

INNOVATIVE STRATEGIES TO OVERCOME THE CHALLENGES OF THE INDEPENDENT CURRICULUM TO IMPROVE STUDENTS' CRITICAL THINKING SKILLS AT SRENGAT 01 ELEMENTARY SCHOOL

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Abstract

The rapid evolution of educational demands in the 21st century has prompted the Indonesian Ministry of Education to implement the *Merdeka Curriculum*, a flexible and student-centered approach aimed at developing critical thinking, creativity, collaboration, and communication. This study explores the implementation of the Merdeka Curriculum at SDN Srengat 01, focusing on how various teaching methods affect students' critical thinking abilities. Using a qualitative descriptive method, data were gathered through classroom observations, in-depth interviews with teachers, student questionnaires, and documentation analysis. Results reveal both challenges and opportunities: while innovative strategies such as Project-Based Learning (PjBL), peer tutoring, administrative digitalisation, and interactive digital media show promise in enhancing critical thinking, their implementation is hindered by administrative burdens, inconsistent group work practices, and varying levels of teacher readiness. Students' survey responses indicate mixed experiences with the new learning methods, with many expressing neutrality due to inconsistencies in delivery and limited self-confidence. The study concludes that to maximise the curriculum's effectiveness, schools must invest in context-sensitive teacher training, reduce administrative overload through technology, and strengthen collaborative and digital learning support. These strategies, supported by prior research, are essential for creating an engaging, inclusive, and critically stimulating primary education environment.

Keywords: Critical Thinking, Interactive Digital Media, Merdeka Curriculum, Project-Based Learning

1. Introduction

The Indonesian curriculum is constantly changing to adapt to the times and the needs of students. One of the latest innovations in Indonesian Ministry of Education and Culture policy is the introduction of the new Independent Curriculum. This curriculum is intended to give teachers and schools more flexibility in designing learning to meet students' needs. Merdeka Curriculum emphasises the importance of developing skills such as critical thinking, creativity, collaboration and communication. The aim is to prepare students for future challenges in an increasingly complex and dynamic world.

A good education comes from a good curriculum. Therefore, the government as the authority is constantly adjusting and updating the education curriculum according to the demands of the times. Currently, the government is evaluating the policy of implementing the independent curriculum as an improvement on the previous curriculum. The term independent learning characterises the independent curriculum (Syahlan et al., n.d.).

This paper focuses on various methods that can be applied in teaching mathematics to support the development of students' critical thinking skills in accordance with the Merdeka Curriculum guidelines. Given the importance of critical thinking skills in preparing students to face various challenges in the 21st century, this paper will review effective learning methods to improve students' critical thinking potential. With the application of appropriate methods, students are expected to develop analytical, problem-solving, and especially critical thinking skills (Janah & Yasin, n.d.)

The focus of this paper is on the various methods that the Merdeka Curriculum can emerge as a step to renew the education system with a more flexible and student-centred approach. One of the main methods implemented is project-based learning, which encourages learners to improve critical thinking skills through real-life experiences and cooperation. However, implementation in the field often does not go well, especially at the primary school

level. A similar situation is also experienced in the UPT Unit of Education of SD Negeri Srengat 01, where teachers and students face various challenges in implementing this curriculum effectively.

To deal with the various challenges in implementing Merdeka Curriculum in the UPT Unit of Education of SD Negeri Srengat 01, an approach that is not only creative, but also practical and appropriate to the context is needed. One of the main solutions is to reduce the administrative burden for teachers through digitalisation of reporting and planning processes. By utilising technology, teachers can focus more on assisting students' learning instead of getting bogged down in bloated administration. In addition, training that adopts Project Based Learning (PjBL) methods orientated to local school conditions is essential so that teachers can design projects that are relevant and of interest to students. Support for learning also needs to be strengthened, for example through peer-to-peer or group learning systems, to keep students on track even when teachers are not always available in person. Finally, the application of interactive digital media such as educational videos, online quizzes or simple simulations can encourage students to be more active and engaged in the learning process, while improving their critical thinking skills. These four approaches are expected to overcome the various obstacles that schools have been facing in implementing Merdeka Curriculum thoroughly and meaningfully.

2. Literature Review

The Merdeka Curriculum was developed to meet the needs of the times and requires students to be critical, creative, and independent thinkers. Critical thinking skills are one of the main objectives because they are considered the key to facing increasingly complex global challenges (Abidin, 2021).

The implementation of Merdeka Curriculum at the primary school level offers a great opportunity to improve critical thinking skills through project-based learning (PjBL). However, research shows that administrative workload for teachers is a major obstacle in implementing this curriculum. Teachers experience increased pressure of administrative tasks such as preparing lesson plans, reporting learning outcomes, and entering grades into the application, which is time-consuming and impacts on the effectiveness of the learning process (Amrina Rosyada, 2024). This result confirms the importance of digitalisation in the administration system, so that teachers can have more opportunities to focus on mentoring and direct interaction with students.

In addition to administrative factors, the readiness of the teaching staff also has a major influence on the success of PjBL. In some primary schools, teachers face challenges in implementing PjBL due to a lack of locally relevant training and a lack of understanding of learning project management (Merdeka Curriculum issues) (Ribka Trifena Putri Gea, 2025) By organising training in accordance with the characteristics of the school and its surroundings, teachers can create more interesting and useful projects, thus improving the quality of PjBL implementation.

The peer tutor learning model is also proven to increase student participation and enthusiasm for learning. In SMK Malang, the implementation of PjBL with peer tutors showed significant improvement in creative thinking ability and practical skills learning outcomes (Berliana Febriyanti, 2023). Similar results were seen at SD Surabaya where teachers reported an increase in students' enthusiasm for learning after the implementation of the peer tutor method in problem-focused learning (Nanda Nur Rahmawati & Suhartono Suhartono, 2024). This approach is very appropriate for SDN Srengat 01 as an effort to improve support when teachers cannot be fully present.

The last significant factor is the utilisation of interactive digital media. The application of interactive project-based e-modules can improve the critical thinking skills of elementary school students with an N-gain value of 0.71, which is included in the high category (Pangesti et al., 2020a). The final highly significant factor was utilisation. This support showed that digital media was not only engaging, but also an effective means of increasing student engagement and analysis in PjBL activities.

With this empirical basis, four strategies - administration digitalisation, locally-based PjBL training, peer tutoring, and interactive digital media - are not only reasonable, but also supported by strong evidence from various studies to be implemented at SDN Srengat 01. These strategies can thoroughly address the real challenges in implementing Merdeka Curriculum and significantly improve students' critical thinking skills.

3. Methods

This research uses a qualitative approach with descriptive methods. The qualitative approach was used because this research aims to examine in depth the implementation of the Merdeka curriculum and its impact on students' critical thinking skills. This method allows researchers to understand the field conditions, challenges, and impacts of curriculum policies in a real-world context based on direct interaction with research subjects. With this approach, the data collected is natural, describing the situation or situation in a natural way, without the intervention of the researcher. There are several ways we collect documentation for our articles.

3.1 Data Collection Techniques

Observations were conducted directly in the classroom to see how teachers implemented the learning process based on the independent curriculum and how students responded to the learning method. This observation aims to identify the challenges faced in implementing the curriculum from both the teacher and student sides. The researcher recorded learning activities, methods used by the teacher, and students' involvement in critical thinking during the learning process.

In-depth interviews were conducted with teachers who were given some questions and students were given a questionnaire to answer. Interviews with teachers aim to obtain information regarding their understanding, preparation, and challenges in implementing their curriculum. The purpose of giving questionnaires to students is to find out what their learning experience is like and to what extent the independent curriculum affects their critical thinking skills. Interviews were conducted flexibly so that researchers could obtain additional information according to the field situation.

Documentation is done by collecting various documents related to the implementation of the independent curriculum such as questionnaire papers that have been answered by students, voice recordings during interviews with teachers, and photos. These documents support data from observations and interviews and help to improve the analysis of curriculum implementation and its impact.

At this stage, data obtained from observations, interviews and documentation are reduced or selected according to the focus of the research. Data reduction was carried out to sort out important information regarding the challenges of implementing the independent curriculum and its impact on students' critical thinking skills.

The reduced data is presented in the form of descriptive explanations, tables, or pictures to facilitate understanding. The purpose of presenting this data is to systematically describe the results of observations, interviews, and documentation as well as to obtain relevant patterns and relationships from these results.

In the final stage, the researcher formulates the results based on the analysed data and draws conclusions. The resulting conclusions highlight the challenges faced in implementing Merdeka Curriculum and the extent to which this curriculum has an impact on developing the critical thinking skills of SDN Serengat 01 students

4. Results and Discussion

4.1 Results

The implementation of Merdeka Curriculum at SDN Srengat 01 brings both challenges and opportunities to improve students' critical thinking skills. Observations and interviews revealed several major obstacles, namely teachers' lack of understanding of the curriculum, heavy administrative burdens, and variations in student abilities. This makes it difficult for teachers to organise efficient and appropriate learning.

However, Merdeka Curriculum provides opportunities to develop critical thinking through creative ways of learning. Therefore, support from all parties is needed, including the simplification of administrative tasks for teachers, as well as remedial and reinforcement programmes for students who are lagging behind so that the learning process can take place optimally and evenly.

I will try to explain their responses and reasons for answering some of the questions I asked the grade 6 students at SDN Srengat 01. Question 01) Do you find the learning methods used by the teacher interesting and easy to understand?

Responses dan Reason: A total of 9 students found the teacher's teaching method interesting and easy to understand due to the innovative delivery of the material, utilising visual media, educational games, and related real-life examples. On the other hand, 17 students gave neutral answers because they saw that the learning method was sometimes interesting, but at other times it was less effective or boring.

Question 02) Are you often given opportunities to discuss or work in groups?

Responses and Reason: A total of 4 students strongly supported and 17 students agreed that they often have the opportunity to discuss and work in groups, as this helps them understand the material, exchange ideas and practice cooperation. However, some of them hoped for improvements in time management and task distribution. On the other hand, 4 students who were neutral felt that the opportunities for discussion were still inconsistent and limited in frequency. Meanwhile, 1 student disagreed because they were more often given individual tasks and rarely had the opportunity to learn collaboratively.

Question 03) Do the assignments require you to look for additional information outside the textbook?

Responses and Reason: A total of 13 students agreed that assignments that encouraged them to seek information outside the textbook were very beneficial in improving critical thinking skills and expanding knowledge, although they faced problems with time. On the other hand, 13 students were in a neutral position as they were of the opinion that such assignments did not always exist and were usually only seen in complex projects or assignments, whereas for daily assignments, they more often followed the textbook.

Question 04) Do you feel the current learning method helps you understand the lesson better than before?

Responses and Reason: One student strongly supported and nine students agreed that the current way of learning is more interesting and facilitates understanding through technology, interactive media and discussion. On the other hand, fifteen students were neutral because although there are variations in methods, how effective they are still depends on the material and the way it is delivered, and it is not suitable for all types of learning. One student refused because she felt that the method had not been successful in improving her understanding.

Question 05) Do you feel able to give logical opinions or solutions during class discussions?

Responses and Reason: A total of 1 student strongly agreed and 4 students agreed that the positive classroom environment and communication exercises helped them to express their views logically. On the other hand, 18 students were neutral because their ability to discuss was still influenced by circumstances. Meanwhile, 3 students disagreed because they felt insecure and worried about making mistakes when expressing their opinions in class.

Question 06) Do you feel more confident answering questions or expressing your opinions in class?

Responses and Reason: A total of 3 students stated that they felt confident to speak in class thanks to a supportive environment, a helpful teacher, and an interactive approach. On the other hand, 23 students felt neutral as their confidence level was influenced by their understanding of the material, the classroom atmosphere and the teaching method; they tended to be more confident when the material was easy but hesitated when the material was difficult or if they were not prepared.

Question 07) Do you find it difficult to understand how to learn differently from the previous curriculum?

Responses and Reason: A total of 6 students stated that they had difficulty in adjusting to the new curriculum because of the big changes which were confusing. A total of 15 students had a neutral view, arguing that the changes in learning methods did not really affect them, although they required adjustment. Meanwhile, 4 students disagreed and 1 student strongly disagreed because they felt that the new curriculum was easier to understand and more in line with their way of learning.

A survey conducted at SDN Srengat 01 revealed variations in students' opinions regarding the implementation of Merdeka Curriculum, especially in terms of teaching methods, group discussions, independent assignments, and self-confidence. Referring to Vygotsky and Gardner's theory, the application of group discussions and creative methods such as the use of visual media and educational games can deepen understanding and touch on different ways of learning. However, neutral responses from students indicate that there is a need to improve the consistency and management of learning. Students also need support to improve their confidence and critical thinking skills, as expressed by Bloom and Dewey, through a supportive learning environment and inquiry-based learning.



Figure 1. classroom conditions and a photo with the principal

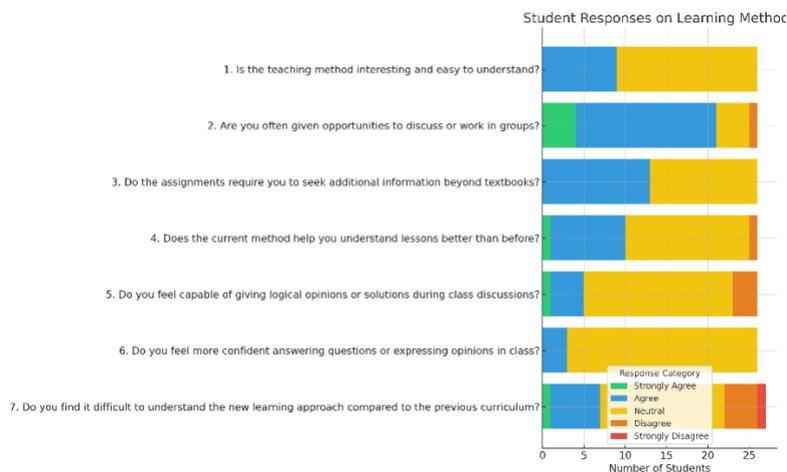


Chart 1. Graphic Bar

Table 1. Question Table

NO	Aspect	Totally agree	Neutral	Disagree	Totally Disagree
1.	Do you find the learning methods used by the teacher interesting and easy to understand?				
2.	Are you often given opportunities to discuss or work in groups.				
3.	Do the assignments require you to look for additional information outside the textbook?				
4.	Do you feel the current learning method helps you understand the lesson better than before?				
5.	Do you feel able to give logical opinions or solutions during class discussions?				
6.	Do you feel more confident answering questions or expressing your opinions in class?				
7.	Do you find it difficult to understand how to learn differently from the previous curriculum?				

4.2 Discussion

The findings from this study indicate that the Merdeka Curriculum provides ample opportunities to improve critical thinking skills by using more adaptive and context-appropriate methods, such as Project-Based Learning (PjBL). This is in line with a study conducted by (Febriyanti et al., 2023), which indicates that PjBL with a peer tutor approach can improve students' creative thinking and practical skills. At SDN Srengat 01, similar results were seen through an increase in group discussions and project-based work, although there were still problems

with time management and division of tasks within groups. The instability of the application of this method shows in the results of the study (Putri Gea et al., 2025), which states that the success of PjBL is highly dependent on teacher preparation and understanding of learning project management.

In addition, results from the study suggest that the application of technology in administration could be an effective way to reduce teachers' tasks and give them the opportunity to concentrate more on the learning process. This is corroborated by the findings of the study (Rosyada et al., 2024), which states that the use of digital technology can reduce the time needed to report teacher activities and improve the efficiency of the learning process. However, data in the field still shows that some teachers have not fully utilised these technologies, so relevant and continuous training is needed. Penggunaan media digital yang interaktif seperti video pendidikan dan kuis online juga telah terbukti meningkatkan keterlibatan siswa, sesuai dengan penelitian (Pangesti et al., 2020), which states that interactive e-modules can significantly improve critical thinking skills. Thus, the implementation of strategies that utilise technology and collaborative approaches has proven essential to support the successful implementation of Merdeka Curriculum at SDN Srengat 01.

5. Conclusion

The implementation of Merdeka Curriculum at SDN Srengat 01 provides a great opportunity to improve students' critical thinking skills through more flexible and contextualised learning methods. However, the results show that successful implementation still faces several challenges, such as the high administrative burden for teachers, varying readiness among teachers in implementing Project-Based Learning, and students' lack of confidence to actively participate in class.

The four strategies studied-digitisation of administration, locally-based PjBL training, implementation of a peer tutor system, and use of interactive digital media-proved to be relevant and effective in addressing these issues. Various responses from students indicate the importance of improvements in the consistency of teaching methods as well as support for a more inclusive and motivating learning environment. Therefore, the success of Merdeka Curriculum is greatly influenced by structured support from schools, ongoing training for teachers, and the appropriate application of technology in the learning process. By working together using these various strategies, Merdeka Curriculum has great potential to create an adaptable basic education system and shape a generation of critical and independent learners.

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