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Implementation of HOTS-Based Learning Tools Through a Collaborative Learning Model by Applying the Merdeka Curriculum to Sixth Grade Students at SDN Lahuafu

Arfan Arfin, Juraid Abdul Latief, Misnah
Program Studi Magister Pendidikan IPS, Universitas Tadulako, Palu, Indonesia

ABSTRACT

This study aims to evaluate the implementation of learning tools that integrate Higher Order Thinking Skills (HOTS) with a collaborative learning model within the framework of the Merdeka Curriculum for sixth-grade students at SDN Lahuafu. This research uses a qualitative descriptive approach with data collection techniques including observation, interviews, questionnaires, and documentation. The results show that HOTS-based learning tools can be optimally applied in thematic learning, especially through activities that require students to think critically, such as group discussions, contextual problem-solving, and open-ended questions. Collaborative learning provides opportunities for students to actively work together in solving problems and sharing understanding reflectively. Supporting factors identified include student enthusiasm, teacher readiness as facilitators, and the flexibility of the Merdeka Curriculum. On the other hand, obstacles encountered include time constraints, disparities in student abilities, and limited learning resources. Overall, this implementation has proven effective in enhancing students' active engagement, critical thinking skills, and the overall quality of learning.

Keywords: *Hots Learning, Collaborative Model, Merdeka Curriculum, Primary School*

Corresponding author
Name: Arfan Arfin
Email: arfanspd91@gmail.com

INTRODUCTION

In the era of the Industrial Revolution 4.0 and the rapid development of Artificial Intelligence (AI), national education systems are challenged to prepare students with higher-order thinking skills such as critical thinking, creativity, problem-solving, and decision-making. According to Mulyasa (2020), a curriculum that is responsive to 21st-century demands must position students as active and autonomous subjects in the learning process. One key strategy to meet these challenges is the application of learning based on Higher Order Thinking Skills (HOTS). HOTS is crucial because it enables students not only to understand information but also to analyze, evaluate, and create (Krathwohl & Anderson in Hamidah et al., 2019). Furthermore, higher-order thinking supports the development of reflective and argumentative thinking competencies skills that are vital in today's complex, real-world situations (Yusnidar et al., 2020).

In response to these global educational demands, the Indonesian government, through the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek), has introduced the Merdeka Curriculum as a more flexible, inclusive, and differentiated approach to learning. This curriculum emphasizes the development of student competencies rather than simply the delivery of content (Kemendikbudristek, 2022). According to Zulaiha et al. (2023), the Merdeka Curriculum provides ample space for teachers to design context-based learning that meets the individual needs of students, including the integration of HOTS. However, the implementation of HOTS-based learning still faces significant obstacles, especially in many primary education settings. A study by Irwandi et al. (2021) revealed that only a small percentage of elementary school teachers have a solid understanding of how to develop teaching tools aligned with HOTS principles, particularly in terms of assessment and active learning activities. This gap in teacher readiness underscores the need for more effective learning strategies that can facilitate the integration of higher-order thinking.

One promising approach is the collaborative learning model, which emphasizes teamwork, social interaction, and group-based problem-solving. According to Novitasari and Herdiansyah (2021), collaborative learning can foster an environment that encourages active participation, exploration of ideas, and shared decision-making among students. This model not only promotes deeper understanding through peer interaction but also supports the differentiation of learning by accommodating the diverse abilities of students (Rahmawati et al., 2023). Given this context, the present study aims to examine the implementation of HOTS-based learning tools through a collaborative learning model within the framework of the Merdeka Curriculum among sixth-grade students at SDN Lahuafu. The study further seeks to identify both the supporting and inhibiting factors encountered during the implementation process.

The research adopts a qualitative descriptive approach, utilizing data collection methods such as observation, interviews, questionnaires, and documentation. The findings reveal that HOTS-based learning tools are optimally applicable in thematic learning, especially when students are engaged in critical thinking activities such as group discussions, contextual problem-solving, and open-ended questioning. Collaborative learning creates a dynamic space for students to work together, share perspectives, and develop solutions in a reflective manner. Supporting factors include high student enthusiasm, teacher preparedness as facilitators, and the flexible structure of the Merdeka Curriculum. On the other hand, challenges identified during implementation include time constraints, disparities in student abilities, and limited learning resources. Overall, this study concludes that the integration of HOTS through collaborative learning in the Merdeka Curriculum framework has the potential to significantly improve student engagement, critical thinking skills, and the overall quality of learning in primary schools.

METHOD

This study employed a qualitative descriptive approach to gain a comprehensive understanding of the implementation of HOTS-based learning through a collaborative

model under the Merdeka Curriculum. The research was conducted at SDN Lahuafu, located in Morowali Regency, and involved key participants including sixth-grade teachers, students, and the school principal. These subjects were selected to provide diverse perspectives on the learning process and its effectiveness in real classroom settings. Data collection was carried out through multiple methods to ensure the richness and credibility of the findings. First, classroom observations were conducted to closely monitor the teaching and learning activities, focusing particularly on how collaborative learning and higher-order thinking were facilitated. Second, in-depth interviews were held with both the classroom teacher and the school principal to gather insights regarding planning, implementation, and challenges faced during the process. Third, questionnaires were distributed to students to capture their perceptions, levels of engagement, and experiences with the learning activities. Finally, a document analysis was carried out on the teaching tools and lesson plans used during the implementation, to assess their alignment with HOTS principles and the Merdeka Curriculum framework.

All collected data were then analyzed using qualitative descriptive analysis techniques. This method allowed the researcher to systematically describe the actual conditions of the learning implementation, emphasizing factual details and capturing the experiences of all stakeholders involved. The analysis focused on identifying patterns, strengths, and challenges in the application of collaborative learning integrated with HOTS. Through this approach, the study aims to present a clear and holistic picture of how innovative pedagogical strategies are being practiced in a real primary school setting, and how they can be further developed to enhance student learning outcomes.

FINDING AND DISCUSSION

RESEARCH RESULT

These findings are consistent with research by Sari and Nasution (2023), who emphasized the importance of ongoing teacher training and improved access to educational infrastructure in supporting effective implementation of the Kurikulum Merdeka. For successful integration of HOTS and collaborative learning in primary education, systemic support is crucial. This includes not only professional development for teachers but also resource allocation for schools and more flexible curricular scheduling to accommodate innovative practices. The experience at SDN Lahuafu illustrates the transformative potential of combining HOTS-based learning tools with collaborative learning models under the Kurikulum Merdeka. The two approaches complement each other by promoting both cognitive depth and social-emotional learning. Students become more engaged, critical, and cooperative, while teachers evolve into facilitators of dynamic and student-centered learning experiences. However, to fully realize the benefits, challenges related to assessment literacy, time management, group dynamics, and resource availability must be addressed. With continuous support and refinement, these instructional strategies can significantly enrich the learning environment and better prepare students for the demands of the 21st century.

DISCUSSION

Implementation of HOTS-Based Learning Tools

The implementation of higher-order thinking skills (HOTS)-based learning tools combined with collaborative learning models under the Kurikulum Merdeka framework at SDN Lahuafu has demonstrated a significant impact on improving both the quality of learning processes and student outcomes. In an age increasingly shaped by rapid technological advancement and artificial intelligence, the Indonesian education system is being challenged to nurture critical, creative, and reflective learners. HOTS-based instruction responds to this need by promoting cognitive skills such as analysis, evaluation, and creation skills that go beyond rote memorization. At SDN Lahuafu, the adoption of this approach was evident through the use of open-ended questions, classroom discussions, and project-based learning activities that were embedded in students' local context. For example, in social studies, students analyzed forms of economic activities present in their environment, requiring them to not only absorb content but also engage with their surroundings through critical inquiry.

Teachers played a central role in designing and facilitating these learning experiences. They purposefully created tasks that guided students toward analytical and creative learning outcomes. This approach aligns with findings from Putra et al. (2021), who highlighted that HOTS-based learning significantly enhances students' reasoning and cognitive engagement. However, the adoption of such methods was not without challenges. One major issue was the limited ability of some teachers to assess HOTS accurately. Many were unfamiliar with analytical assessment rubrics and tended to rely on traditional, lower-order evaluations such as multiple-choice tests. This is in line with research by Hidayati and Susanto (2020), who observed that many elementary teachers find it difficult to distinguish between lower-order thinking skills (LOTS) and higher-order thinking skills when designing assessments. As a result, while instruction may aim at promoting deep thinking, the assessments used often fail to capture the complexity of students' thought processes.

Implementation of the Collaborative Learning Model

To enhance student participation and foster a more interactive learning environment, SDN Lahuafu also integrated collaborative learning strategies alongside HOTS-based instruction. Students were assigned to heterogeneous groups to complete tasks together, which included sharing perspectives, deliberating on problem-solving methods, and presenting results. These group activities encouraged peer-to-peer interaction, promoted active listening, and built communication skills. The role of the teacher shifted to that of a facilitator guiding discussions, mediating conflicts, and ensuring inclusive participation. Collaborative learning at SDN Lahuafu not only deepened cognitive understanding but also supported the development of character traits such as responsibility, empathy, and teamwork. These outcomes support previous studies by Wahyuni and Kurniawati (2022), who argued that collaborative learning has dual benefits: improving both academic skills and personal growth.

Despite the evident benefits, some limitations in the application of collaborative learning were identified. Among the most common was unequal group participation. Certain students tended to dominate discussions, while others remained passive. This imbalance can hinder the collective learning experience and affect group dynamics. As noted by Zainuddin et al. (2019), the success of collaborative learning is highly dependent on students' interpersonal competencies and the teacher's ability to manage group interactions effectively. In response to these challenges, teachers at SDN Lahuafu began assigning specific roles within groups such as note-taker, timekeeper, and presenter to ensure each student contributed meaningfully. They also conducted post-activity reflections to help students understand their strengths and areas for improvement.

The success of the HOTS-based and collaborative learning approaches at SDN Lahuafu was supported by several enabling factors. First, students showed high levels of motivation and enthusiasm, especially when working in groups or engaging with real-world tasks. Their willingness to collaborate and solve problems created a vibrant and participatory learning environment. Second, teachers were relatively well-prepared and open to adopting innovative methods. Their commitment was evident in lesson planning and in their readiness to adapt instructional strategies based on classroom dynamics. Third, the flexibility of the Kurikulum Merdeka allowed teachers to modify teaching materials and integrate contextually relevant issues, thereby making learning more meaningful for students.

Enabling and Inhibiting Factors

However, several inhibiting factors also emerged during implementation. One of the primary constraints was the limited instructional time available for deeper exploration of concepts, particularly in project-based learning. The standard school schedule often did not allow sufficient time for students to engage in discussions, complete tasks, and reflect on their learning. Another challenge was the wide range of academic abilities among students. Group tasks often became unbalanced when some students outpaced their peers or when weaker students struggled to participate effectively. Teachers had to continuously adapt their strategies to accommodate varying needs. Additionally, the lack of digital learning resources and multimedia tools further restricted the types of learning activities that could be implemented. In rural school settings such as SDN Lahuafu, the absence of adequate infrastructure often hinders the integration of more advanced or technology-assisted instructional methods.

CONCLUSION

The implementation of Higher Order Thinking Skills (HOTS)-based learning tools through a collaborative learning model within the framework of the *Kurikulum Merdeka* has proven effective in enhancing both the quality of the learning process and student outcomes. This approach encourages students to engage more actively in class, think critically, and collaborate effectively with their peers in solving real-world problems. The

thematic and student-centered nature of *Kurikulum Merdeka* aligns well with the principles of HOTS, which emphasize analytical thinking, evaluation, and the ability to generate creative solutions. Through collaborative learning, students are given the opportunity to exchange ideas, question assumptions, and build shared understandings through group discussions, projects, and problem-solving tasks. This not only fosters cognitive development but also improves their social and communication skills. As a result, learning becomes more meaningful, engaging, and aligned with the demands of 21st-century education. However, despite its potential benefits, the implementation process is not without challenges. Technical and pedagogical barriers often arise, particularly regarding effective time management during group work, the formation of balanced learning groups, and the availability of sufficient and relevant learning resources. Teachers must be equipped with specific strategies to address these challenges, such as setting clear group norms, providing structured scaffolding, differentiating tasks according to student needs, and utilizing local learning materials creatively. In conclusion, while HOTS-based collaborative learning within the *Kurikulum Merdeka* context offers a promising approach to improving education at the elementary level, it requires thoughtful planning, continuous teacher training, and support from all educational stakeholders to be implemented successfully and sustainably.

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