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Implementation of The Merdeka Curriculum in Physics Learning at Senior High Schools in Bengkulu City

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Abstract. This study aims to analyze the implementation of the Merdeka Curriculum in physics learning at high schools in Bengkulu City, focusing specifically on SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9 Bengkulu City. Additionally, it examines students' responses to implementing the Merdeka Curriculum in physics learning at these three schools. The background of this research stems from the "Merdeka Belajar" (Freedom to Learn) policy introduced by the Ministry of Education and Culture, designed to provide teachers with the flexibility to develop teaching methods that meet students' needs and emphasize assessments measuring fundamental competencies. The Merdeka Curriculum is a response to the evolving challenges in education, aimed at improving the quality of learning through a more flexible, relevant, and student-centered system. This study employs a qualitative method with a descriptive approach. The instruments include module assessment tools, teaching implementation evaluation tools, and student response questionnaires. The findings reveal that implementing the Merdeka Curriculum in physics learning at high schools in Bengkulu City is considered adequate and well-received by students. Students responded positively to various aspects, such as the relevance of the material to real-world issues, the enhancement of critical thinking and collaborative skills, the integration of technology, and the diversity of assessment methods. These positive responses demonstrate that the Merdeka Curriculum successfully fosters a more interactive and meaningful learning experience for students.

Keywords: merdeka curriculum, teaching module, learning implementation

1. Introduction

The Ministry of Education and Culture has implemented a policy to reform Indonesia's education system through the Merdeka Belajar (Freedom to Learn) program. This policy aims to optimize the potential of teachers and students while enhancing the quality of learning by granting teachers the autonomy to implement curricula and design teaching methods tailored to students' abilities [1]. Merdeka Belajar is also intended to refocus assessment on its essence. This concept seeks to align education with the fundamental mandates of the law, granting schools the flexibility to understand the essential competencies of the curriculum and use them as the foundation for the assessment process [2].

According to the Ministry of Education and Culture Regulation No. 22 of 2020, the changes in the Merdeka Belajar (Freedom to Learn) policy encompass five main categories: (1) the educational ecosystem; (2) teachers; (3) pedagogy; (4) curriculum; and (5) the assessment system. In the educational ecosystem, the Ministry aims to transform mindsets and practices that hinder educational progress, such as overly rigid regulations, the perception of schools as burdens, and school management focusing solely on internal matters. This transformation is directed toward creating a school environment that is enjoyable, open, and fosters collaboration among stakeholders in the education sector [3].

The Merdeka Curriculum policy, as outlined in Press Release, includes several key points, such as the elimination of the National Standardized School Examination (USBN) and the National Examination (UN), the simplification of lesson plans into teaching modules, and granting educators the freedom to

innovate at each school [4]. These policies are closely related to physics learning, as implementing the Merdeka Curriculum in physics aims to place students at the center of the learning process. This approach integrates the role of students as both the objects and subjects of learning, aligning with the concept of student-centered learning, which emphasizes the character and needs of students.

There are numerous differences between the 2013 Curriculum and the Merdeka Curriculum, encompassing aspects such as subjects, instructional hours, implementation of learning strategies, and the assessment process of graduation competency standards. The 2013 Curriculum was primarily designed to shape national character. In contrast, the Merdeka Curriculum focuses on learning outcomes as the leading guide in teaching and learning. The Merdeka Curriculum also introduces an assessment system with cognitive and non-cognitive aspects. Non-cognitive assessments measure areas beyond learning, such as students' attitudes and character, while cognitive assessments focus on students' knowledge and understanding of the subject matter. This reflects a more holistic approach to evaluating students' development [5].

The Merdeka Curriculum introduces several demands distinct from previous curricula, which can be observed from various perspectives, including learning and assessment principles [6]. The learning principles state that before the learning process begins, educators need to plan by considering the developmental levels and achievements of students. This planning must consider aspects of relevance, competence, environment, context, and the culture surrounding the students while also being future-oriented. In the area of assessment, five main demands are highlighted. First, assessment must be an integrated part of the learning process, supporting learning and providing helpful feedback for students and parents. Second, assessments must be designed according to their objectives and functions. Third, they should be fair, proportional, valid, and reliable. Fourth, student progress reports should be simple and informative. Fifth, assessment results should be used as a reflective tool to improve the quality of learning in the next period [7].

Implementing the Merdeka Curriculum can be effective if the learning process considers the diversity of students. Therefore, the Merdeka Curriculum emphasizes the importance of learning with a differentiated learning approach. Differentiated learning is a system that pays close attention to students' differences, ranging from readiness, interests, learning styles, and abilities to individual needs [8]. This approach believes that every student in the classroom has the potential to succeed despite their differences [9].

Previous research on implementing of the Merdeka Curriculum indicates that its application can significantly enhance student motivation and learning outcomes. Students involved in interest-based projects showed higher engagement levels and a better understanding of the material taught [10]. Rahmawati's study identified challenges teachers face in implementing the Merdeka Curriculum, such as a lack of adequate training and facilities. However, the findings suggested that with sufficient support and training, teachers could apply the curriculum more effectively [11]. Haryanto's research demonstrated that implementing the Merdeka Curriculum improved students' critical thinking skills, mainly through project-based learning activities, which helped students better analyze and solve real-life problems [12]. Additionally, Barlian's study found that the teaching strategies applied in the Merdeka Curriculum, such as group discussions and collaborative projects, increased student participation and academic achievement across various subjects [13].

Based on the initial observation conducted by the author at the Education and Culture Office of Bengkulu Province, it was found that all 12 public high schools and 15 private high schools in Bengkulu City have implemented the Merdeka Curriculum. However, for this study, the author chose three schools: SMA 4 Bengkulu City, SMA Negeri 8 Bengkulu City, and SMA Negeri 9 Bengkulu City. The reason for selecting SMA 4, SMA 8, and SMA 9 as the primary focus is that these schools have implemented the Merdeka Curriculum, which allows students to develop their abilities and interests more independently and flexibly. SMA 4 is known for its high achievements in both academic and non-academic fields in Bengkulu City. Meanwhile, SMA 8 also demonstrates notable achievements, although at a medium level of performance. On the other hand, SMA 9 was chosen because, despite having a lower level of performance, the school still provides opportunities and facilities for students to develop under the Merdeka Curriculum.

Based on the background presented, the aims of this research are to analyze the implementation of the Merdeka Curriculum in physics learning at high schools in Bengkulu City.

2. Method

This research was conducted at SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9 in Bengkulu City, with the primary population consisting of physics teachers at each school and students as an additional sample. The sampling method used is purposive sampling, where the sample is selected based on specific criteria relevant to the research objectives. The main sample consists of one physics teacher from each school, while the second sample includes 120 students involved in this study [14].

The instruments used in this study include the assessment instrument for teaching modules and the assessment instrument for the implementation of learning. The teaching module assessment instrument is used to evaluate the quality and appropriateness of the developed teaching materials, while the learning implementation assessment instrument is used to assess the effectiveness and feasibility of the learning process in the classroom. These assessments are conducted by the guru penggerak (movement teacher) who is competent in implementing the Merdeka Curriculum.

The research procedure begins with data collection through assessment instruments and a student response questionnaire. The data obtained from the assessments will be calculated by taking the average of all evaluations conducted by the guru penggerak (movement teacher). Additionally, the student response questionnaire consists of 15 statements developed through five indicators: interest, motivation, satisfaction, evaluation, and feedback.

The analysis plan involves calculating the average scores from the assessments provided by guru penggerak (movement teacher) for each instrument. This analysis aims to provide an overview of the quality of the Merdeka Curriculum implementation in physics education at high schools in Bengkulu City. To ensure validity and reliability, the assessment instruments used have been validated by competent guru penggerak (movement teacher), and the student questionnaire has been developed based on relevant indicators. The statistical testing conducted uses basic statistical methods, such as average calculations.

The scope of this research covers the implementation of the Merdeka Curriculum in physics education at three high schools in Bengkulu City, with limitations on the sample, which is restricted to these three schools and includes only physics teachers and students as respondents. Other limitations include the time frame of the study, which is confined to a specific period and may not encompass all aspects of the overall implementation of the Curriculum.

3. Results and Discussion

Along with the advancement of time, the curriculum must be continuously updated. The rapid development of science, knowledge, and information technology demands that teachers prepare students to face the new era. Since Indonesia's independence in 1945, the national education curriculum has undergone various changes [15]. Each curriculum change is adjusted to meet the needs and challenges of the ever-evolving times.

The Merdeka Curriculum is an optional curriculum that can be implemented by educational units starting from the 2022/2023 academic year. The Merdeka Curriculum gives schools the freedom to explore their capabilities according to the facilities, inputs, and resources they have, while also granting teachers the freedom to deliver essential and urgent material. The Merdeka Curriculum is developed as a more flexible curriculum framework, with a focus on crucial material, as well as the development of students' character and competencies [16].

Here are the results of the research regarding implementing the Merdeka Curriculum in terms of planning and execution at SMA Negeri 4 Bengkulu City, SMA Negeri 8 Bengkulu City, and SMA Negeri 9 Bengkulu City

3.1. *Teaching module*

Most schools in Indonesia have made update by adopting the widely socialized. One key elements in supporting the successful implementation of this curriculum is the teaching module. The teaching module, which is a new term replacing the Lesson Plan (RPP), has significant differences in its content

compared to the RPP. Before starting lessons, many schools have developed the Operational Curriculum of Educational Units (KOSP), which includes learning objectives and the Learning Objective Pathway (ATP) [16].

In the Merdeka Curriculum, teachers play a crucial role in the development of teaching modules. However, many teachers stiil need to fully understand the techniques for effectively designing and developing teaching modules. With proper planning of teaching modules, delivering content to students becomes more organized, making it easier to achieve a balance in learning between teachers and students. This can also make learning less engaging due to need for preparation of teaching modules by the teachers. The Merdeka Belajar concept introduced by the Minister of Education emphasizes that learning in this curriculum must be enjoyable while encouraging teachers to think innovatively. This approach aims to foster a positive attitude in students towards learning [17].

Based on the research conducted by the author on the development of teaching modules created at high schools in Bengkulu City, by analyzing:

3.1.1. A Well-Structured And Sequential Learning Design To Achieve Learning Objectives.

The learning design at these schools is designed to provide a systematic guide in the teaching and learning process, covering the stages from initial goals and competence development to final assessment. In educational literature, a well-structured learning design plays a vital role in achieving optimal learning outcomes, as it helps students connect materials with one another in a logical and sequential context.

In developing a structured and sequential learning design, Bengkulu City is categorized as having good capabilities in applying the principles of effective learning in line with the goals of the Merdeka Curriculum. Schools in Bengkulu City, including SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, have made remarkable progress in developing learning plans that prioritize student needs and gradual advancement toward educational goals. This achievement is evidenced by an average score of 7,7 on the research assessment instrument, evaluated by guru penggerak (movement teacher), reflecting the schools' success in creating structured and sequential learning designs that effectively support the attainment of learning objectives.

3.1.2. Relevant Content Knowledge To Achieve Learning Objectives.

This approach is based on the principle that learning relevant to students' social context and life experiences can enhance motivation and understanding, as explained by [18], who emphasized the importance of context in strengthening the learning process. In implementing the Merdeka Curriculum in high schools in Bengkulu City, teachers can connect learning material, such as in physics, with practical applications that are close to students' lives. As a result, students can better understand and apply their knowledge more effectively to achieve the learning objectives set.

High schools in Bengkulu City can be categorized as effective in utilizing relevant content knowledge to achieve learning objectives, particularly in implementing the Merdeka Curriculum. This achievement is demonstrated by an average score of 8.16 on the research assessment instrument, evaluated by guru penggerak (movement teacher). It reflects how teachers at schools such as SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9 in Bengkulu City use materials relevant to students' daily lives. Applying such contextual content not only supports learning goals focused on mastering fundamental concepts but also helps students see real-world applications of the material, making the learning experience more meaningful.

3.1.3. Effective Learning Strategies For Achieving Student Literacy And Numeracy Goals.

The implementation of this strategy is in line with research showing that active learning can improve students' understanding of literacy and numeracy. Teachers also utilize an integrative approach, connecting literacy and numeracy material with practical relevant topics, so that learning not only focuses on cognitive aspects but also on real-world application. This allows students to see the importance of literacy and numeracy skills as fundamental abilities they will use throughout their lives.

High schools in Bengkulu City are categorized as effective in implementing teaching strategies that optimize literacy and numeracy learning outcomes for students. This achievement is demonstrated by an average score of 7.6 on the research assessment instrument, evaluated by guru penggerak (movement teacher). It reflects that these schools apply various practice-based teaching strategies that enhance students' ability to deeply understand literacy and numeracy concepts. By utilizing active learning methods, such as group discussions, contextual problem-solving, and interactive media, teachers help students develop critical and analytical thinking skills that are relevant to daily life.

3.1.4. A Structured And Sequential Learning Design To Achieve Learning Objectives.

High schools in Bengkulu City, such as SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, are categorized as effective in creating structured and sequential learning designs to achieve learning objectives. This achievement is evidenced by an average score of 7.6 on the research assessment instrument, evaluated by guru penggerak (movement teacher). This is also reflected in the schools' efforts to design curricula that not only cover the subject matter but also consider a logical and systematic sequence for content delivery.In its implementation, the teachers at these schools plan teaching activities by considering the students' level of understanding, ensuring that each lesson builds students' knowledge progressively.

This structured learning design includes the development of clear teaching modules, establishing specific learning objectives, and the creation of assessments that are appropriate for measuring student achievement. A good learning design must guide students toward educational goals in a planned and effective manner. This approach aligns with constructivist learning principles, where students are guided to engage in the learning process actively [19].

3.1.5. Managing The Classroom To Achieve Student-Centered Learning.

One approach is to create a friendly and inclusive learning environment where students feel safe expressing their opinions and interacting with their peers. Effective classroom management can enhance student motivation and foster positive interactions within the classroom.

At high schools in Bengkulu City, such as SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, teachers implement flexible seating arrangements that allow students to collaborate in small groups. This achievement is evidenced by an average score of 7.6 on the research assessment instrument, evaluated by guru penggerak (movement teacher). This approach not only enhances student engagement but also helps build important social skills.

3.1.6. A Learning Strategy Aligned With The Social, Cultural, Religious, And Economic Backgrounds, Which Is Relevant For Determining The Learning Needs Of Students Based On Their Potential, Interests, And Learning Styles.

High schools in Bengkulu City are categorized as effective in using teaching strategies that align with students' social, cultural, religious, and economic backgrounds. This achievement is demonstrated by an average score of 7.4 on the research assessment instrument, evaluated by guru penggerak (movement teacher).This approach is crucial because it helps teachers understand students' learning needs and develop lessons that are relevant to their potential, interests, and learning styles.

3.1.7. Assessment To Improve Student-Centered Learning.

At SMA in Kota Bengkulu, such as SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, teachers implement various assessments, including formative and summative assessments. Formative assessments regularly to monitor students' progress and provide constructive feedback. This aligns with the principles of student-centered learning, where students are encouraged to engage in their learning process actively. Practical formative assessment can enhance student achievement by providing the necessary information for improvement [20].

High schools in Bengkulu City are categorized as effective in using assessments to enhance student-centered learning. The appropriate use of assessments not only functions as an evaluation tool but also

serves to support students' overall learning process of students. The assessment instruments for teaching modules in high schools in Bengkulu City, including SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, are overall categorized as good. This assessment is based on the evaluations conducted by the driving teachers, which indicate that the teaching modules implemented in these schools meet the expected standards in the context of practical and student-centered education.

The teaching module at SMA Negeri 4 received a score of 8.76, reflecting excellent quality in its design and implementation. This score indicates that the module effectively creates a deep and relevant learning experience for students by integrating various pedagogical approaches that support active learning. SMA Negeri 8 received a score of 7.16 for its teaching module. Although this score is lower compared to SMA Negeri 4, it still indicates that the teaching module at this school is reasonably effective in meeting students' learning needs. This reflects a good understanding of the curriculum being used and its alignment with students' characteristics. With a score of 7.04, the teaching module at SMA Negeri 9 also demonstrates a good effort in developing relevant and engaging learning materials. This score indicates that, despite some challenges, the school is still able to present a module that supports students' competency achievement.

Overall, the assessment results indicate that all high schools in Kota Bengkulu have high-quality teaching modules. The evaluations conducted by the teacher facilitators ensure that the instruments used not only meet academic standards but also align with the principles of student-centered learning. With this evaluation, it is hoped that each school will continue to improve the quality of teaching modules to enhance student learning outcomes.

3.2. *Implementation of Learning*

The implementation of learning is the process of teaching and learning that involves delivering information from the teacher to the students [20]. According to Law No. 20 of 2003, learning occurs through interaction between educators and students, utilizing learning resources and the learning environment as part of the teaching and learning process. The teaching and learning process itself is a form of interaction that has normative values and objectives, where teachers carry out lessons according to the regulations and guidelines in effect at the school.

Based on the research conducted by the author on the implementation of physics learning in high schools in Bengkulu City, by analyzing:

3.2.1. Theacers' Meaning, Goals, And Life Views Based On Their Moral Principles And Beliefs In God Almighty In Teaching.

The high schools in Bengkulu City, particularly SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, can be categorized as good in the implementation of teaching, especially in demonstrating the application of the meaning, goals, and life views of teachers' based on moral principles and beliefs in God Almighty.

The teachers in these schools teach academic material and instill moral and ethical values in the learning process. They integrate religious and moral principles into the curriculum, reflected in how they build students' character. Learning is carried out by linking academic concepts with spiritual and ethical values so that students gain knowledge and a deeper understanding of life.

3.2.2. The Result Of Organizing Relevant Content Knowledge To Structure The Learning Objectives In The Curriculum.

High Schools in Bengkulu City, encompassing SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, have successfully demonstrated high-quality implementation of learning through the organization of relevant content knowledge. This process involves the development of a structured learning objective sequence, enabling students to gain a deep and integrated understanding of the material.

The organization of knowledge content is carried out by arranging learning materials according to students' needs and understanding levels. This includes selecting relevant topics and structuring the teaching sequence logically and systematically. With this approach,

memorize information and connect the concepts they learn with their experiences and everyday life contexts.

3.2.3. The Curriculum In A Learner-Centered Learning Process.

High schools in Bengkulu City, including SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, have demonstrated effective management in implementing a learner-centered curriculum. In this approach, teachers act as facilitators, encouraging students to actively engage in the learning process and placing them at the center of all learning activities.

This curriculum focuses on mastering the material and integrates students' experiences and needs. In this way, students are given opportunities to develop critical thinking, creativity, and social skills. The emphasis on active and participatory learning supports students in achieving their learning objectives more effectively.

3.2.4. A Learning Design That Is Relevant To The Conditions Surrounding The School By Involving Students.

High schools in Bengkulu City, including SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, have demonstrated a good standard in implementing learning processes by designing lessons that are relevant to the school's surroundings. Emphasizes theory and and emphasizes theory but also actively involves students in the teaching and learning process.

3.2.5. Managing the classroom to achieve learner-centered education.

High schools in Bengkulu City, including SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, have demonstrated a good standard in classroom management to achieve learner-centered education. In practice, these schools implement various strategies to create an inclusive and interactive learning environment where students feel valued and motivated to participate actively.

One of the approaches implemented is flexible classroom management, where the teacher functions as a facilitator. This means that the teacher delivers information and encourages students to share ideas, ask questions, and collaborate in groups. Through group discussions, collaborative projects, and hands-on activities, students can explore the subject matter more meaningfully. This aligns with the principles of student-centered learning, which emphasize the importance of active engagement and hands-on experience in the learning process.

3.2.6. Effective Emotion Management Strategies In Applying Professional Behavior As A Teacher.

In the high schools of Bengkulu City, which the author studied, effective emotion management strategies in applying professional behavior as a teacher is categorized as good. This is because the teachers employ emotion management strategies that are primarly effective in implementing professional behavior in their educator roles.

3.2.7. Active And Empathetic Interaction In Learner-Centered Learning.

High schools in Bengkulu City, including SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, have successfully implemented active and empathetic interaction in learner-centered learning. In the implementation of their teaching, these schools encourage student involvement through methods that allow students to interact directly with their teachers and peers.

The implementation of active interaction is evident in learning activities that involve group discussions, presentations, and collaborative tasks. For example, teachers often divide students into small groups to discuss specific topics, where they can exchange opinions and share perspectives. This helps students understand the material better and builds essential social and collaborative skills.

3.2.8. Learning Strategies That Align With Developmental Stages And Characteristics Relevant To Students' Learning Needs.

High schools in Bengkulu City, including SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, have demonstrated a good standard in implementing of learning by using strategies that align with stundents' developmental stages and characteristics of students. Each school

adopts an approach that takes into account the diverse learning needs of students, recognizing that each individual has different learning styles, interests, and potential.
Teachers at these schools have been trained to recognize students' developmental differences and apply appropriate strategies. For example, they use project-based learning methods, which allow students to learn through practical and collaborative experiences. This is particularly relevant for students in the adolescent developmental stage, where active engagement and social interaction are crucial.

3.2.9. Student-Centered Assessment.

High schools in Bengkulu City, including SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9, have been categorized as good in the implementation of learning by designing student-centered assessments. In this context, assessments are designed to measure student learning outcomes and encourage an active and reflective learning process. Teachers at these schools implement various forms of assessment that consider the needs and characteristics of students. For example, the use of formative assessments that involve regular feedback helps students understand their progress and areas that need improvement. In this way, students feel more engaged in their learning process and can take responsibility for their learning.
SMA Negeri 4, SMA Negeri 8, and SMA Negeri 9 also integrate project-based and portfolio assessments. This approach allows students to demonstrate their understanding through real-world work and assignments that are relevant to their daily lives. By designing contextual and appropriate assessments, students are evaluated based on academic knowledge and their critical thinking, creativity, and collaboration skills.

The assessment of the learning implementation at high schools in Bengkulu City is categorized as good overall. This assessment was carried out by lead teachers who evaluated various aspects of the learning process at each school. Based the assessment results, SMA Negeri 4 received a score of 8, indicating that the learning implementation at this school is excellent in applying effective strategies and methods. SMA Negeri 8 received a score of 7.16, indicating that school's learning implementation is good, although some aspects still that need improvement. Meanwhile, SMA Negeri 9 scored 6.7, showing that while the school's learning implementation is still categorized as good, there is room for further improvement in certain aspects. The assessment by lead teachers serves as a strong foundation for evaluating the effectiveness and relevance of the learning process at high schools in Bengkulu City. With objective and structured assessments, these schools are expected to continuously improve their teaching practices achieve the desired educational goals.

3.3. *Student Response*

A response is a behavior that is reaction or reply to a stimulus. a response is a reaction or answer that depends on the stimulus or is the result of that stimulus. In this context, humans act as controllers between the stimulus and the response, so the form of response given by an individual to a stimulus is influenced by the stimulus itself and factors within the individual [21]. The interaction between external factors, such as objects and people, and internal factors, such as attitudes, motivation, emotions, and past experiences, ultimately determines the behavior displayed by an individual. Based on this definition, it can be concluded that a response is a reaction to a stimulus that occurs in an interaction process, whether in the form of actions or words, triggered by a specific behavior, and involving individuals or groups. A similar situation occurred with the emergence of the issue related to the Merdeka Curriculum. This latest curriculum is no longer just a discourse but has started to be implemented since 2021. In Bengkulu City, the implementation of the Merdeka Curriculum is generally carried out at the 10th-grade level or Phase E. This curriculum change is expected to improve the quality of students, making them better and more advanced. This hope is especially emphasized in the subject of Physics, which is now more oriented towards student-centered learning.

A response is a behavior that arises from a reaction to stimuli from the environment [22]. Specifically, student response refers to the reactions or behaviors of students during the learning process [23]. Responses occur when the senses observe and pay attention to an object. Several factors influencing responses include experience, the learning process, and personality traits. Based on this, it can be

concluded that a response is an impression or reaction formed after observation through sensory activities, which ultimately results in either a positive or negative attitude.

The data on student responses were collected after participating in lessons using the Merdeka Curriculum. The survey results were used to determine students' interest in the Merdeka Curriculum. The response survey consists of two categories: positive responses and negative responses. The positive response category is obtained if the student answers "yes," while the harmful response category is obtained if the student answers "no". The student responses can be seen in table 1.

Table 1. Student response questionnaire results.

Number	Indicator	Response Type		Percentage
		Yes	No	
1.	Interest	77	25	75.49%
2.	Motivation	75	27	73.53%
3.	Satisfaction	65	37	63.73%
4.	Assessment	78	24	76.47%
5.	Perception	86	16	84.31%

The survey results regarding student responses to implementing the Merdeka Curriculum in Physics lessons at high schools in Bengkulu City show generally positive feedback. Below is the analysis of each indicator in the student response survey related to the implementation of the Merdeka Curriculum in Physics learning at high schools in Bengkulu City:

3.3.1. Interest

The interest indicator shows that 75.49% of students esponded positively to Physics learning with the Merdeka Curriculum. This percentage indicates that most students feel interested and have a high level of engagement in Physics learning with the more flexible and independent approach offered by this new curriculum. This positive response suggests that aspects of the Merdeka Curriculum, such as learning freedom and contextual approaches, are able to spark students' curiosity and active involvement in Physics learning.

3.3.2. Motivation

In the motivation indicator, 73.53% of students stated that they have better motivation in following Physics lessons. This means that most students feel motivated to study harder and actively participate during Physics lessons under the implementation of the Merdeka Curriculum. This could be due to the greater freedom in choosing learning methods, the active role of students, and the more practical project-based approach. The strong motivation from students indicates that the Merdeka Curriculum can meet students' needs to learn according to their interests and abilities.

3.3.3. Satisfaction

The satisfaction indicator has the lowest positive percentage among the other indicators, at 63.73%. This indicates that, although most students are satisfied, some students may still feel dissatisfied with Physics learning under the Merdeka Curriculum. Factors affecting student satisfaction include adaptation to the new methods, understanding of the material, or the support provided during the learning process. Nevertheless, more than half of the students still feel that this curriculum offers an adequate learning experience, although there is room for improvement, particularly regarding support and facilities.

3.3.4. Assessment

The assessment indicator shows a positive response from 76.47% of students, meaning that more than three-quarters of the students feel that the assessment methods in the Merdeka Curriculum provide a fair and appropriate evaluation of their ability to understand physics concepts. The more flexible, project-based, and student-centered assessment system is a factor appreciated. Students feel that the assessments do not solely rely on final exams but

also consider their progress and effort throughout the learning process, making them feel more valued and motivated to continue improving.

3.3.5. Perception

The perception indicator has the highest response percentage, at 84.31%. This indicates that a large majority of students have a favorable view of implementing the Merdeka Curriculum in Physics learning. This positive response includes feelings of happiness, enthusiasm, and acceptance of the changes offered by this curriculum. Factors such as the opportunity to explore personal interests, active involvement in learning, and the freedom to explore material through various methods have made students feel more comfortable and satisfied with the Physics learning process.

Overall, the survey results show that students in high schools in Bengkulu City, specifically SMA 4, SMA 8, and SMA 9, have a positive response to implementing of the Merdeka Curriculum in Physics, with positive response percentages above 60% across all indicators. This high level of positive response indicates that the Merdeka Curriculum can encourage student engagement and motivation in learning Physics, although there are still some aspects that need attention, particularly regarding student satisfaction, which requires more support during the adaptation process of this curriculum.

4. Conclusion

The implementation of the Merdeka Curriculum at SMA Negeri 4, 8, and 9 in Bengkulu City has shown positive progress, particularly in the development of structured and relevant open modules. Despite some challenges, the learning design in these schools has successfully integrated subject matter with students' social contexts. The student-centered learning process has also been effectively implemented and supported by teachers acting as facilitators and the application of assessments that promote active and collaborative learning. Evaluation results indicate the quality of the open modules and the learning process, contributing to students' competency achievement. Overall, the Merdeka Curriculum in Bengkulu City has provided a strong foundation for developing more innovative and responsive ed.

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