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Improving the Ability to Count Money Through Role Playing Methods for Students with Disabilities

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Abstract
This research aims to improve the ability of students with mild intellectual disabilities in calculating the value of money through the application of the Role Play method. The method used in this study is Classroom Action Research (PTK), which is carried out in two cycles, each consisting of two meetings and one post-test. Data were collected through observation, interviews, and documentation, and analyzed in a quantitative descriptive manner. The results of the study showed a significant increase in students' ability to calculate the value of money. The average score of students increased from 49.8 in the pre-test to 71.43 in the first cycle, and reached 89.29 in the second cycle, with a 100% pass rate. The application of Role Play provides a concrete experience that helps students connect the concept of the value of money with everyday transactions, increase motivation, and actively engage in learning. The implications of this study show that the Role Play method is effective in improving mathematical skills in students with mild intellectual disabilities. In conclusion, Role Play has been proven to significantly improve students' ability to calculate the value of money.

Keywords
Classroom Action Research; Currency Value; Disability; Mild Intellectual; Role Play

INTRODUCTION

Education is one of the main pillars in nation building because of its very strategic role in shaping the quality of human resources (Shih, 2024). Education not only serves as a means to acquire knowledge, but also to form skills, attitudes, and character that support the daily life and future of each individual. With quality education, all students, including children with special needs, have the opportunity to develop their best potential. Children with special needs require different attention and learning approaches because their

developmental characteristics are not always the same as children in general (Magumise & Sefotho, 2020).

One of the subjects that has an important role in forming logical, critical, and problem-solving skills is mathematics (Muhtadi et al., 2022). Mathematics is not only a basic science learned in school, but it is also a very important foundation for developing reasoning skills, thinking systematically, and making informed decisions in daily life. Effective math learning can foster analytical thinking skills, improve problem-solving skills, and encourage students to actively learn and interact positively with peers (Ahmad et al., 2023). In addition, a good mastery of math can also be the basis for developing social skills, such as cooperation, communication, and the ability to deal with real-life situations.

However, in practice, learning mathematics often presents challenges, especially for children with special needs, including students with mild intellectual disabilities. Children with mild intellectual disabilities have limitations in cognitive abilities, so they tend to have difficulty understanding abstract concepts, are slow in processing information, and take longer to solve problems (Jeste et al., 2020). One of the difficulties that often arise is in understanding the concept of the value of money and performing simple calculation operations, such as addition and subtraction. This difficulty has a direct impact on their low ability to follow the mathematics learning process optimally.

Based on the results of observations conducted at SLB Negeri Salak on March 10, 2025, it was found that four grade VIII students with mild intellectual disabilities experienced significant obstacles in recognizing, calculating, and distinguishing the value of money. Their initial evaluation scores were well below the Minimum Completeness Criteria (KKM), which ranged from 29 to 40. This shows that previously implemented learning methods, such as the use of smart boards, calculators, and flashcards, have not been able to optimally improve student focus, comprehension, and engagement. This condition emphasizes the need for a learning approach that is more in line with the characteristics of students, namely learning that is concrete, interactive, and based on direct experience (Lai et al., 2020).

One of the learning methods that has the potential to overcome this difficulty is the Role Play Method. The Role Method is a learning method that presents real situations through role simulations in daily life, so that students can learn through direct experience (Alkhudiry, 2022). In the context of learning to calculate the value of money, Role Play

can be applied through buying and selling simulation activities, where students play the role of sellers and buyers. Thus, students not only learn to count, but also learn to interact, communicate, and understand the value of money in a real-life context.

The application of the Role Play method in the context of learning calculates the value of money for students with mild intellectual disabilities, which has not been explored much specifically before. Although there have been previous studies that have examined the use of Role Play in mathematics education and social skills, most of those studies have focused more on the social skills of mild disabilities (Amran & Widayat, 2020). The results of previous research also show that the effectiveness of the Role Play method has a positive impact on language skills in students with mild intellectual disabilities (Solihati, 2021). Role Play is effective in improving physical abilities in students with mild disabilities (Hiswanti et al., 2025). Role Play is not only interesting and enjoyable, but it is also able to improve students' academic understanding in real terms and according to their developmental characteristics.

Considering the various learning barriers experienced by students and empirical evidence from various studies, the application of the Role Play method is an important step to improve the ability to calculate the value of money in students with mild intellectual disabilities. This method is expected to not only improve academic ability, but also develop social skills, increase concentration, active participation, and provide a more meaningful learning experience. Learning that is carried out interactively, concretely, and based on real-life experiences is believed to be easier for students to accept, so that they can learn more effectively and enjoyably.

METHOD

Approaches and Types of Research

This study uses a quantitative approach with the type of Class Action Research. A quantitative approach is used to obtain data in the form of numbers related to the improvement of the ability to calculate the value of money. Classroom action research was chosen because it aims to improve learning processes and outcomes through actions that are repetitive, effective, creative, and innovative (Parnawi, 2020; Azizah, 2021). The purpose of the classroom action research in this study is to improve the ability of students with mild intellectual disabilities to recognize and calculate the value of money.

Research Subject

This research was carried out at SLB Negeri Salak, Jl. Lae Une No. 115, Pergetteng Getteng Sengkut District, Pakpak Bharat Regency. This research is planned to take place from September to October 2025 for the 2025/2026 school year. The focus of this research is grade VIII students with mild intellectual disabilities. The research subjects consisted of four grade VIII students with mild intellectual disabilities, namely W (female), M, R, and B (male). The researcher plays the role of the executor of the action as well as an observer in this study.

Research Procedure

This research was carried out in two cycles, with each cycle consisting of four stages as follows:

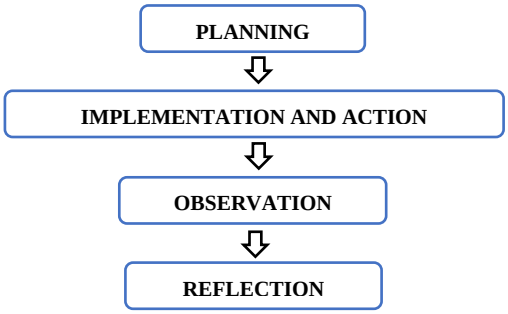

Figure 1. Classroom research cycle (Kemmis & McTaggart)

Cycle I

It starts with the planning stage which includes the preparation of learning objectives, learning tools, Role Play media, observation sheets, assessments, and student worksheets. Furthermore, at the stage of implementing actions, learning is carried out through opening, core, and closing activities. In the core section, students engage in a trading simulation to recognize and calculate the value of money, aiming to apply the material studied. The observation stage is carried out by teachers who observe the learning process and students' ability to carry out Role Play activities. In the end, the reflection stage is carried out by analyzing the results of the evaluation to determine the necessary improvements to make learning more effective in the next cycle. This process is repeated and improved in subsequent cycles to achieve optimal results.

Cycle II

The action was corrected based on the results of the reflection of cycle I. The implementation of Role Play was carried out again with clearer direction, better use of media, and awards to increase student motivation. This cycle results in an increase in students' ability to calculate the value of money.

Instrument Data Collection Techniques

The data in this study was collected using several techniques to obtain comprehensive information about the learning process. First, observation is carried out using checklist sheets to assess teacher and student activities as well as students' ability to calculate the value of money during the learning session. Second, interviews were conducted with teachers, students, and parents to obtain additional information related to their experiences in the learning process and the challenges faced by students. Finally, documentation in the form of learning outcome notes and field notes are used to describe students' progress during the learning process, which includes changes in understanding and skills in calculating the value of money. These techniques allow for holistic data collection to analyze the effectiveness of the methods applied.

Instrument Grid or Rating Indicator

To measure students' ability to calculate the value of money, the instruments used focus on the following indicators:

Table 1. Assessment Indicators

No	Assessment Indicators	Description
1	Introduction to Currency Types	Students can correctly recognize different types of banknotes and coins.
2	Money Counting Ability	Students can add and subtract money according to the buying and selling situation.
3	The Use of Money in the Context of Everyday Life	Students can use the money for simple transactions such as buying goods or giving change.
4	Social and Communication Skills in Role Play	Students can interact with their peers in trading simulations, express opinions, and follow the flow of conversations.
5	Active Participation and Engagement during Learning	Students demonstrate active involvement in Role Play activities and group discussions.

Data Analysis Techniques

The data analysis in this study was carried out in a quantitative descriptive manner to measure the improvement of students' ability to calculate the value of money after the Role Play method was applied. Ability gains are calculated using a percentage formula, which compares the post-action score to the pre-action score, then divides it by the maximum score and multiplies it by 100%. These percentage results are categorized in four levels of assessment, namely: 80-100% indicating excellent results, 70-79% as good, 60-69% as adequate, and 50-59% as poor. This analysis aims to evaluate the effectiveness of the Role Play method in improving students' skills in calculating the value of money, by comparing the scores obtained by students before and after the method was applied. The results of this analysis provide a clear picture of the extent to which the use of Role Play can improve students' ability to understand mathematical concepts related to daily life.

RESULT AND DISCUSSION

This class action research was carried out to improve the ability to calculate currency values in students with mild intellectual disabilities in grade VIII SLB Negeri Salak through the application of the Role Play method. The research took place in two cycles, and each cycle consisted of two meetings and one post-test.

Description of Initial Conditions

Before the action is given, the researcher conducts observations and pre-tests to obtain an overview of the initial ability. The results that emerged showed that all students still had difficulty in recognizing the nominal amount of money, distinguishing fractions, determining total spending, and calculating change. They seemed hesitant and slow when asked to do sample questions, and some of them were even unable to understand the calculation steps without intensive assistance from the teacher. The following table shows the development of the average student score during the study, starting from the pre-test, cycle I, and cycle II. In comparison, a significant increase was seen in cycle II.

Tabel 2. Student Grade Progress

Stage	Average Score	Completion Rate (%)
Pre-test	49,8	0
Cycle I	71,43	75
Cycle II	89,29	100

Implementation of Cycle I

In cycle I, the researcher developed a learning plan using Role Play by preparing money media, transaction scenarios, and evaluation tools. Learning begins by reintroducing denominations and their functions. Furthermore, students are involved in a simple simulation as sellers and buyers. During the process, students showed enthusiasm even though they still often asked for directions. They still have trouble calculating their total spending when buying several items at once. However, buying and selling practices began to help them understand the relationship between the nominal amount of money and the amount of goods purchased. The results of the first cycle post-test showed a fairly good improvement. The average student score increased to 71.43, with a completion rate of 75%. This improvement shows that the implementation of Role Play is starting to show positive results, although there are still students who are hesitant and do not fully understand the transaction of greater value. The learning media used is also considered to be less varied, so it needs to be added in the next cycle.

Implementation of Cycle II

Based on the results of the reflection, the second cycle is designed with improved learning media, a more structured role play flow, and the addition of gradual transaction exercises. In this cycle, researchers emphasize student independence by reducing direct direction, so that students try to calculate more on their own. At the second cycle meeting, it appeared that students were more confident in mentioning the nominal amount of money. They are also quicker in determining total expenses and changes, although there are still some minor errors that can be corrected through reinforcement. Buying and selling activities in cycle II are made more complex with greater price variations, but students are able to adjust quite well. The results of the second cycle post-test showed a very significant improvement. The average score of students reached 89.29, and all students completed 100%. Compared to cycle I, there was an increase of 25%, while the increase from pre-test to post-test cycle II reached 37.36%. This shows that more mature and structured Role Playing activities make students better understand the concept of the value of money and how to calculate it in a real context.

The results of the study in both cycles showed that the Role Play method was very effective in improving the ability to calculate the currency value of students with mild

intellectual disabilities. In the initial condition, students are less actively involved, easily distracted, and only receive passive learning. But when learning is turned into role-playing activities, students seem much more focused and enthusiastic. Transaction simulation through Role Play provides a concrete experience that suits the learning needs of students with special needs. By holding money directly, making transactions, and receiving change, students not only learn concepts in the abstract but also through hands-on practice. These interactions make learning more meaningful, easy to understand, and help them remember calculation steps better.

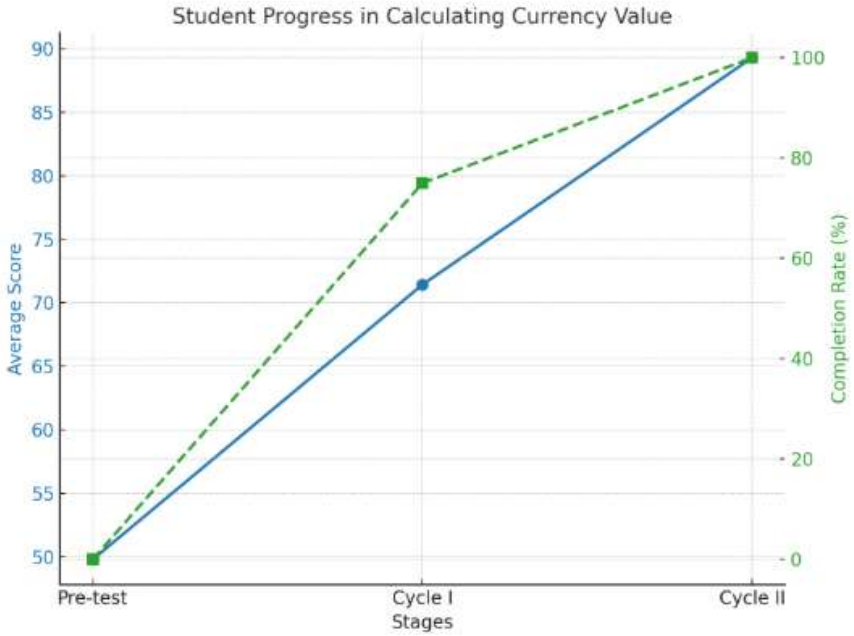

Figure 2. Cycle Enhancement

Discussion

The results of the study in both cycles show that the Role Play method is very effective in improving the ability to calculate the currency value of students with mild intellectual disabilities (Wu et al., 2020). In the initial condition, students were less actively involved, easily distracted, and only received passive learning. However, when learning was turned into role-playing activities, students became much more focused and enthusiastic. Transaction simulation through Role Play provides a concrete experience that suits the learning needs of students with special needs (McGahee et al., 2021; Vuković et al., 2023).

Role Play is effective because it bridges the gap between abstract concepts and real-life applications (Kim & Kutscher, 2021). Students with intellectual disabilities often

struggle with abstract thinking, making it difficult for them to understand theoretical concepts such as currency value. However, Role Play provides students with a practical, hands-on experience that mimics real-world situations (Wehmeyer et al., 2021). By physically engaging in a buying and selling scenario, students can better grasp the relationship between money and goods, which helps them understand the process of counting money, determining total spending, and calculating change (Mahmud et al., 2020). This method is particularly beneficial for students with mild intellectual disabilities as it helps them build connections between academic concepts and daily life practices, making learning more relevant and meaningful (Rajaraman et al., 2023).

Several factors influenced the improvements observed in the students' performance across the two cycles. First, the use of varied and concrete learning materials, such as real money and transaction scenarios, helped students relate to the concepts more effectively (Lopez et al., 2020). Second, the gradual increase in complexity of the Role Play scenarios in Cycle II allowed students to build confidence and apply their skills to more challenging situations. The reduction of teacher intervention in Cycle II also encouraged students to take more initiative and practice independently, which boosted their problem-solving skills and self-reliance. Finally, the motivation generated by the interactive nature of Role Play, combined with the provision of rewards, further engaged students and improved their focus and participation (Tsikinas & Xinogalos, 2020; Woodgate et al., 2020).

While the Role Play method showed significant improvements in students' ability to calculate currency values (Telloni, 2024; Wen et al., 2020), there are several limitations to this study. First, the study involved only four students from a single school, which may not be representative of all students with mild intellectual disabilities. The small sample size limits the generalizability of the findings. Second, the study was conducted over a short period (two cycles), and the long-term effectiveness of Role Play in improving currency calculation skills remains uncertain. Further research is needed to assess the sustainability of these improvements over time. Additionally, the use of only one method (Role Play) in this study does not account for other potential effective strategies, such as the integration of digital tools or peer-assisted learning, which could complement or enhance the learning experience for students with intellectual disabilities.

CONCLUSION

The Role Play method is effective in improving the ability of students with mild intellectual disabilities to calculate the value of money. The application of Role Play involving trading simulations provides a concrete experience that makes it easier for students to understand the concept of the value of money, calculate total expenses, and determine change. A significant increase was seen from the first cycle to the second cycle, where students became more independent in doing calculations and more confident in carrying out transactions. Although the results were positive, the study had limitations in terms of the number of samples and the duration of the study, so further research is needed to test the sustainability of these results in the long term and with a wider sample.

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