



Analysis of Implementation of the Merdeka Curriculum in Science Learning at SMP Negeri 4 Hulu Sungai Tengah

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Abstract: Research has been conducted on science learning using the *Merdeka* Curriculum. This study aims to analyze the implementation, student responses, supporting factors and inhibiting factors of the *Merdeka* Curriculum in science learning at SMP Negeri 4 Hulu Sungai Tengah. The type of research used in this study is a qualitative research with descriptive qualitative methods. The instruments used in this study were interview guides, observation sheets and documentation records. The research results show that the implementation of the *Merdeka* Curriculum in science learning at SMP Negeri 4 Hulu Sungai Tengah is still in the adaptation stage by teachers and students. Student responses were positive towards science learning with the *Merdeka* Curriculum. Supporting factors for implementing the *Merdeka* Curriculum are teachers who are competent in using technology, teacher self-motivation, independence in training and learning communities, more contextual learning concepts, and the application of PMM. Meanwhile, the inhibiting factors are that teachers still lack understanding in implementing the *Merdeka* Curriculum, especially P5, busy teaching schedules, additional teacher duties, and conceptual errors in implementing the *Merdeka* Curriculum.

Keywords: Implementation; *Merdeka* curriculum; Science learning

Introduction

Various national and international studies show that Indonesia has experienced a long-standing learning crisis. These studies show that many Indonesian children are unable to understand simple reading or apply basic math concepts (Af'idayani et al., 2018; Fahmi et al., 2021). The findings also show that there is a steep educational gap between regions and social groups in Indonesia (Fahmi, 2018; Lestari et al., 2023). This situation was then exacerbated by the Covid-19 pandemic (Nuraisyah et al., 2022). To overcome these crises and various challenges, we need system changes, one of which is through the curriculum (Kemendikbud, 2022). One of the efforts being made by the Indonesian government currently is to change the education system from the old paradigm to the new paradigm. The change in the new paradigm education system has given birth to a new curriculum as a refinement of the 2013 curriculum (K-13) which is named the Merdeka Curriculum (Dewi et al., 2022; Mu'aziyah et al., 2023).

Previously, education in Indonesia experienced several changes to the curriculum system aimed at improvement (Fahmi et al., 2019). The efforts made by the government to improve this are by changing and innovating the curriculum, including the KBK/2004, KTSP/2006 curriculum to the 2013 Curriculum to the Independent Learning Curriculum. The Independent Curriculum is implemented with the aim of training students' independent thinking (Mairizwan et al., 2022). Learning in the Independent Curriculum focuses on students' interests and talents which can foster creative and fun attitudes in students (Khoirurrijal et al., 2022).

In the *Merdeka* Curriculum, science lessons are a strategic tool in developing the *Profil Pelajar Pancasila* because in learning science students will study the universe created by God and the various challenges that exist in it (Elisa et al., 2022). This process is a strategic medium in building faith and piety to God Almighty which has an impact on a noble attitude (Yamin, 2022). Through a scientific process, it is hoped that students' ability to reason critically so that they are able to process

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and manage both qualitative and quantitative information objectively, build links between various information, conduct analysis, evaluate, draw conclusions and apply the things learned in new situations (Marlina et al., 2023; Noor et al., 2023). *Profil Pelajar Pancasila* is a number of character traits and competencies that students are expected to achieve, which are based on the noble values of *Pancasila*. Strengthening the *Profil Pelajar Pancasila* in the *Merdeka* Curriculum offers a solution for cultivating character based on *Pancasila* (Nurhayati et al., 2022).

In South Kalimantan itself, there are already many schools that implement the *Merdeka* Curriculum, one of which is SMP Negeri 4 Hulu Sungai Tengah. At SMP Negeri 4 Hulu Sungai Tengah, the *Merdeka* Curriculum at the SMP has begun to be implemented for students in grade 7 with *Mandiri Berubah* status.

The *Merdeka* Curriculum is a curriculum with various intra-curricular learning which places more emphasis on content so that students have sufficient time to deepen concepts and strengthen competence (Daga, 2021). In addition, in the *Merdeka* Curriculum in educational units or schools, teachers and students have the freedom to innovate, as well as the freedom to learn independently and creatively (Yulianto, 2022; Muaziyah et al., 2023). Teachers have the freedom to choose various teaching tools so that learning can be adapted to the learning needs and interests of students (Kemdikbud, 2022).

Science teachers stated that they still experience difficulties in implementing the *Merdeka* Curriculum, such as in terms of school readiness and making learning tools. Therefore, it is important to carry out this research because it can expand knowledge and insight regarding the Implementation of the *Merdeka* Curriculum and provide information regarding the supporting and inhibiting factors in the Implementation of the *Merdeka* Curriculum, especially for science teachers.

Method

The type of research used in this study is a qualitative research with descriptive qualitative methods with a phenomenological approach. Based on this background, this study focuses on implementation analysis, student responses, supporting factors, and inhibiting factors of the *Merdeka* Curriculum in learning science at SMP Negeri 4 Hulu Sungai Tengah.

Informants in this study consisted of schools, deputy principals in the field of curriculum, science subject teachers at SMP Negeri 4 Hulu Sungai Tengah, and 10 class VII students who were selected based on different levels of cognitive ability. Informants in this study consisted of schools, Deputy Principal for

Curriculum, Science subject teacher at SMP Negeri 4 Hulu Sungai Tengah, and 10 Grade VII students selected based on different levels of cognitive ability.

The research instruments used in this study were interview guides, observation sheets and documentation notes. Data analysis activities in qualitative research consist of data collection activities, data reduction, data presentation, and conclusion of research results (Rijali, 2018).

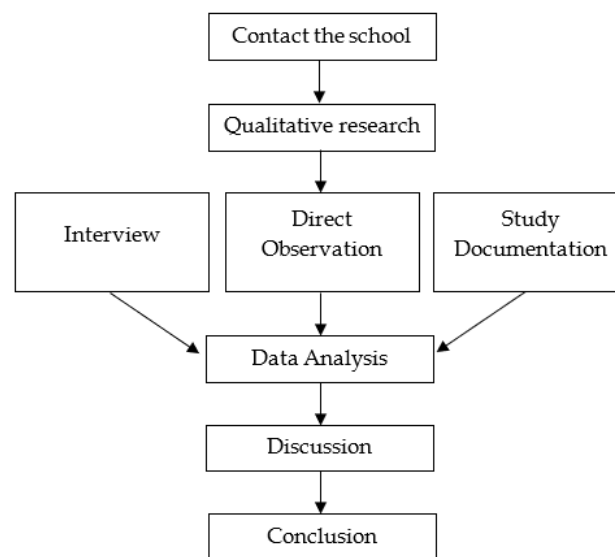


Figure 1. Flow of research implementation

Result and Discussion

The results of research on the implementation of the *Merdeka* Curriculum in science learning at SMP Negeri 4 Hulu Sungai Tengah obtained data regarding the implementation of Science learning using the *Merdeka* Curriculum, student responses to learning Science using the *Merdeka* Curriculum, supporting factors for the implementation of the *Merdeka* Curriculum in natural science learning, and inhibiting factors implementation of the *Merdeka* Curriculum in science learning. The research data were obtained through direct interviews with research subjects, field observations, and documentation studies at SMP Negeri 4 Hulu Sungai Tengah. The following is a discussion of the results of this study:

Analysis of the Implementation of Science Learning Using the Merdeka Curriculum at SMP Negeri 4 Hulu Sungai Tengah Education Unit Operational Curriculum (KOSP)

The results of observations in the field show that SMP Negeri 4 Hulu Sungai Tengah has just started implementing the *Merdeka* Curriculum in the 2022/2023 academic year for grade 7 or has only started in the second semester. The school itself has not yet developed

the Education Unit Operational Curriculum (KOSP) independently but is still following the example from the documents provided by the *Kemendikbud* so that it can be said that schools are just entering the initial stages of implementing the *Merdeka Curriculum* in education units. According to the *Kemendikbud* BSKAP (2022), an education unit is said to be entering the initial stage of implementing the *Merdeka Curriculum* if it has made minor adjustments to the sample KOSP document provided by the *Kemendikbud* and can be said to be entering a developing stage if it has modified the KOSP document in the organizing and planning section of learning according to unit conditions education (Ainia, 2020).

Learning Processes and Tools in Science Subjects (intracurricular)

Learning Process

Based on the results of interviews and field observations, science teachers have carried out a diagnostic assessment at the beginning of learning orally to identify prior knowledge, learning difficulties and students' learning readiness. This is in accordance with the learning principles in the *Merdeka Curriculum*, namely learning that is designed taking into account the stages of development and the level of achievement of students in accordance with the learning needs and characteristics and development of students (Darlis et al., 2022). Where this can be done at the beginning of the school year with educators trying to find out students' learning readiness through dialogue with students, discussion sessions, question and answer, or other appropriate methods (BSKAP, 2022).

Then, the *Merdeka Curriculum* has the characteristics of student-centered learning methods. However, based on the results of interviews and field observations, the learning method used is not fully student-centered and still requires teacher guidance in learning. This is done because it adjusts to the readiness of educators and students themselves (Rahayu et al., 2018). This shows that the school is still in the early stages of implementing the *Merdeka Curriculum* where the teacher has used a variety of teaching methods but the teacher still dominates the role as an instructor directing student activities throughout learning (BSKAP, 2022). Meanwhile, a school can be said to be in the advanced stage of implementing the *Merdeka Curriculum* if the teacher is more skilled in acting as a facilitator by providing more opportunities for students to learn independently and be responsible for their learning process (BSKAP, 2022). In addition to student-centered methods, the *Merdeka Curriculum* also emphasizes learning that adapts to the interests and learning styles of students (differentiated learning). The implementation of differentiated learning has not yet

reached the maximum stage where the teacher is in the early stages of learning the implementation of the *Merdeka Curriculum*.

Implementation of learning including assessments need not only pay attention to the condition of students, but also school facilities and infrastructure. There are several limitations in school facilities and infrastructure, including low electrical voltage, there is only one student computer, while the internet network is quite adequate. Assessment is carried out in writing, while for learning such as practicum it is mostly carried out in the classroom only. For teacher assessments, they have tried to use assessments that are in accordance with the abilities of the majority of students. Even though most of the student learning outcomes are above average, there are still some students with low learning outcomes.



Figure 2. Learning process in class

In terms of aspects of collaboration with parents or family in learning, teachers and new schools coordinate through report cards, unless there are problems or obstacles to students. The communication still tends to be one way. This shows that the school has entered the early stages of implementing the *Merdeka Curriculum* in education units where teachers through education units inform students' learning progress to parents/guardians at the time of receiving report cards and when students experience learning and communication problems they still tend to be one-way (BSKAP, 2022). Meanwhile, to enter the advanced stage, teachers in educational units must communicate involving three parties, namely teachers-students-parents to discuss the stages of learning and follow-up that needs to be done to support the learning process of students (BSKAP, 2022).

Learning Devices

The use of RPP in the *Merdeka Curriculum* is called the Teaching Module. Science learning at SMP Negeri 4 Hulu Sungai Tengah itself has started using teaching modules as learning tools which are supported by other learning tools such as textbooks based on the *Merdeka*

Curriculum and learning videos. So that it can be said that the stages of implementing the *Merdeka* Curriculum in this aspect of learning tools have entered a developing stage where teachers can choose material from textbooks and teaching modules, as well as other teaching materials to suit the local context and the needs of students (BSKAP, 2022).



Figure 3. Teaching module for science subject

One of the components in designing teaching modules is the preparation of Learning Objectives Flow (ATP) based on Learning Outcomes (CP) that have been set by the government. Science teachers themselves have used the Science Learning Objective Flow (ATP) from the *Merdeka* Teaching Platform (PMM) provided by the *Kemendikbud* where according to him the ATP is in accordance with the needs of students. The implementation of the *Merdeka* Curriculum in this aspect is included in the developing stage where teachers make adjustments to the flow of learning objectives provided by the *Kemendikbud* based on the needs of students (Pangestu and Rochmat, 2021). Whereas to enter the advanced stage, the teacher needs to develop a "flow of learning objectives" independently by referring to the Learning Outcomes (BSKAP, 2022).

Implementation of the Pancasila Student Profile Strengthening Project (P5)

Implementing the Pancasila Student Profile Strengthening Project (P5) in an education unit requires a project module to describe planning project activities and as a guide for educators. SMPN 4 Hulu Sungai Tengah itself, the P5 activity, has compiled project modules and implemented them according to the conditions of the students and the school environment. Project modules are flexible in that educational units are allowed to add or reduce the number of components according to their respective contexts (Pusat Asesmen dan Pembelajaran, 2021).



Figure 4. Project module for Pancasila student profile strengthening project (P5)

Then the time allocation for project implementation itself has adjusted to government regulations, which is around 360 JP per year for class VII junior high school level (Pusat Asesmen dan Pembelajaran, 2021). Even though P5 activities have started to be implemented in schools, the implementation itself is still not optimal because it is still constrained by the understanding and tight schedule of each teacher. The readiness stage of the current education unit in carrying out the Pancasila Student Strengthening Project itself is only entering its initial stage where teachers are still in the stage of understanding the P5 concept and schools are still carrying out the project internally (not involving outsiders).

Student Responses to the Implementation of the Merdeka Curriculum in Science Learning

Response is an impression or response after observing an object through sensing activity so that a positive attitude or negative attitude is formed. Meanwhile, student responses are the behavior or reactions of students while participating in learning activities (Khairiyah, 2019; Istyadi et al., 2022). Students at SMP Negeri 4 Hulu Sungai Tengah had different responses related to the application of the *Merdeka* Curriculum in Science Learning by the teacher.

Student responses were obtained based on the results of interviews conducted by researchers with 10 students with different cognitive levels and learning styles about learning science in class VII with the *Merdeka* Curriculum. The students who were interviewed showed a fairly good response, where they liked how science learning was taught. The students mentioned that the science lessons they participated in were fun, even though not all students could understand the material easily.

Some of the students interviewed preferred narrative material, while some others claimed to prefer math material. Some students show a positive response to learning by preparing themselves before learning

takes place, such as reading the material first, completing assignments on time, and preparing books and stationery. In terms of learning methods, most of them prefer to be explained directly by the teacher, some others prefer writing, practicum, and do not like being assigned to read (Istyadji et al., 2022).

The results of the interview above show that in general students have a positive response to learning science using the Independent Curriculum. Then, each student has their own characteristics in learning science, some have more potential in the field of calculations and some are more inclined to memorize material. In addition, there needs to be differentiated learning to be able to adjust the learning style of each student (Miranti et al. 2022).

Supporting Factors for Science Learning use the Implementation of the Merdeka Curriculum

Supporting factors in implementing science learning using the implementation of the *Merdeka* Curriculum at SMP Negeri 4 Hulu Sungai Tengah are divided into internal and external supporting factors. Internal supporting factors include the majority of teachers in schools are young teachers who are willing to train themselves and are qualified in the use of technology and information, as well as motivation within the teacher to be able to provide a pleasant learning experience for students (Norhasanah et al., 2021). While external supporting factors include independent training for teachers which does not require leaving the area, then adequate internet network so that if there are learning media that require the internet there are no obstacles, then there are fellow teachers, principals, and school supervisors who are members of the learning community, the knowledge taught to students is also more in-depth and contextual because the teacher is not required to finish the material in the book, as well as the PMM application which can be used as a guide for the implementation of the *Merdeka* Curriculum by the teacher.

Inhibiting Factors Science Learning using the Implementation of the Merdeka Curriculum

The inhibiting factors in implementing science learning using the implementation of the *Merdeka* Curriculum at SMP Negeri 4 Hulu Sungai Tengah are divided into internal and external inhibiting factors. As for the inhibiting factors internally, namely teachers still do not really understand how to implement the *Merdeka* Curriculum in schools, especially the implementation of the Pancasila Student Profile Strengthening Project, obstacles in dividing the P5 implementing teacher team due to the small number of teachers, and obstacles in adjusting teaching schedules and differences in learning systems between grade 7 using the *Merdeka* Curriculum

and grades 8 and 9 using the 2013 Curriculum. Meanwhile, externally inhibiting factors are additional assignments that take up enough time to make it difficult for teachers to develop knowledge and abilities to learn and implement the *Merdeka* Curriculum. Then apart from being a supporting factor, self-training can also be an inhibiting factor because it can lead to misunderstanding of teachers (Putra et al., 2022). This could have been overcome by holding discussions between teachers during the MGMP (Putra et al., 2023). However, if the MGMP is not carried out regularly it can lead to protracted misunderstandings.

Conclusion

Based on the results of research and discussion, it can be concluded that the implementation of the *Merdeka* Curriculum in science learning at SMP Negeri 4 Hulu Sungai Tengah is still in the adaptation stage by teachers and students. Student responses were positive towards science learning with the *Merdeka* Curriculum. Supporting factors for implementing the *Merdeka* Curriculum are teachers who are competent in using technology, teacher self-motivation, independence in training and learning communities, more contextual learning concepts, and the application of PMM. Meanwhile, the inhibiting factors are that teachers still lack understanding in implementing the *Merdeka* Curriculum, especially P5, busy teaching schedules, additional teacher duties, and conceptual errors in implementing the *Merdeka* Curriculum.

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Author Contributions

The authors in this research are divided into executor and advisor.

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Conflicts of Interest

The authors declare no conflict of interest in this research.

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