meet community needs through developing their skills and preparedness. To improve Indonesia's education standards and produce a new workforce capable of adapting to global trends, the government has decided to overhaul its education system by revising its curriculum. There is a strong relationship between curriculum and learning. Because the curriculum is a guide for instructors and students to follow while creating and implementing practical and successful learning strategies, it is vital to the education process. One solution to the impact of the post-pandemic education crisis on education is the Merdeka curriculum. The Merdeka curriculum emerged as a response to educational problems in the modern era and proposes several new policies that theoretically provide flexibility for schools and students in approaching and implementing education (Ardianti & Amalia, 2022).

As stated in the Decree of the Minister of Education and Culture Number 56 of 2022, which was later amended by the Decree of the Minister of Education and Culture Number 262 of 2022 concerning Amendments to the Decree of the Minister of Education, Culture, Research, and Technology Number 56/M/2022, which regulates the Guidelines for Implementing the Curriculum in the Framework of Learning Recovery, the SD/MI curriculum includes intracurricular learning and Pancasila student profile strengthening projects (P5) which receive approximately 20% of the total JP per year (Zahir et al., 2022).

Curriculum updates significantly impact education in Indonesia as they improve teaching quality while making the learning process or approach more efficient and effective. Especially considering the exponential and increasingly unpredictable growth of science and information technology in recent decades, the curriculum must be revised to reflect these changes. One of the most significant changes in education has been the revision of the curriculum in Indonesia. The Ministry of Education and Culture Research and Technology is currently socializing the Merdeka Belajar curriculum to become a national curriculum, so it is currently only an option in the education sector. Therefore, only some schools must adopt this curriculum for independent learning (Rahmadhani et al., 2022).

Several benefits of the new Ministry of Culture and Education curriculum encourage students to learn independently. The first benefit is that instructors can devote more time and energy to individual students' needs because the curriculum emphasizes core concepts. Second, it expands the availability of study time to focus on personal development through Pancasila profile projects. Finally, it empowers schools and teachers to create and implement individualized education plans for each child. Consequently, schools will significantly benefit from implementing the Merdeka curriculum (Jannati et al., 2023).

Through the development of operational school curricula and teaching modules that match students' stages or levels of competence, this educational system transformation effort provides schools and students with the flexibility to continue to develop according to their potential, interests, and talents. Classes I and II through Phase A of the Merdeka SD/MI/bentuk lain curriculum structure, followed by Classes III and IV in Phase B and Classes V and VI in Phase C. The implementation of the Merdeka Curriculum in Berau Regency itself started in 2022, the second batch, with the establishment of 10 (ten) mover schools under the Berau Regency Education Office, consisting of 3 (three) PAUD groups, 5 (five) elementary schools, 1 (one) junior high school, and 1 (one) senior high school.

One of the primary schools at the elementary level in Berau Regency is SDN 005 Sambaliung. Although its location is not in the city centre, it does not hinder the school, which has 12 classes, from competing with other schools. According to Simon Paulus Olak Wuwur (2023), implementing the Merdeka Curriculum in elementary schools aims to instil national pride and love for the homeland in students while fostering creativity, independence, social intelligence, and skills. Teachers can better meet each student's needs through differentiated instruction by using learning profiles, interests, and students' readiness levels. However, several issues arise when implementing the Merdeka curriculum. Some problems arise during the implementation of the Merdeka curriculum, according to research by Sunarni and Karyono (2023). These include the pressure on specific schools, the fact that not all teachers are happy with the socialization of the Merdeka curriculum, and the lack of competence among school personnel.

Indonesia, which previously used the 2013 Curriculum, has adopted the Merdeka Belajar Curriculum. The Merdeka curriculum must be implemented immediately as an essential step in the post-COVID-19 recovery process. This will address various problems, including 1) inadequate facilities and infrastructure; 2) inadequate instructor knowledge of information technology; 3) students' difficulty understanding abstract concepts; 4) students' heavy workload; 5) reduced classroom time allocation; 6) lack of parental support and supervision (Gowdo, 2021). Because not all schools have adopted the Merdeka Belajar Curriculum since it was introduced in the 2021–2022 school year, there are still very few references specifically related to the elementary school curriculum. The Merdeka Belajar Curriculum challenges teachers to step out of their comfort zones and design their lessons; this means they need to know their subject matter inside and out and be able to deliver engaging and comprehensive lessons that students will enjoy. Unfortunately, not all teachers can meet this challenge. Therefore, teachers must leave their comfort zones and follow the latest innovations in education. As the compass for all educational matters in Indonesia—lessons, programs, activities, and exams—the Pancasila Student Profile is an integral part of the Merdeka Belajar Curriculum. This makes it difficult for educators to strengthen and implement the Pancasila Student Profile. As a result, instructors face several problems when implementing the Merdeka Belajar Curriculum.

So far, various schools that help children learn at different levels have reacted differently to the idea of the Merdeka curriculum (Abidah et al., 2020). In the Merdeka curriculum, teachers are key players who significantly impact their students' achievements. Principals pay attention to increasing educational resources, such as textbooks and teaching tools, as well as improving the competency levels of teachers. Zahra and Putri (2016) state that principals play a significant role in implementing autonomous learning curricula, serving as

educators, managers, administrators, supervisors, leaders, innovators, and motivators. This principle plays a vital role in ensuring the effective implementation of the Merdeka curriculum by allocating all school resources for this purpose. The Principal's vision and direction, especially in teaching and supervision, are crucial for successfully implementing the Merdeka curriculum (Rapang et al., 2022). Additionally, support from stakeholders and community involvement is also vital.

About the problems raised above, this study seeks to provide recommendations to enhance the implementation of the Merdeka curriculum. The focus of this study is the initiative of SD Negeri 005 Sambaliung in the Implementation of the Merdeka Curriculum (IKM), including elements identified as obstacles, solutions to these obstacles, and learning strategies that have been implemented.

RESEARCH METHODOLOGY

The methodology of this study employs qualitative descriptive research. Because qualitative research is usually conducted in a natural setting free from any modification or control over the variables being studied, this research is often referred to as naturalistic research (Sugiyono, 2013). This research aims to provide a comprehensive description of the challenges related to implementing the Merdeka Curriculum at the driving school SD Negeri 005 Sambaliung by describing, interpreting, and understanding events in the field. Students in Phases A, B, and C, along with their instructors, project coordinators, assistant principals for curriculum, and the students themselves, serve as this study's primary subjects and data sources. Secondary data comes from the profiles and history of SD Negeri 005 Sambaliung, as well as other relevant studies.

Research using qualitative descriptive methodology can be conducted as follows: Information gathering: This is done by collecting information from elementary school students, instructors (both first and fourth-grade classes), and the Principal as part of interview-based observations and documentation-based reviews of the Merdeka curriculum. Researchers can use methods such as observation, interviews, and documentation studies with research participants to obtain comprehensive and accurate data. Because they are the ones who genuinely gain knowledge and because their classroom experiences can provide a good picture of how well the course is going, students can be used as research subjects. Because of their unique perspectives and experiences, instructors can also serve as research subjects while studying the impact of curriculum implementation. Due to their positions and influence on student learning, school leaders can be research subjects by sharing their perspectives on the challenges and successes of curriculum implementation. Analyzing data: This is done by reading, understanding, analyzing, and integrating data collected from various sources. The steps taken in data analysis include categorization, reduction, presentation, and conclusion drawing. They are located on Jl. Sei Limunjan in Sambaliung District, Berau Regency, East Kalimantan, is the research location at SD Negeri 005 Sambaliung. The research relies on observation, interviews, and documentation to obtain comprehensive and accurate data. Data analysis involves classification, reduction, presentation, and conclusion drawing.

RESULTS AND DISCUSSION

Based on research conducted at the Mover School SDN 005 Sambaliung, the implementation of the Merdeka Curriculum has been ongoing for approximately two years since 2022. It is now entering its second year with a three-year contract system. Several problems related to planning, implementation, and evaluation can be identified in the implementation of the Merdeka Curriculum.

In the planning phase, changes in the curriculum and educational policies can pose problems. SD Negeri 005 Sambaliung must adapt to curriculum updates or policy changes that may occur nationally or locally. The school must understand the regulations and gather the necessary documents for the implementation process of the Merdeka Curriculum before

starting. To implement the Merdeka curriculum ideas for one academic year, teachers must determine what resources, including media and teaching materials, are needed for student learning. This becomes very important because of the substantial pedagogical changes the Merdeka curriculum requires. However, elementary schools often need help with trying to implement the Merdeka curriculum due to a lack of understanding and expertise in applying creative and new pedagogical approaches. Teachers face new challenges due to the shift from an integrated curriculum design to an independent one. To implement the Merdeka curriculum, educators must adjust lessons to the unique needs of each student by considering their immediate context.

The holistic and contextual curriculum approach guides the adaptation of the Merdeka curriculum learning strategies for use in the classroom. Teachers meet the unique needs of each student and encourage active student participation as they learn. Teachers create discourse and open discussion opportunities to help students better understand the concepts being taught. Additionally, instructors provide their students with various printed and digital learning tools. The first step is organizing learning time to meet the needs of the Merdeka Curriculum while still covering the previously existing curriculum. Efficient and flexible time management must be considered so that students can explore their interests and talents while acquiring the necessary knowledge and skills. According to the Principal of SDN 005 Sambaliung, the Merdeka Curriculum is implemented gradually, starting with Phase A for first-grade classes and Phase B for fourth-grade classes. At the same time, the fifth and sixth grades still use the 2013 Curriculum.

One of the problems that arise is that teachers still need help creating teaching tools, especially in finding teaching modules tailored to each student's unique needs and characteristics, as well as identifying new approaches and platforms. Indeed, to be agents of change in the classroom, educators must possess the following qualities: a can-do attitude, boundless energy, imagination, originality, and expertise (Badrus Sholeh et al., 2023). Therefore, a coaching clinic was conducted to develop appropriate and comprehensive strategies for analyzing initial learning goals by considering students' needs, Learning Outcomes (CP), and Learning Objective Flow (ATP), as well as specific efforts to enhance the Pancasila Student Profile. that will be implemented at the school. The strategy should include objectives, methods, and evaluations.

The implementation process of the Merdeka Curriculum at SD Negeri 005 Sambaliung involves the Pancasila Student Profile Strengthening Project (P5) at the end of each semester and the application of subject-based Teaching Modules for first and fourth grades. Based on interviews with several educators at SDN 005 Sambaliung regarding the problems in implementing the Merdeka Curriculum, several solutions were found: 1) Continuous and equitable training for educators and education personnel is required per the educational principles expressed by Ki Hajar Dewantara, who states that humans are lifelong learners; 2) Regarding internet access to the Merdeka learning platform and other references, special attention is needed from the local government or private parties because internet access at SDN 005 Sambaliung is still complicated. However, educators utilize other information media from books or knowledge around them; 3) Educators utilize open spaces such as the school's large yard as a solution to limited space infrastructure; and 4) Educators utilize other learning resources from nature and local culture to solve inadequate learning resources.

Educators at SD Negeri 005 Sambaliung stated that the above matters need attention, such as supporting books that students and both printed and digital materials can access.

Implementing the Merdeka curriculum includes diagnostic, formative, and summative assessments and reporting learning outcomes using report cards as part of the evaluation process. In classrooms where educators struggle to determine the best way to evaluate and assess students based on their nature and demands, some teachers still need help implementing and teaching the Merdeka Curriculum, especially in schools designated as mover schools. Some teachers still need help with summative assessments regarding methods and preparation.

However, with continuous support and monitoring from the Driving Teacher Center (BGP) facilitators, all challenges and difficulties in implementing the Merdeka Curriculum at SD Negeri 005 Sambaliung can gradually be overcome. Teachers have begun to change and open up always to improve their competencies and act professionally in providing education, hoping to produce students with character and Pancasila profiles.

Assessment is vital in measuring how well students have learned in the Merdeka curriculum. Continuous formative and summative assessments are part of the Merdeka curriculum evaluation framework, in addition to final exams and assessments. The purpose of formative assessments, while students are still learning, is to help them improve their work by providing constructive criticism and suggestions. Another benefit of formative assessments is that they allow educators to better adjust their lessons according to each student's learning style. Final exams at the end of the year or semester are examples of summative assessments that measure students' mastery of the skills and knowledge required by the curriculum. Beyond that, the development of students' character components is also evaluated in the Merdeka Curriculum. Students' affective and psychomotor capacities are often measured as part of their cognitive abilities in character evaluation.

Based on the Pancasila Student Profile, the ultimate goal of learning activities in the Merdeka Curriculum is to shape students' character. Therefore, teachers are encouraged to step out of their comfort zones or shift from traditional learning paradigms to creative learning. To ensure that students' actions are understood, teachers should understand the concepts and dimensions of the Pancasila Student Profile.

Given the challenges in introducing the Merdeka curriculum to elementary schools, several potential solutions have been proposed. These include: (1) Continuing the professional development of educators and school staff. A more positive and enjoyable learning environment for students can be achieved by enhancing the capacity of education professionals and teachers to use creative and innovative learning approaches. (2) Increasing community and parental support. The role of the community and parents is vital concerning elementary schools implementing the Merdeka curriculum. Efforts must be made to enhance their understanding and involvement in education. (3) Improving existing infrastructure and facilities. Improving classrooms, laboratories, libraries, and textbooks can contribute to a more supportive and encouraging environment for students to learn. (4) Tighter supervision and control. Greater oversight and control are needed regarding using the Merdeka curriculum in elementary schools. This can be useful to understand how to overcome challenges and obstacles that arise during implementation. (5) Fostering collaboration among education stakeholders. To help children fully achieve their academic and personal potential, education stakeholders, including teachers, principals, parents, and the community, must work together to create a safe and encouraging classroom environment. Participation in teacher mobilization initiatives is encouraged.

CONCLUSION AND RECOMMENDATIONS

The education curriculum must be reformed to improve a nation's human resources (HR). The curriculum is an integral part of any formal education system, sometimes referred to as the school system. It contains learning plans that guide educators in equipping students with the knowledge and skills they need to meet community needs. The Indonesian government recognizes the importance of updating the curriculum to improve the country's education standards and produce a new workforce capable of adapting to global trends and challenges.

Based on the research results regarding the Problems in the Implementation of the Merdeka Curriculum at the Mover School SD Negeri 005 Sambaliung, it can be concluded that there has been an adaptation to curriculum changes and educational policies, which in the process faced several obstacles. Nonetheless, a phased approach and coaching clinics help educators prepare teaching tools that meet students' needs. The implementation process involves the Pancasila Student Profile Strengthening Project (P5) and subject-based Teaching

Modules. Despite challenges such as internet access and lack of learning infrastructure, steps like technical guidance, attention to infrastructure, and learning resources are proposed solutions. Learning evaluation involves diagnostic, formative, and summative assessments. Despite difficulties in teaching and assessment, support from the Driving Teacher Center helps overcome these obstacles. Teachers are beginning to open up to improving their competencies and providing education that produces students with character and Pancasila profiles.

Recommendations are expected for the government and private parties to provide assistance related to internet access to the Merdeka learning platform and other references, as this needs special attention due to the difficulty of internet access at SDN 005 Sambaliung. Adequate infrastructure and learning resources also need attention, such as supporting books that students can access through printed and digital materials. I can help elementary schools better understand and implement the Merdeka curriculum by providing resources and information. Efforts should also be made to improve the quality of educational staff and instructors, improve school infrastructure, and monitor and supervise the implementation of the Merdeka curriculum in elementary schools. Schools in Indonesia can benefit significantly from student development and overall education by implementing the Merdeka curriculum, provided the necessary steps are taken and adequate resources are available.

REFERENSI

- Abidah, A., Hidayatullah, H.N., Simamora, R.M., Fehabutar, D. & Mutakinati, L. (2020). The Impact of Covid-19 to Indonesian Education and Its Relation to the Philosophy of "Merdeka Belajar." Studies ih Philosophy of Science and Education, 1(1), 38 49.https://doi.org/10.46627/sipose.vlil.9
- Ardianti, Y., & Amalia, N. (2022). Kurikulum Merdeka: Pemaknaan Merdeka dalam Perencanaan Pembelajaran di Sekolah Dasar. *Jurnal Penelitian Dan Pengembangan Pendidikan*, 6(3), 399–407. https://doi.org/10.23887/jppp.v6i3.55749
- Badrus Sholeh, M., Kamsan, N., & Aliyah, H. (2023). Persepsi Guru terhadap Implementasi Kurikulum Merdeka di Madrasah. *Tafáqquh: Jurnal Penelitian Dan Kajian Keislaman*, 11(2), 273–287. https://doi.org/10.52431/tafaqquh.v11i2.2245
- Barlian, Ujang Cepi, Siti Solekah, and Puji Rahayu. 2022. "Implementasi Kurikulum Merdeka Dalam Meningkatkan Mutu Pendidikan." JOEL: Journal of Educational and Language Research 1: 2105-2118
- Erwin Simon Paulus Olak Wuwu. (2023) PROBLEMATIKA IMPLEMENTASI KURIKULUM MERDEKA DI SEKOLAH DASAR. JURNAL SOKO GURU Vol 3 No. 1 (April 2023) E-ISSN: 2827-8844 P-ISSN: 2827-8836
- Jannati, P., Ramadhan, F. A., & Rohimawan, M. A. (2023). Peran Guru Penggerak Dalam Implementasi Kurikulum Merdeka Di Sekolah Dasar. *Al-Madrasah: Jurnal Pendidikan Madrasah Ibtidaiyah*, 7(1), 330. https://doi.org/10.35931/am.v7i1.1714
- Rapang, R., Yunus, M., & Apriyanti, E. (2022). Peran Kepala Sekolah dalam menerapkan Peraturan-Peraturan di Sekolah Dasar. *Edukatif: Jurnal Ilmu Pendidikan*, 4(3), 3419–3423. https://doi.org/10.31004/edukatif.v4i3.2596
- Rahmadhani, P., Widya, D., & Setiawati, M. (2022). Dampak Transisi Kurikulum 2013 Ke Kurikulum Merdeka Belajar Terhadap Minat Belajar Siswa. JUPEIS: Jurnal Pendidikan Dan Ilmu Sosial, 1(4).
- Simon Paulus Olak Wuwur, E. (2023). Problematika Implementasi Kurikulum Merdeka Di Sekolah Dasar. *SOKO GURU: Jurnal Ilmu Pendidikan*, *3*(1), 1–9. https://doi.org/10.55606/sokoguru.v3i1.1417
- Sugiyono. 2013. Metode Penelitian Kuantitatif, Kualitatif, dan R&D . Bandung: Alfabeta.
- Yamin, M., & Syahrir, S. (2020). Pembangunan Pendidikan Merdeka Belajar (Telaah Metode Pembelajaran). Jurnal Ilmiah Mandala Education, 6(1), 126–136. https://doi.org/10.36312/jime.v6i1.1121

- Wibowo, D. R. (2021). Problematika Guru SD dalam Pembelajaran IPS Jarak Jauh di Masa Pandemi Covid-19. TERAMPIL: Jurnal Pendidikan Dan Pembelajaran Dasar, 7(2), 167–176. https://doi.org/10.24042/terampil.v7i2.7538
- Zahir, A., Nasser, R., Supriadi, S., & Jusrianto, J. (2022). Implementasi Kurikulum Merdeka Jenjang SD Kabupaten Luwu Timur. *Jurnal IPMAS*, 2(2), 55–62. https://doi.org/10.54065/ipmas.2.2.2022.228