

Analysis of Students' Critical Thinking Skills Through Differentiated Learning in the Independent Curriculum at SDN 003 Pasaribu Dolok Sanggul Elementary School

Gemala Widiyarti, Muhammad Daliani, Hanna Br Tarigan, Ovy Panjaitan
Quality University, Jl. Ringroad - Ngumban Surbakti No. 18 Medan.
Corresponding Author: widiyartigemala@gmail.com

Abstract

This study, entitled "Analysis of Students' Critical Thinking Skills Through Differentiated Learning in the Independent Curriculum at the UPT SDN 003 Pasaribu Dolok Sanggul," aims to analyze students' critical thinking skills in the learning process that applies a differentiated approach in accordance with the principles of the Independent Curriculum. This study also aims to describe how teachers implement differentiated learning based on students' learning readiness, interests, and learning profiles and to identify factors that influence the development of students' critical thinking skills. The method used in this study is a descriptive qualitative method with teachers and students at the UPT SDN 003 Pasaribu Dolok Sanggul as the research subjects. Data collection was conducted through observation of learning activities, interviews with teachers and students, documentation, and analysis of student learning outcomes. The data obtained were then analyzed through data reduction, data presentation, and conclusion drawing to obtain a comprehensive picture of students' critical thinking skills. The results indicate that the implementation of differentiated learning has a positive impact on students' critical thinking skills. Students become more active in expressing their opinions, able to identify and analyze problems, ask relevant questions, and propose solutions based on logical reasoning. Teachers are also able to create a more inclusive learning environment by providing learning experiences tailored to students' needs and characteristics. Despite several obstacles, such as the wide diversity of student abilities and limited learning time, differentiated learning has generally proven effective in supporting the development of students' critical thinking skills. Therefore, it can be concluded that the implementation of differentiated learning in the Independent Curriculum significantly contributes to improving the quality of critical thinking in elementary school students.

Introduction

Elementary education plays a crucial role in developing students' thinking skills from an early

age. One of the skills required for 21st-century learning is critical thinking. Critical thinking skills are essential for students to analyze information, solve problems, provide reasoning, and make appropriate decisions in everyday life. However, in reality, elementary school students' critical thinking skills are still relatively low. Classroom learning is often teacher-centered, with students simply receiving information and memorizing material, with little opportunity to

express opinions or solve problems independently. This situation results in students lacking critical thinking skills (Susanto: 2022).

In elementary school, teachers often encounter diverse student characteristics. Each student differs in their readiness to learn, interests, learning styles, and academic abilities. However, learning tends to use the same method for all students. As a result, students with high learning abilities feel less challenged, while students with lower learning abilities struggle to understand the material. This situation contributes to low student participation and low critical thinking skills in the learning process.

The Independent Curriculum is an effort to address these issues. The Independent Curriculum emphasizes student-centered learning, giving teachers the flexibility to adapt learning to the needs and characteristics of their students. One of the strategies recommended in the Independent Curriculum is differentiated learning. Differentiated learning is a learning process that considers the different needs of students through differentiation of content, processes, products, and learning environments. This ensures that each student receives a learning experience tailored to their abilities and needs. (Ministry of Education, Culture, Research, and Technology, 2022).

Through differentiated learning, students are given the opportunity to learn in a way that suits them. Teachers can provide a variety of activities, media, and assignments so that students become more active, motivated, and able to explore their ideas. This type of learning is believed to train students' critical thinking skills because they not only receive information but are also required to analyze, compare, draw conclusions, and solve problems based on their learning experiences. (Syarif: 2023).

Critical thinking skills are crucial for elementary school students to develop as they prepare them to face the challenges of learning and life in the future. Students who possess critical thinking skills will more easily understand material, solve problems, and express opinions logically and systematically. Therefore, teachers need to implement learning strategies that develop these skills, one of which is through differentiated learning in the Independent Curriculum. Based on initial observations at the UPT SDN 003 Pasaribu Dolok Sanggul Elementary School (UPT SDN 003 Pasaribu Dolok Sanggul), it was found that students' critical thinking skills were still suboptimal. This was evident in students who still struggled to answer questions that required reasoning, were less able to connect material to real-life situations, and were less active in discussions and expressing opinions. Furthermore, the learning process still tended to use the same method for all students, so their diverse learning needs were not fully accommodated. Therefore, further study is needed to examine how students' critical thinking skills are developed through differentiated learning in the Independent Curriculum at UPT SDN 003 Pasaribu Dolok Sanggul.

This research is important because it can provide insight into students' critical thinking skills and the effectiveness of differentiated learning in supporting the implementation of the Independent Curriculum in elementary schools. The research results are expected to provide input for teachers

in designing learning that is more suited to students' needs and can improve their critical thinking skills.

Research Methods

1. Research Approach and Type

This research uses a descriptive qualitative approach. This approach was chosen to gain an in-depth understanding of students' critical thinking skills through differentiated learning in the Independent Curriculum. Descriptive qualitative research allows researchers to describe in detail how the learning process occurs and how students demonstrate critical thinking skills in classroom activities.

2. Research Subjects and Location

The subjects in this study were students at the SDN 003 Pasaribu Dolok Sanggul Elementary School (UPT SDN 003 Pasaribu Dolok Sanggul), along with teachers as supporting informants in the implementation of differentiated learning. This research location was chosen because the school has implemented the Independent Curriculum in its learning process, making it relevant to the research focus, which examines students' critical thinking skills through a differentiated learning approach.

3. Data Collection Techniques

Data collection was conducted using several techniques, namely:

- a. Interviews: In-depth interviews were conducted with teachers and students to obtain information regarding the implementation of differentiated learning and students' critical thinking skills.
- b. Observation: The researcher conducted direct observations of the classroom learning process to see how students demonstrated critical thinking skills during the learning activities.
- c. Documentation: Documentation was used to collect supporting data such as learning materials, student work, and photographs of learning activities.

4. Data Analysis Techniques

Data were analyzed using the interactive analysis model from Miles and Huberman (1994), which includes three stages:

- a. Data reduction: The data obtained was selected, simplified, and focused according to the research objectives.
- b. Data presentation: The reduced data was then presented in descriptive narrative form for easy understanding.

- c. Conclusion drawing: The researcher drew conclusions based on the analyzed data to answer the research problem formulation.

5. Data Validity Testing

Data validity in this study was conducted using triangulation techniques, namely source triangulation and technical triangulation. The researcher compared data from interviews, observations, and documentation to ensure the accuracy of the data. Furthermore, member checking was conducted with informants to ensure that the data obtained reflected the actual situation.

Results and Discussion

1. Research Results

This research was conducted at the UPT SDN 003 Pasaribu Dolok Sanggul Elementary School (SDN 003 Pasaribu Dolok Sanggul) with the aim of analyzing students' critical thinking skills through differentiated learning in the Independent Curriculum. The research was conducted through observation, interviews, and documentation of teachers and students during the learning process. Based on the observations, teachers implemented differentiated learning, adapting to students' learning needs. Teachers divided students into groups based on their abilities and learning readiness. Students with higher abilities were given more complex analysis and problem-solving tasks, while students who were still struggling were given guidance and simpler tasks. Furthermore, teachers used a variety of learning media, such as images, videos, group discussions, and student worksheets, to encourage students to be more active in learning.

The results showed that the implementation of differentiated learning had a positive impact on students' critical thinking skills. This was evident in the students' improved abilities in:

1. Expressing opinions logically.
2. Answering questions with sound reasoning.
3. Analyzing simple problems.
4. Summarizing discussion results.
5. Connecting learning materials to everyday life.

According to interviews with classroom teachers, differentiated learning encourages students to be more active in asking questions and expressing their opinions. Teachers stated that previously, most students tended to be passive and simply awaited explanations from the teacher. However, after implementing differentiated learning, students began to show greater curiosity and increased confidence in completing assignments.

Interviews with students also indicated that they enjoyed learning more because the learning process involved various engaging activities. Students found it easier to understand the material

when given opportunities for discussion and collaboration in groups. In general, students' critical thinking skills can be categorized into three levels: high, medium, and low. Students with high critical thinking skills are able to provide clear reasoning, analyze problems, and effectively present solutions. Students with medium skills are able to understand problems but still require teacher assistance in concluding answers. Meanwhile, students with low critical thinking skills still struggle to express opinions and answer analytical questions.

The results of the critical thinking skills assessment at the SDN 003 Pasaribu Dolok Sanggul School Unit are shown in the following bar chart:



Diagram. Critical Thinking Skills Results

Based on the diagram above, it can be seen that the highest indicator is the ability to connect material to everyday life at 84%, while the lowest indicator is the ability to analyze problems at 75%. Nevertheless, all indicators show quite good results and have improved during the implementation of differentiated learning. The results of the grouping of critical thinking ability categories of students who have been treated with differentiated learning are shown in the following table:

Table. Critical Thinking Skills Categories

Category	Number of Students	Percentage
High	10 student	33%
Medium	15 students	50%
Low	5 students	17%

Based on the diagram, the majority of students fall into the moderate category. This indicates that students' critical thinking skills have developed quite well, but still require improvement through more active and innovative learning. Furthermore, observations indicate that teachers have implemented process differentiation and product differentiation in their learning. In process differentiation, teachers have varied learning activities such as group discussions, presentations, and problem-solving. Meanwhile, in product differentiation, teachers have provided students with assignments based on their abilities.

In implementing differentiated learning, teachers also faced several challenges, such as limited time in managing heterogeneous classes and students still lacking confidence in expressing their opinions. However, teachers attempted to overcome these obstacles by providing motivation, mentoring, and creating a more active and enjoyable learning environment.

2. Research Discussion

The results of this study indicate that differentiated learning in the Independent Curriculum (Curriculum Merdeka) can help improve students' critical thinking skills at the SDN 003 Pasaribu Dolok Sanggul Technical Implementation Unit (UPT). This is evident in the increased student participation in the learning process, their ability to answer analytical questions, and their confidence in expressing their opinions. Differentiated learning provides opportunities for students to learn according to their individual needs and abilities. In this study, teachers no longer use one learning method for all students, but instead adapt learning strategies based on their learning readiness and characteristics. This allows students to feel more comfortable and engaged in learning. These research findings align with Tomlinson's opinion that differentiated learning helps students gain learning experiences tailored to their abilities and needs. When students receive appropriate learning, they understand the material more easily and engage in more active thinking.

Students' critical thinking skills develop because differentiated learning provides space for discussions, questions, and problem-solving. These activities train students to analyze information and provide reasons for their answers. During the learning process, teachers also provide provocative questions that encourage students to think more deeply about the material being studied. The results of this study also support Facione's theory, which states that critical thinking encompasses the skills of analysis, interpretation, evaluation, and drawing conclusions. In this study, these abilities began to be evident through student activities during the learning

process. Students not only memorized the material but also attempted to understand and connect it to real-world situations in their surroundings.

The implementation of the Independent Curriculum also supports the development of students' critical thinking skills because this curriculum emphasizes student-centered learning. Teachers act as facilitators, guiding students to actively participate in the learning process. Thus, students gain a more meaningful learning experience than conventional, teacher-centered learning. Although the research results show a positive impact, several obstacles remain in the implementation of differentiated learning. Teachers require more thorough preparation in developing learning materials and managing classes with diverse student abilities. Furthermore, some students lack confidence in expressing their opinions, requiring teachers to provide ongoing motivation and guidance.

Based on the research results, it can be concluded that differentiated learning in the Independent Curriculum can help improve the critical thinking skills of elementary school students. Learning that is tailored to students' needs makes students more active, creative, and able to think logically in solving learning problems.

3. Research Graph

The table obtained from the research on critical thinking skills results is shown below:

Table. Critical Thinking Skills Results Indicators

No	Indikator Berpikir Kritis	Persentase
1	Able to express opinions	82%
2	Able to answer questions with reasons	78%
3	Able to analyze problems	75%
4	Able to summarize discussion results	80%
5	Able to connect material to everyday life	84%

Meanwhile, the learning implementation applied by teachers towards differentiated learning can be seen in the following table:

Table: Differentiated Learning Aspects

Learning Aspects	Implementation
Content Differentiation	Teachers use various learning media
Process Differentiation	Group discussions, Q&A, presentations
Product Differentiation	Assignments are tailored to student abilities
Learning Environment	Active and collaborative learning atmosphere
Teacher's Role	Facilitator and learning guide

Conclusions and Recommendations

1. Research Conclusion

Based on the results of the study on students' critical thinking skills through differentiated learning in the Independent Curriculum at the UPT SDN 003 Pasaribu Dolok Sanggul, it can be concluded that differentiated learning has a positive influence on the development of students' critical thinking skills. Through differentiated learning, students become more active in learning. They begin to ask questions, express opinions, discuss, and try to solve problems presented by the teacher. Learning tailored to students' abilities and needs makes it easier for them to understand the subject matter. The results also show that teachers have implemented differentiated learning quite effectively through various learning methods, such as group discussions, question and answer sessions, presentations, and assignments based on students' abilities. Teachers no longer use a single learning method for all students but have begun to adapt their learning to their individual characteristics.

Students' critical thinking skills are evident in their ability to provide reasons for answers, summarize discussion results, and connect the material to everyday life. Although some students still lack confidence and are not yet active in learning, overall, students' critical thinking skills have improved. In its implementation, teachers also encounter several obstacles, such as time constraints and differences in student abilities within the classroom. However, teachers continue to strive to create active and enjoyable learning so that all students can participate effectively. Therefore, differentiated learning in the Independent Curriculum can help improve elementary school students' critical thinking skills because it is more student-centered and provides opportunities for students to learn at their own pace.

2. Research Recommendations

- a. Teachers are expected to continue implementing differentiated learning to encourage more active students and foster the development of critical thinking skills.
- b. Schools are expected to support the implementation of differentiated learning by providing adequate learning media and facilities.
- c. Future researchers are expected to expand this research with a broader scope and different research methods.

BIBLIOGRAPHY

Ahmad Susanto, "*Theory of Learning and Teaching in Elementary Schools*" (Jakarta: Kencana, 2022), p. 115.

Ennis, R. H. (2021). "*Critical Thinking*." Prentice Hall.

Ministry of Education, Culture, Research, and Technology, "*Independent Curriculum Learning and Assessment Guidelines*" (Jakarta: Kemendikbudristek, 2022), p. 18.

M. Syarif Sumantri and Nuraini, "*Differentiated Learning to Improve Critical Thinking Skills of Elementary School Students*," Indonesian Journal of Elementary Education, 8(2), 2023, p. 74.

Rusman, "*Independent Curriculum: Implementation and Challenges in Elementary Schools*" (Bandung: Alfabeta, 2023), p. 41.