



# Optimalisasi implemmentasi kurikulum Merdeka dengan penyusunan modul ajar matematika

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## ABSTRAK

**Background:** Optimalisasi implementasi kurikulum Merdeka di sekolah dilakukan dengan penyusunan modul ajar matematika. Kegiatan yang dilakukan adalah dengan memberikan pelatihan dan pendampingan penyusunan modul ajar matematika yang siap diterapkan di sekolah. **Metode:** Pelaksanaan kegiatan ini diawali dengan pelatihan oleh pakar kurikulum, selanjutnya dilaksanakan pendampingan penyusunan modul ajar kepada guru matematika. Sebelum dilakukan pelatihan, diawali dengan forum group discussion terhadap pengelola sekolah yang bertujuan untuk mengidentifikasi apa saja kebutuhan sekolah terkait dengan implementasi kurikulum merdeka. **Hasil:** Kemudian dilanjutkan dengan pelatihan tentang kurikulum Merdeka, modul ajar dan literasi numerasi pada kurikulum Merdeka. Kegiatan pelatihan diikuti oleh subjek dengan baik. Selanjutnya adalah kegiatan pendampingan terhadap penyusunan modul ajar. Kegiatan pendampingan dimulai dengan analisis kurikulum SMP, analisis capaian pembelajaran, penyusunan tujuan pembelajaran dan alur tujuan pembelajaran dan penyusunan modul ajar matematika. **Kesimpulan:** Kegiatan pelatihan dan pendampingan mendapatkan antusias dan diikuti dengan sangat baik oleh subjek.

## ABSTRACT

**Background:** The optimization of the Merdeka curriculum in schools involves preparing math teaching modules. This includes providing training and assistance to ensure the modules are ready for implementation. **Methods:** The process begins with training sessions led by curriculum experts and is followed by guidance in creating teaching modules for math teachers. To start, there is a group discussion forum with school administrators to determine the specific needs of each school regarding the Merdeka curriculum. **Results:** This is then followed by training on the curriculum itself, as well as on teaching modules and numeracy literacy. The participants in the training are highly engaged and responsive. After the training, mentoring sessions focus on the preparation of teaching modules. This involves analyzing the junior high school curriculum, examining learning outcomes, establishing learning objectives, and creating the flow of these objectives. **Conclusions:** Both the training and mentoring activities have been met with enthusiasm and have received high levels of participation from the individuals involved.



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## INTRODUCTION

SMP Muhammadiyah 3 Kepanjen, supported by Muhammadiyah, is situated on Jl. Effendi No. 94B, Kepanjen, Kec. Kepanjen, Malang Regency, East Java 65163. It is a popular Islamic-based school in Malang district, known for promoting strong Islamic and religious values. However, the school faces challenges in terms of its teaching staff. Most teachers at SMP Muhammadiyah 3 Kepanjen are non-permanent, with teaching commitments in other schools. Consequently, the school's educational management, particularly in terms of learning activities, is not fully optimized. Teachers encounter obstacles and difficulties in preparing effective lessons. The principal of Muhammadiyah 3 Kepanjen Middle School aspires for the school to produce outstanding graduates who are capable of meeting the demands of higher education, be it at high school or vocational school level. Thus, it is crucial to provide guidance and training to enhance the competence of the school's staff in terms of management and lesson preparation. This is especially important due to the sudden change in curriculum, which has significantly impacted the teachers at SMP Muhammadiyah 3 Kepanjen, as they must adapt and adjust their approach, particularly in mathematics education.

Mathematics should be taught to elementary school students in order to develop their logical, analytical, systematic, critical, and creative thinking skills, as well as their ability to work together (NUR, 2013). Additionally, mathematics is a subject that continuously evolves with the times (Kamarullah, 2017). However, many students find mathematics difficult due to the abstract nature of its concepts and properties (Novitasari, 2016). Therefore, as a teacher, it is important to cultivate a positive attitude towards mathematics in students (Sholihah & Mahmudi, 2015). as a positive attitude can have a positive impact on their results. One effective way to do this is by making mathematics learning interesting and enjoyable. A useful resource for creating engaging and understandable lessons is the teaching module. Modules contain coordinated activities related to the material, media, and evaluation (Harta, Tenggara, & Kartasura, 2014). Moreover, teachers can develop teaching modules that are tailored to the unique characteristics of their students (Noviantari; & Agustina, 2016).

In Indonesia, the education sector has implemented the Independent Learning curriculum. This curriculum is a continuation and development of the 2013 curriculum (Khoirurrijal et al., 2022). Initially, it was implemented in select schools designated by the Ministry of Education and Culture, but by 2023, it must be implemented in all schools at all levels simultaneously. The purpose of the Merdeka Curriculum is to provide students with independence and meet the competency demands of the 21st century (Inayati, 2022). Unlike previous curricula, which focused on the scope and amount of material taught, the Merdeka Curriculum focuses on the competencies students need to develop and how they can apply their knowledge in real life.

The simultaneous implementation of the Merdeka Curriculum will have a significant impact on school administrators, as they were previously only involved in the socialization and implementation process in the designated schools. The Merdeka Curriculum aims to foster independent thinking among both teachers and students (Khoirurrijal et al., 2022). It emphasizes the importance of innovation and improving the quality of learning (Maulinda, 2022). The Merdeka Curriculum includes several changes, such as a more flexible curriculum structure, a

focus on essential content, the use of learning tools, and the integration of information technology. Teaching modules are important tools for implementing the Merdeka Curriculum. These modules are designed systematically, interestingly, and according to the needs of students (Made & Yusana, 2023). These modules are designed systematically, interestingly, and according to the needs of students (Setiawan, Syahria, Andanty, & Nabhan, 2022) (Andari, 2022) (Kemdikbud, 2022). Effective learning activities should align with the learning objectives, promoting interactive and enjoyable learning experiences that encourage students to develop their ideas and take initiative. This is particularly important in mathematics education, as it helps students enhance their problem-solving abilities, analytical thinking skills, and information-gathering abilities from various sources. By using teaching modules that are customized to the characteristics and needs of the students, educators hope to address potential learning difficulties.

However, preparing teaching modules requires certain skills for teachers. Many teachers struggle with this task due to limited knowledge and lack of creativity in technical preparation. Additionally, the Merdeka Curriculum has specific criteria for preparing teaching modules, further adding to the challenges. Therefore, it is crucial to provide guidance and training to enhance the management and preparation of learning materials in the school environment. Moreover, teachers also need support in adapting to the sudden changes in the curriculum, particularly in Mathematics education. Thus, assistance in preparing teaching modules is essential for implementing the Merdeka Curriculum in schools. The aim of this research is to optimize the implementation of the Merdeka Curriculum by preparing teaching modules for mathematics learning. To achieve this, training and assistance are provided to ensure that the teaching modules are aligned with the Merdeka Curriculum. Subsequently, the activities related to the preparation of teaching modules were evaluated by observing the teachers' responses.

## METHOD

The research utilized qualitative methods, specifically focusing on optimizing the implementation of the Merdeka Curriculum through mathematics teaching modules. It was conducted at SMP Muhammadiyah 3 Kepanjen, involving mathematics teachers as the subjects. The process began with training sessions on the Merdeka Curriculum's implementation, which included explanations on teaching modules and numeracy literacy in the context of the Merdeka Curriculum. Following the training, the teachers were assisted in preparing their teaching modules, and their responses to these activities were observed.

The data for this research were gathered through observation, interviews, and response questionnaires related to training and mentoring. The collected data underwent analysis using the Milles and Huberman technique, which involved data collection, reduction, presentation, and conclusion drawing. The data were obtained from observations, interviews, and the teacher response questionnaires. Through data reduction, relevant findings were selected to address the research focus on optimizing the implementation of the Merdeka Curriculum through teaching module preparation. The results were then presented in the form of a table depicting the average percentages of teacher responses to the conducted activities. Finally, conclusions were drawn based on the completed data analysis, providing insights into the optimization of the Merdeka curriculum's implementation.

## RESULT AND DISCUSSION

The Merdeka curriculum is a fundamental curriculum that all schools in Indonesia must implement as an extension of the 2013 curriculum. It grants the school the freedom to manage the learning process, from planning to implementation and assessment. By adopting the Merdeka curriculum, teachers are encouraged to be more innovative and creative. They are required to develop learning materials based on the specific needs and content of their lessons. In order to maximize the benefits of the Merdeka curriculum, several activities have been carried out to support its implementation. These activities include needs analysis, training, and mentoring.

### Needs analysis

Prior to the training activities, a needs analysis is conducted to identify the specific areas that require focus during the training sessions. The focus group discussions have revealed the following issues:

- 1) The Merdeka curriculum was implemented simultaneously, but the socialization of its implementation was not comprehensive for all schools.
- 2) Many teachers, particularly those in mathematics, have not had the opportunity to attend workshops related to the Merdeka curriculum.
- 3) Teacher creativity in developing teaching modules to support learning activities is still relatively low.
- 4) Schools have a strong desire to enhance professionalism and improve the quality of their human resources, but they face challenges in accessing workshops or training opportunities.
- 5) Although the training program for the Merdeka curriculum has been conducted selectively, the implementation of the curriculum itself is scheduled to commence simultaneously in 2023.

In light of these challenges, the training program aims to optimize the implementation of the Merdeka curriculum at the school level. This includes the development of teaching modules specifically tailored to the Merdeka curriculum, with a focus on mathematics subjects.

### Training

Following the needs analysis, the training activities encompass an overall explanation of the Merdeka curriculum, the preparation of teaching modules aligned with the Merdeka curriculum, and numeracy literacy within the Merdeka curriculum. Please refer to figures 1, 2, and 3 for an overview of these training activities.

[Figure 1.](#) provides training on the implementation of the Merdeka curriculum in schools. It explains the general concept of the Merdeka curriculum and the necessary steps for its implementation. Additionally, it identifies the support needed by schools for successful implementation.



**Figure 1.** Implementation of the Merdeka curriculum



**Figure 2.** Preparation of Teaching Modules

**Figure 2.** focuses on training modules for teaching in the Merdeka curriculum. It emphasizes the importance of preparing teaching modules and highlights the initial step of studying the structure of the junior high school curriculum. After understanding the curriculum structure, the next phase involves identifying the learning outcomes. These learning outcomes represent the competencies that students must achieve by the end of each learning material. The teacher then develops learning objectives and the flow of these objectives, which serve as the foundation for creating teaching modules. Following these stages, the teacher proceeds to develop teaching modules for each learning material.



**Figure 3.** Numeracy Literacy in the Merdeka curriculum

**Figure 3.** offers training activities specifically for numeracy literacy in the Merdeka curriculum. Numeracy and literacy are fundamental skills that play a vital role in everyday life. Literacy refers to reading, writing, and understanding written texts, while numeracy refers to the ability to understand, use, and manipulate numbers. Consequently, in addition to students



learning how to use numeracy literacy, the teacher must also comprehend its application in the learning process.

### **Accompaniment**

After conducting training activities for implementing the Merdeka curriculum, assistance is provided to support its implementation. This assistance primarily focuses on preparing teaching modules and includes the following mentoring activities:

1. Analysis of the junior high school mathematics curriculum

The purpose of this curriculum analysis is to understand the structure of the mathematics curriculum at the junior high school level. It involves collaboration with mathematics teachers from SMP Muhammadiyah 3 Kepanjena. The analysis reveals that the curriculum structure consists of one phase, namely phase D, for classes VII, VIII, and IX. Additionally, this phase encompasses intracurricular learning and activities that support the Pancasila student profile project. The activities supporting the Pancasila student profile comply with the curriculum structure's guidelines.

2. Identification of learning outcomes

Learning outcomes represent the competencies students should achieve after completing the learning activities. These outcomes are specified in the Decree of the Minister of the Republic of Indonesia Number 033/H/KR/2022, which outlines learning outcomes for each phase. At the junior high school level, the learning outcomes are determined for Phase D. The components of the learning outcomes include the subject's rationale, characteristics, achievements in each phase, and achievements in each element.

3. Preparation of learning objectives and flow

To develop learning modules, the competency descriptions in the learning outcomes must be aligned with learning objectives and the flow of these objectives. These objectives and flow serve as a guide for creating teaching modules. In the Merdeka curriculum, learning objectives should include competencies and content. After formulating the learning objectives, the next step is to establish the flow of learning objectives, derived from the objectives themselves. The flow of learning objectives includes core material topics, competencies to be achieved in each topic, estimated lesson hours, and the Pancasila student profile.

4. Preparation of Teaching Modules

Once the learning objectives and flow of learning objectives are determined, the next step is to prepare the teaching module. The teaching module serves as a guide for the teacher during the learning activities. It is a document that includes material identity, learning objectives, learning steps, assessments, and other resources such as teaching materials, media, and assessment instruments. The teaching module is prepared by the teacher before the learning activities commence. It helps to ensure that the learning activities are well-directed and planned. The preparation of teaching modules involves the following steps:

- a. Compilation of general information: This includes material identity, initial competencies, Pancasila student profile, infrastructure, target students, and learning methods used.
- b. Core components: This section must include learning objectives, assessments, meaningful understanding, trigger questions, and steps for learning activities.
- c. Attachments: This component should consist of student worksheets, teaching materials, assessment instruments, and learning media.

After the mentoring activities are carried out and the evaluation is completed, a response questionnaire is administered to gather feedback on the implementation of the training and mentoring activities. The response questionnaire is filled out by all participants involved in the training and mentoring activities. The findings of the response questionnaire are presented in [Table 1](#).

**Table 1.** Teacher Response Questionnaire Results

No	Aspect	Percentage
1	Training	
a	The material is presented clearly	87%
b	The material presented is useful and adds new information	91%
c	The speaker provides examples of application in learning	88%
d	The presenter encouraged participants to participate actively	87%
2	Accompaniment	
a	Mentoring is well done	85%
b	Mentoring is carried out in a structured manner starting from identifying the curriculum to preparing teaching modules	80%
c	The activities carried out in mentoring make it easier to prepare teaching modules	84%
Average		86%

The teacher response questionnaire results in Table 1 show that the average response was 86%. More than 50% of the assessment aspects for the training and mentoring activities were positive. Besides the questionnaire results, the implementation of training and mentoring also received good enthusiasm from the participants. Therefore, the efforts to optimize the Merdeka curriculum implementation through training activities and assistance in preparing teaching modules were successful and well-received. This training and mentoring activity aims to assist teachers in implementing the Merdeka curriculum in their schools, ensuring that graduates meet the government's learning outcomes. Additionally, the inclusion of the Pancasila student profile component aims to strengthen student character.

These activities contribute to the enhancement of teacher professionalism, particularly in the preparation of teaching modules. This aligns with previous research conducted by [Nurhikmayati et al., \(2023\)](#). Furthermore, the use of teaching modules reduces the teacher's workload in delivering learning materials, as stated in a study by [Maulinda \(2022\)](#) This allows teachers to have more time to provide individualized support and act as tutors in the learning process. Thus, the implementation of the Merdeka curriculum in schools can be carried out effectively, with schools being well-prepared. ([Lukman, Setiani, & Agustiani, 2023](#)), have also observed similar activities,

whereby teachers assist in the preparation of teaching modules and gain direct experience in utilizing the Merdeka teaching platform, adapting the modules to meet the specific needs of each educational unit.

## CONCLUSION

Based on the results description of the implemented activities, it can be concluded that efforts to optimize the implementation of the Merdeka curriculum involved training and assistance in preparing mathematics teaching modules. The activities were successful, indicating that providing training and assistance in creating teaching modules to support the curriculum can be effective. Additionally, these activities can help spread knowledge among teachers who have not received orientation on implementing the Merdeka curriculum in schools. Furthermore, the conducted activities contribute to enhancing teacher professionalism and creativity in preparing learning materials.

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