



An Analysis of Readiness for Implementing the Merdeka Curriculum in Physics Education

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Abstract

This research focuses on implementing the Merdeka Curriculum, which is still relatively new and requires further adaptation in its execution. To ensure effective application, readiness for implementing the Merdeka Curriculum is crucial for each school. This study assesses the readiness for implementing the Merdeka Curriculum in physics education at high schools (SMAN) in Soppeng Regency. The research employed a descriptive approach. The findings indicate that the readiness for implementing the Merdeka Curriculum regarding teacher preparedness was 93.45%. The readiness of the teaching modules was 77.30%, which met the necessary components, while the readiness of facilities and infrastructure was 97.38%, indicating adequate resources for the curriculum's implementation. Based on these findings, it can be concluded that high schools in Soppeng Regency were generally prepared to implement the Merdeka Curriculum for physics subjects. However, the readiness of the teaching modules was the lowest compared to teacher preparedness and facilities readiness. This could be attributed to the insufficient training that teachers had received on the Merdeka Curriculum. The implications of this research suggested the need for increased teacher training, particularly in preparing teaching modules, to ensure effective learning. Additionally, this research contributed to the literature by thoroughly examining the readiness to implement the Merdeka Curriculum, including teacher readiness, teaching modules, and facilities. Research has yet to comprehensively explore these aspects together, as most studies focus either on teacher readiness or the obstacles in implementing the Merdeka Curriculum.

Keywords: Merdeka curriculum; physics learning; readiness

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INTRODUCTION

Education is a key factor in driving the progress of a nation. The government has consistently prioritized the education sector due to its significant contribution

to national development. Education also serves as a critical indicator of a region's quality of human capital. To enhance the quality of education, various initiatives have been undertaken by the



government, one of which includes several curriculum reforms. The curriculum is essential for achieving educational objectives and provides a framework for implementing education. Key components of a curriculum include clearly defined educational goals, a broad spectrum of knowledge and information, effective teaching methods and strategies, and robust evaluation mechanisms to assess the learning process (Cantika et al., 2022; Puspitasari et al., 2018).

According to Arviansyah & Shagena (2022), the curriculum is defined as an educational plan designed to align with the learning process and directly overseen by educational institutions and schools. In Indonesia, various curricula have been implemented across schools, largely due to frequent curriculum revisions in the education system. These changes are made to ensure that the learning process remains relevant to contemporary needs, thereby enhancing the overall quality of education. Furthermore, curriculum revisions are often introduced to address issues identified in implementing previous curricula, aiming to refine and improve upon them.

Curriculum reforms in Indonesia have a long and evolving history. The first significant curriculum change occurred in 1947, which prioritized character education as well as fostering awareness of the state and society rather than focusing on cognitive aspects. Subsequent revisions culminated in the 2013 Curriculum, which aimed to prepare Indonesian citizens to be faithful, productive, innovative, and affective individuals, capable of contributing to society, the nation, the state, and global civilization (Alhamuddin., 2014; Tryanasari & Riyanto, 2014). In 2019, the Ministry of Education, Culture, Research, and Technology introduced a new curriculum known as the Merdeka

Curriculum, which was initially referred to as the Prototype Curriculum. This curriculum was developed as a response to the need for learning recovery following the disruptions caused by the COVID-19 pandemic.

The COVID-19 pandemic created a learning crisis, particularly in Indonesia, prompting the government to implement an emergency policy requiring students to study from home through online learning. This shift resulted in a significant reduction in the intensity of teaching and learning activities, leading to increased anxiety among parents due to limitations in children's learning capacity, a lack of teacher guidance, and the onset of boredom and decreased motivation (Ariga, 2022; Rahmadayanti & Hartoyo, 2022). The Merdeka Curriculum was introduced to help address and mitigate the effects of this learning crisis.

In the Merdeka Curriculum, each educational unit is free to innovate. Unlike previous curricula, where educational units were primarily seen as technical implementers following top-down directives, the Merdeka Curriculum empowers these units to design their operational curricula. Teachers and students are given the flexibility to access knowledge and utilize differentiated learning methods, enabling them to explore their full potential. This represents a significant departure from earlier curriculum models.

The Merdeka Curriculum is viewed as a key driver for educational progress, provided it is implemented effectively. According to the Ministry of Education and Culture, this program intends to shape the future of education by focusing on improving human resource quality. The core principle of the Merdeka Curriculum is to create space for students to develop both their competencies and character, allowing them to discover their

learning paths, which can then be applied to their lives (Nugraha, 2022; Rahmawati et al., 2022). One example of the Merdeka Curriculum's application is in physics education. Physics is often perceived as a challenging subject by many students due to its focus on precise, theory-based content and complex formulas. According to Hidayat et al. (2014), physics is a branch of science that examines natural phenomena through physical principles, which are expressed mathematically to enhance understanding and practical application. The effective implementation of the Merdeka Curriculum can facilitate students' comprehension of physics concepts, enabling them to apply these principles in real-life situations. However, this also underscores the critical role of teachers in guiding and supporting students throughout the learning process.

Teachers are the central and most essential component of the educational process. They play a critical role in successfully implementing the curriculum, making teacher readiness a key indicator of a school's preparedness to adopt the Merdeka Curriculum (Febrianningsih & Ramadan, 2023; Masnun, 2023). The Merdeka Curriculum aims to enable teachers to focus more effectively on the learning process and facilitate student engagement. However, its implementation has challenges, which must be addressed by all stakeholders involved in the education system.

The Merdeka Curriculum is a new educational framework, and as such, educational institutions must adapt to and familiarize themselves with its structure and implementation. One of the education levels that has adopted the Merdeka Curriculum is Senior High School. In several regions, such as Soppeng Regency, most Senior High Schools have already implemented the

Merdeka Curriculum. The structure of the Merdeka Curriculum at the Senior High School level differs significantly from that of the 2013 Curriculum. The readiness to implement the Merdeka Curriculum is crucial for the success of its adoption at each educational unit. Key aspects of this readiness include teacher preparedness, the development of teaching modules, and the adequacy of facilities and infrastructure. Teachers must thoroughly understand the Merdeka Curriculum, particularly its concepts, learning strategies, and methods of assessing student outcomes (Widyastuti, 2022; Wuwur, 2023). Furthermore, the teaching module is an essential educational tool that includes a lesson plan to guide the learning process towards achieving the intended Learning Outcomes. Meanwhile, facilities and infrastructure are critical factors that can significantly influence the success of the learning process. Therefore, the standards and utilization of learning facilities must align with the learning objectives to ensure their effective achievement (Menteri Pendidikan, 2022; Rahayu & Haq, 2021)

Given the abovementioned issues, this topic presents an interesting and important area for further investigation. Therefore, the researcher proposes the research theme: "An Analysis of Readiness for Implementing the Merdeka Curriculum in Physics Education." This study aims to assess the readiness for implementing the Merdeka Curriculum in physics education at Senior High Schools (*SMAN*) in Soppeng Regency.

METHOD

This research employed a descriptive research design. Descriptive research aims to describe the state or values of one or more variables independently (Sugiyono, 2021). The study was conducted at public high schools in Soppeng Regency that implemented the

Merdeka Curriculum, specifically SMA Negeri 1 Soppeng, SMA Negeri 3 Soppeng, SMA Negeri 4 Soppeng, and SMA Negeri 6 Soppeng, during the odd semester of the 2023/2024 academic year. The study population consisted of public high schools in Soppeng Regency, with the sample including SMA Negeri 1 Soppeng, SMA Negeri 3 Soppeng, SMA Negeri 4 Soppeng, and SMA Negeri 6 Soppeng. Among these four schools, five physics teachers who had implemented the Merdeka Curriculum were selected: one physics teacher from SMA Negeri 1 Soppeng, two physics teachers from SMA Negeri 3 Soppeng, one physics teacher from SMA Negeri 4 Soppeng, and one physics teacher from SMA Negeri 6 Soppeng. The sampling technique used was cluster sampling (area sampling).

In this study, the type of variable used was a single variable, namely, the readiness to implement the Merdeka Curriculum. Readiness was defined as the willingness, motivation, and ability to engage in the required activities. Thus, the readiness to implement the Merdeka Curriculum referred to a condition in which the educational unit was prepared or was willing and able to carry out the Merdeka Curriculum. This readiness was measured using several indicators: teacher readiness, readiness of teaching modules (teaching devices), and readiness of facilities and infrastructure. First, teacher readiness was assessed based on understanding the structure and characteristics of the Merdeka Curriculum, engaging in self-development, understanding the learning process within the Merdeka Curriculum, and comprehending the assessment methods of the Merdeka Curriculum. Second, the readiness of the teaching modules (learning devices) was evaluated based on the completeness of the modules, including general information, core competencies, and

supplementary materials. Finally, the readiness of facilities and infrastructure was evaluated using indicators such as physical infrastructure, technology and internet access, and the availability of teaching materials and learning resources.

In this study, three stages were carried out: the planning stage, the implementation stage, and the data analysis stage. During the planning stage, the researcher developed a research design and selected the research site. The researcher also handled the necessary research permissions and prepared the research instruments. In the implementation stage, the researcher went directly to the field to collect data, which was then used for data analysis. During this stage, data were collected using the instruments that had been prepared in advance. Several data collection techniques were employed in this study, including questionnaires and observations. The questionnaire was a data collection technique in which respondents were given a set of questions or written statements to answer (Sugiyono, 2021). The questionnaire in this study was used to collect information regarding teacher readiness in implementing the Merdeka Curriculum, specifically focusing on teachers' understanding and self-development activities. Meanwhile, as a data collection technique, observation has more specific characteristics than other techniques, such as interviews and questionnaires. While interviews and questionnaires involve communication with people, observation is not limited to interactions with individuals; it also includes examining other natural objects (Sugiyono, 2021). In this study, two types of observations were conducted: one to assess the readiness of the teaching modules used by teachers in implementing the Merdeka Curriculum, and the other to evaluate the readiness of

facilities and infrastructure for implementing the Merdeka Curriculum.

Before the instruments were used, a validity test was conducted using Gregory's analysis method. The validity test is designed to ensure that the instruments used to collect or measure data are valid.

		Expert rater I	
		Weak relevance (items worth 1 or 2)	Strong relevance (items worth 3 or 4)
Expert rater II	Weak relevance (items worth 1 or 2)	A	B
	Strong relevance (items worth 3 or 4)	C	D

Figure 1 Validity test design

Description:

- A : Number of irrelevant items according to both validators.
- B : Number of relevant items according to validator 1 and irrelevant according to validator 2.
- C : Number of irrelevant items according to validator 1 and relevant according to validator 2.
- D : Number of relevant items according to both validators.

To calculate content validity it was determined using the following formula:

$$Content\ Validity = \frac{D}{(A+B+C+D)} \dots (1)$$

If $r \geq 0,75$, the instrument was considered valid and suitable. The results obtained from the content validity calculation for the three instruments showed $r = 1$, indicating that the instruments were valid and suitable for use.

The final stage was the data analysis stage. During this stage, data obtained from the sources were processed. This

study employed descriptive data analysis techniques. Descriptive analysis aimed to provide an overview of teachers' understanding of the implementation of the Merdeka Curriculum. The data collected through the questionnaire were converted into quantitative form by calculating the scores for each statement answered by the respondents. The results of this data analysis were presented as percentage scores. These percentage results were then categorized according to the predetermined values (Riduwan, 2004) in Table 1.

Table 1 Criteria for readiness to implement the Merdeka curriculum

NO	Interval percentage score	Criteria
1.	76% – 100%	Very Ready
2.	51% – 75%	Ready
3.	26% – 50%	Not Ready
4.	0% – 25%	Very Unready

RESULTS AND DISCUSSION

This section provides an overview of the readiness to implement the Merdeka Curriculum for physics subjects at SMAN schools in Soppeng Regency, specifically SMAN 1 Soppeng, SMAN 3 Soppeng, SMAN 4 Soppeng, and SMAN 6 Soppeng. This study used three instruments: the teacher readiness questionnaire, teaching module observation, and facilities and infrastructure.

Readiness of physics teachers

In the Merdeka Curriculum, there was a shift in the role of the teacher. Previously, teachers used uniform approaches in teaching, but now, they must guide students to become independent learners. The successful implementation of the Merdeka Curriculum depends on the educator's support for the effectiveness of the learning process (Ndari et al., 2023; Rohmah et al., 2023). When teachers possess greater readiness and

understanding of the Merdeka Curriculum, it can be implemented more effectively. In this research, teacher readiness for implementing the Merdeka Curriculum was measured using four indicators: understanding the structure and characteristics of the Merdeka Curriculum, self-development (through workshops/training), understanding the learning process, and understanding curriculum assessment. The results of the teacher readiness questionnaire are presented in the following Table 2.

Table 2 Teacher readiness in implementing the Merdeka curriculum

No	Indicator	Percentage
1.	Understanding the structure and characteristics of the Merdeka curriculum	96.67%
2.	Self-development (workshop/training)	77.14%
3.	Understanding the learning process of the Merdeka curriculum	100%
4.	Understanding of Merdeka curriculum assessment	100%
Average		93.45%

Based on the questionnaire, which consisted of four indicators—namely, understanding the structure and characteristics of the Merdeka Curriculum, self-development (through workshops/training), understanding the learning process, and understanding the assessment of the Merdeka Curriculum—it was found that the teacher's readiness to implement the Merdeka Curriculum, as measured by the indicator of understanding the structure and characteristics, reached a percentage of 96.67%. The research results indicated that physics teachers at SMAN schools in Soppeng Regency demonstrated a strong

understanding of the structure and characteristics of the Merdeka Curriculum and were able to distinguish it from the previous curriculum. However, in terms of understanding the indicators of the Pancasila student profile, some teachers still had insufficient understanding.

The self-development indicator achieved a percentage of 77.14%. This was because some teachers had yet to attend yet to attend training sessions, including those focused on introducing the Merdeka Curriculum, preparing specific teaching tools, and training specifically related to the Merdeka Curriculum for physics subjects. However, teachers addressed this gap by studying the Merdeka Curriculum independently, using resources such as books and platforms provided by the government. In addition, teachers collaborated with their colleagues to enhance their understanding of the curriculum. As explained by (Amigo et al., 2023; R. F. Rahmawati, 2022), mentoring through socialization activities, workshops, or seminars is essential for deepening teachers' understanding and as a form of supervision and guidance. As noted, the lack of teacher training leads to ineffective learning content, decreased motivation, and difficulties in engaging students in the learning process. This finding is consistent with research by Asmahanah et al. (2023), which highlighted the challenges teachers face in implementing the Merdeka Curriculum. Therefore, teachers must continuously seek knowledge from official sources, such as the Ministry of Education website and the Merdeka Platform, participate in specialized webinars, seek guidance from school supervisors and experienced colleagues, and employ diverse teaching methodologies.

Meanwhile, the indicators of understanding the learning process and understanding the assessment of the Merdeka Curriculum both achieved a percentage of 100%. This indicated that teachers thoroughly understood the learning process in the Merdeka Curriculum. This was evident when teachers implemented learning strategies that met students' needs, utilized differentiated teaching methods, and engaged in contextualized learning. Differentiated learning involves designing varied instructional strategies to help students learn more effectively according to their needs (Sari et al., 2023). Furthermore, teachers demonstrated a solid understanding of the Merdeka Curriculum's assessment methods. This was reflected in their ability to assess student learning outcomes in line with the Merdeka Curriculum standards. Astari et al. (2023) noted that assessment plays a crucial role in the learning process. Through assessment, teachers can provide feedback on students' progress.

Based on the four indicators above, the average percentage of each teacher's readiness questionnaire results in implementing the Merdeka Curriculum was 93.45%. This indicated that the teachers' readiness fell into the "very ready" category. This finding is consistent with research conducted by (Fauzan et al., 2023; Irbah et al., 2022), which stated that in implementing the Merdeka Curriculum, teachers act as learning facilitators, supported by professional, pedagogical, personal, and social competencies in order to achieve learning objectives. Furthermore, implementing the Merdeka Curriculum will be optimal if the readiness of teacher human resources in each educational unit is strong. Specifically, educational units should enhance teachers' competencies by organizing various training activities.

Readiness of Teaching Modules

Learning planning is essential to consider, as well-planned lessons tend to run more effectively. The Merdeka Curriculum documents learning plans in teaching modules (Kusumawardani et al., 2022). In this study, data on the readiness of teaching modules for the implementation of the Merdeka Curriculum in physics subjects at senior high schools in Soppeng Regency were collected from 1 teacher at SMAN 1 Soppeng, 2 teachers at SMAN 3 Soppeng, 1 teacher at SMAN 4 Soppeng, and 1 teacher at SMAN 6 Soppeng, totalling 5 teachers. The results of the observation of the readiness of teaching modules at these schools in Soppeng Regency are summarized in the following Figure 2.

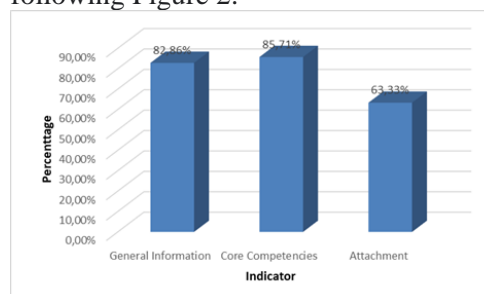


Figure 2 Bar diagram of teaching module readiness

The teaching module implements the flow of learning objectives, developed from learning outcomes, with the Pancasila Student Profile as the target. In creating teaching modules, teachers face several challenges, such as adapting the modules to students' diverse characteristics and interests (Asrifan et al., 2023; Setiawan et al., 2022). The analysis of teaching module readiness was based on the learning and assessment guidelines prepared by the Badan Standar Kurikulum (2022). Teaching modules must include three main components: general information, core competencies, and attachments. These three components served as the indicators for

assessing the readiness of teaching modules in the implementation of the Merdeka Curriculum. The following is an explanation of each component of the teaching module. First, the general information indicator includes module identity, initial competencies, Pancasila learner profiles, facilities and infrastructure, target students, and learning models. The module identity and initial competencies components were fulfilled by all teaching modules owned by the teachers. Regarding the Pancasila learner profile, facilities and infrastructure, and learning model components, 4 teaching modules met these requirements, while 1 did not. In the target student component, 3 teaching modules fulfilled the criteria, and 2 did not. Based on this analysis, the percentage result for the general information indicator was 82.86%.

Furthermore, the core competency indicator consists of several components: learning objectives, assessment, understanding meaning, triggering questions, learning activities, educator reflections, and student reflections. In the components of learning objectives, assessment, understanding meaning, and learning activities, all the modules owned by teachers at high schools in Soppeng Regency fulfilled these criteria. For the component of triggering questions, 4 teaching modules met this requirement, while 1 did not. Additionally, in the educator and student reflection components, 3 teaching modules fulfilled these criteria, and 2 did not. Based on the above analysis, the percentage for the core competency indicator was 85.71%.

Finally, the teaching module attachment indicator consists of several components: student worksheets, enrichment, remedial activities, educator reading materials, glossary, and bibliography. In the components of student worksheets, enrichment, and remedial activities, 4 teaching modules

met these requirements, while 1 did not. For the teacher reading material component, 2 teaching modules did not fulfill this requirement. In the glossary component, 1 teaching module fulfilled this criterion, while 4 did not. Finally, 3 teaching modules included this element in the bibliography component, while 2 did not. Based on the above analysis, the teaching module attachment indicator percentage was 71.43%.

From the three main components of the teaching module, it was observed that the completeness of the teaching module for implementing the Merdeka curriculum in physics subjects at SMAN in Soppeng Regency was generally good. This was reflected in the average percentage of module completeness, 77.30% and categorized as "very ready." However, some modules still lacked certain components. This was primarily because some teachers still needed training in preparing specific teaching tools. This finding is consistent with research by Arifah et al. (2023), which highlighted that teachers face obstacles in preparing teaching tools. Therefore, training activities or workshops focused on the Merdeka curriculum are necessary. Sanjaya et al. (2022) also emphasized that the teaching module is a critical component of the Merdeka curriculum and poses a challenge for educators, particularly regarding preparation and development. This challenge can be addressed by conducting training and providing technical guidance on preparing teaching tools.

Readiness of facilities and infrastructure

The Merdeka curriculum is a project-oriented curriculum where the learning process emphasizes practical engagement. As such, facilities and infrastructure play a crucial role and are considered key factors in the success of

the teaching and learning process (Rahayu & Haq, 2021; Rahmawati, 2022). The research findings indicated that the data collected through observations of the readiness of facilities and infrastructure for implementing the Merdeka curriculum in physics education in Soppeng Regency yielded the results summarized in Figure 3.

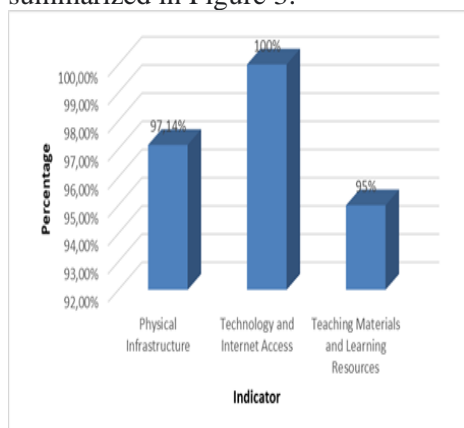


Figure 3 Bar diagram of facilities and infrastructure readiness

Based on the observation of the readiness of facilities and infrastructure, it was found that the facilities and infrastructure at SMAN schools in Soppeng Regency were categorized as “very ready” for implementing the Merdeka curriculum in physics education. This was evidenced by the indicators of facilities and infrastructure being met across all schools, with an average percentage of 97.38%. The key indicators for the readiness of facilities and infrastructure to support the Merdeka curriculum included physical infrastructure, technology and internet access, and teaching materials and learning resources. The first indicator, physical infrastructure, received 97.14% at SMAN schools in Soppeng Regency. This indicator encompassed classrooms, lighting, physics laboratories, computer laboratories, places of worship, teachers’ rooms, and libraries. All four SMAN schools involved in the study were equipped with classrooms, adequate

lighting, computer laboratories, places of worship, teachers’ rooms, and libraries. These facilities were present, complete, and in good working condition. However, regarding physics laboratories, three of the SMAN schools had fully functional laboratories, while one school, SMAN 3 Soppeng, had a physics laboratory with some damaged equipment.

The second indicator, technology and internet access, includes computers, laptops, tablets for students and teachers, projectors or interactive screens, and stable and fast internet access. All of these facilities and infrastructure were available, complete, and functioning effectively at SMAN schools in Soppeng Regency. This was reflected in a 100% satisfaction rate for the relevant indicators. These findings align with the research of (A. D. Rahayu & Haq, 2021; Rawal, 2024), which emphasizes that facilities and infrastructure are critical factors supporting the success of the learning process. Furthermore, the enhancement of digital facilities and infrastructure in schools is closely linked to teacher training in the use of technology, ultimately fostering improved utilization of digital resources and contributing to the overall quality of education.

The final indicator is teaching materials and learning resources. This includes textbooks aligned with the Merdeka curriculum for physics, a variety of textbooks, access to digital libraries, and digital learning resources. At SMAN schools in Soppeng Regency, all facilities and infrastructure related to textbooks by the Merdeka curriculum, diverse textbooks, and digital learning resources were available, complete, and functioning properly. However, access to a digital library was available in three SMAN schools, while one school, SMAN 6 Soppeng, needed a digital library. Based on this indicator of

teaching materials and learning resources, the percentage result was 95%. This finding is consistent with research by Kamiliyah & Faruk (2023), which suggests that textbooks for the Merdeka curriculum, when evaluated according to the BSNP (National Education Standards Body) textbook standards, are superior to those of the K13 curriculum.

Based on the description above, it can be concluded that, in terms of the readiness of facilities and infrastructure, SMAN schools in Soppeng Regency are prepared to implement the Merdeka curriculum in physics education, as evidenced by the 97.38% completion rate of the required facilities and infrastructure. This finding aligns with the research of (Figuroa et al., 2016; Purani & Putra, 2022), emphasising that facilities and infrastructure play a crucial role in supporting the learning process. Adequate facilities and infrastructure ensure that the learning process is relevant and optimal. Moreover, they significantly impact educational outcomes, particularly in developing countries.

However, some facilities and infrastructure still needed to be improved, particularly in the physical infrastructure indicator. In this category, 2.86% of the required facilities and infrastructure were not met. Specifically, one high school had a physics laboratory, but some equipment was damaged and inadequate to support practical activities. Additionally, 5% of the required facilities and infrastructure were not fulfilled in the third indicator, teaching materials and learning resources, as one school needed a digital library. A digital library is essential, as it allows students and teachers to access a broader range of learning resources, which is crucial for the independent learning emphasized by the Merdeka Curriculum. Based on the research findings, the average percentage of incomplete facilities and infrastructure

was 2.62%, as illustrated in the following graph (Figure 4).

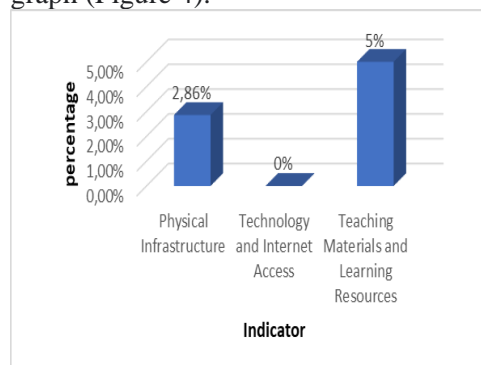


Figure 4 Bar chart of percentage of incomplete facilities and infrastructure

Readiness to implement the Merdeka curriculum

The readiness to implement the Merdeka curriculum was measured using three indicators: teacher readiness, teaching module readiness, and facility and infrastructure readiness. The research findings for these three indicators are presented in the following percentage results in Figure 5.

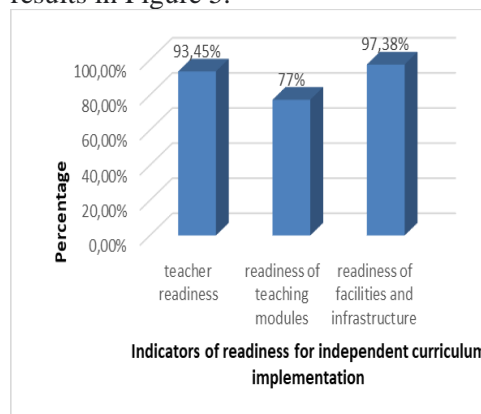


Figure 5 Bar diagram of readiness to implement merdeka curriculum at senior high schools in soppeng regency

As shown in the bar chart above, the teacher readiness indicator achieved an average percentage of 93.45%. This percentage was derived from the teacher readiness questionnaire, which assessed

understanding of the structure and characteristics of the Merdeka curriculum, self-development, comprehension of the learning process, and knowledge of the Merdeka curriculum assessment. The results indicated that there still needed to be more training on the Merdeka curriculum received by teachers. This gap impacted the readiness of the teaching modules used by teachers in implementing the Merdeka curriculum.

Meanwhile, the teaching module readiness indicator showed an average percentage of 77.30%, indicating that 77.30% of the teaching module components were fulfilled. This result was attributed to the limited training on the Merdeka curriculum attended by teachers, including general Merdeka curriculum training, training on the preparation of teaching tools, and specific training for physics teachers. However, physics teachers at high schools (SMAN) in Soppeng Regency addressed this gap by studying the Merdeka curriculum through various sources, such as books on the curriculum and platforms provided by the government.

Finally, the facilities and infrastructure indicator achieved a percentage of 97.38%. The facilities and infrastructure remained in good condition and were suitable for supporting the implementation of the Merdeka curriculum. Of the three indicators discussed above, it was clear that facilities and infrastructure had the greatest influence on the readiness to implement the Merdeka curriculum. This was consistent with the findings of Borreo and Alva (2022), who noted that most teachers believe they can adapt their teaching methods if the educational institution provides the necessary resources. Principals typically support teacher preparation by ensuring access to available digital tools, with teacher

preparation rates exceeding 90% in many countries.

Based on the explanation above, the results indicated that high schools in Soppeng Regency were ready to implement the Merdeka curriculum, as evidenced by the readiness percentage of each indicator. These indicators included teacher readiness, teaching module readiness, and facility and infrastructure readiness. This aligns with research (Nathasia & Abadi, 2022), which stated that teachers need teaching modules for lesson planning in implementing the Merdeka curriculum. Additionally, the professional abilities of teachers, along with the availability of facilities and infrastructure, greatly support the successful implementation of the Merdeka curriculum (Maulidia et al., 2023; Rahayu et al., 2022). Furthermore, (Armadani et al., 2023; Nandalawi & Wasith, 2023) argued that the Merdeka curriculum, in its conceptual framework, can serve as a facilitator and an effective means for future generations to develop the potential necessary to address complex real-life problems. Moreover, the Merdeka curriculum is seen as a strategy for advancing character education, enabling its integration into daily life and contributing to achieving ideal and meaningful education.

CONCLUSION

Based on the results of the research that was conducted, it could be concluded that senior high schools in Soppeng Regency were ready to implement the Merdeka Curriculum in physics education. This was evident in the percentages achieved for teacher readiness, the alignment of teaching modules with the components of the Merdeka Curriculum, and the adequacy of facilities and infrastructure to support its implementation. However, the readiness of the teaching modules was the lowest compared to teacher readiness and the readiness of facilities

and infrastructure. This was due to the limited training that teachers had attended on the Merdeka Curriculum. The findings of this research highlighted the need to emphasise teacher training to ensure the effective implementation of the Merdeka Curriculum. Furthermore, the results provided a reference for other schools, which could use teacher readiness and the availability of facilities and infrastructure as benchmarks for their own implementation efforts. The government and schools needed to design and provide more intensive training programs; particularly those focused on preparing teaching modules in accordance with the Merdeka Curriculum, especially in physics education. Additionally, teachers needed to receive specialized guidance to develop more comprehensive and contextual teaching modules. This study had limitations regarding representativeness, as it covered only one region, and it did not assess the long-term impact or identify specific obstacles in implementing the Merdeka Curriculum. Therefore, further research was needed to explore these aspects in greater depth.

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