Analysis of Mathematics Learning of Students with Disabilities at Catur Bina Bangsa Extraordinary Elementary School

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Abstract
This study discusses mathematics learning for mild mentally retarded students with an IQ of 68-52. Because in the learning process academic abilities are below average so that not all students can learn mathematical concepts well, it has implications for low student learning outcomes. Aims to find out the organization of material, implementation of learning strategies, obstacles, and student responses in (SDLB) Chess Nation Building. This research is a type of qualitative field research, namely a field research procedure that produces descriptive data. The results of this study are mostly from the aspect of organizing mathematics learning materials that have been implemented, the obstacles experienced by teachers during learning include mentally retarded children who are very hyperactive and do not want to continue learning and the response of mentally retarded students during positive learning.

Keyword: Elementary School, Mathematics learning, dan Mental retardation

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INTRODUCTION
Education is the foundation of the State and the right of every citizen to receive education, regardless of social, cultural, economic, character, personality, values, norms, knowledge, without distinguishing between normal children and children
with special needs. Children with special needs have the same position to obtain their rights in the field of education, as stated in Law No. 20 of 2003 concerning the National Education System Article 15 concerning special education, which reads "Special education is education for learners with special needs or learners with exceptional intelligence that is conducted inclusively or in the form of special education units at the primary and secondary education levels (Depdiknas, 2003).

Special education is education for children with special needs, different from normal children's education, as special education is only provided to children who have barriers to their developmental tasks, caused by abnormalities in physical, mental, and emotional aspects (Annisa et al., 2023). In relation to this, children with special needs also have the right to receive education like other normal children without discrimination (Maftutah, Jannah, & Utama, 2021). In order to develop their remaining potential optimally, as mentioned in Law No. 20 of 2003 concerning the National Education System Article 1 which reads "Education is a conscious and planned effort to create a learning atmosphere and learning process so that learners actively develop their potential to have spiritual strength, self-control, personality, intelligence, noble character, and skills needed for themselves, society, nation, and state (Anggraini, Robiul, & Nopita, 2022). Education for children with special needs is provided in educational institutions for children with special needs, one of which is Special Primary School (SDLB) (Sugiarto, 2023).

In Special Primary School (SDLB), most of its students are classified as children with special needs, one of which is intellectually disabled (Dammeyer, Hansen, Crowe, & Marschark, 2019). A person is said to be intellectually disabled if they have a general intellectual functioning impairment or below-average inability in adaptive behavior and it occurs during development until the age of 18. Meanwhile, intellectual disability is a condition of a child whose intelligence is far below average and characterized by limited intelligence and incompetence in social communication (Nur Tanfidiyah & Ferdian Utama, 2019). Children with intellectual disabilities face obstacles in physical, mental, emotional, attitudinal, and intellectual growth and development (Reynolds, Jeste, Sachdev, & Blazer, 2022). Intellectual disabilities in children are classified into three categories: mild intellectual disability, also called moron or debility with an IQ of 68-52; moderate intellectual disability, also called imbecile with an IQ of 51-36; and severe intellectual disability, also called idiot with an IQ of 32-20 (Adiebah, 2020). They require total care assistance in various aspects of daily life such as bathing, eating, and even require protection from danger throughout their lives. Therefore, in the special needs education, children with special needs cannot be equated with normal children. In the learning process, children with intellectual disabilities are classified based on their IQ (Mellard, Quarterly, & 2012, n.d.). Specifically for Special Primary School (SDLB) Catur Bina Bangsa, intellectually disabled children are categorized as mildly intellectually disabled with an IQ of 68-52.

The results of the interviews show that in the mathematics learning process, preparations and implementations such as learning planning including syllabuses and Lesson Implementation Plans (RPP) have been made. The learning implementation refers to the RPP and applies various methods such as lectures, question and answer sessions, demonstrations, and media used to support the teaching and learning process. And the evaluation of learning outcomes to measure the level of competence achievement of learners and improve the learning process. However, even though the
mathematics learning process has been prepared and implemented maximally for intellectually disabled children, it is difficult for them to understand the subject matter. They tend to avoid thinking, prefer playing, and have difficulty focusing, tend to forget quickly if the material has been repeated several times (Apriliani, Sholihah, Aisyah, Khasanah, & Amelia, 2023). The reason for choosing mathematics for intellectually disabled students is because mathematics is closely related to daily life. In the mathematics learning process, it involves thinking, skills, activities in developing problem-solving abilities and conveying ideas. Mathematics learning is believed to be a way to help the cognitive development of intellectually disabled children, as intellectually disabled children fundamentally have intellectual limitations. Additionally, good guidance and education can yield results for intellectually disabled children.

Data from daily assessments of fourth-grade students at SDLB Catur Bina Bangsa Metro Barat show that during the learning process, some students still play around and pay less attention to the teacher when delivering the material, so there are still some students who have not reached the Minimum Completion Criteria (KKM).

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Mathematics education is a teaching and learning process constructed by teachers to develop students' creative thinking that can enhance students' thinking skills and construct new knowledge as an effort to improve mastery of mathematics material. According to Larasati Dian (2016:8-9), approaches to mathematics learning include: participating in the learning process, positive reinforcement, individualized programs, evaluation, material supporting the achievement of predetermined specific goals, materials provided must be within the limits of ability, materials provided must be useful in daily life, materials must be designed from easy to difficult, from concrete to abstract, materials presented need to be adjusted to the developmental age of mildly intellectually disabled children, learning strategies, reinforcement, punishment, classification/grouping (according to students' cognitive development, students' mental age, concrete to semi-concrete to abstract stages), limitations and responses of intellectually disabled students (Dian, 2016).

In this regard, referring to relevant research such as: "Education for Intellectually Disabled Children (Case Study of Moderate Intellectually Disabled Children at N Purwakarta SDLB)" by Siti Fatimah Mutiara Sari, Binahayati, and Budi Muhammad T. dehan, the results of their research are that children with intellectual disabilities face academic obstacles to such an extent that they require curriculum modifications tailored to their specific needs in their learning services. Consistent with Kustawan's opinion that children with intellectual disabilities have obstacles in learning processes similar to those of children in general. Although intellectually disabled children have these obstacles, it does not preclude them from receiving appropriate education both
at home and especially at school. So that intellectually disabled children have a bright future, just like children in general.

Furthermore, the "Analysis of Learning Difficulties of Mildly Intellectually Disabled Students in Mathematics Learning at Special School Kembar Karya Pembangunan 3 Bekasi" by Nia Anggelina shows that Subject A experiences 6 characteristics of learning difficulties in Mathematics, namely spatial relationship disturbances, visual-motor association, perseveration, difficulty recognizing and understanding symbols, body awareness disturbances, and language and reading difficulties. Subject B experiences 4 characteristics of learning difficulties in Mathematics, namely abnormal visual perception, perseveration, difficulty recognizing and understanding symbols, and body awareness disturbances.

From previous research studies, it can be seen that children with disabilities in the Intellectually Disabled category have their own levels, namely mild, moderate, and severe. The provision of stimuli in the learning process varies so that it can be adjusted to their needs and abilities. Therefore, the researcher can take the problem of Analyzing Mathematics Learning of Intellectually Disabled Students at Special Primary School (SDLB) Catur Bina Bangsa West Metro, with the aim of observing the Mathematics learning system conducted by teachers at Special Primary School (SDLB) Catur Bina Bangsa West Metro and knowing the supporting and inhibiting factors experienced by teachers and students.

**METHODOLOGY**

This research is a type of field research that is qualitative in nature, which is a field research procedure that produces descriptive data. The research was conducted at SDLB Catur Bina Bangsa West Metro in the fourth grade, with a total of 4 students, during the even semester. The research procedure focuses on mathematics learning. It describes the organization of the material, implementation of learning strategies, obstacles, and student responses to mathematics learning conducted by class teachers at SDLB Catur Bina Bangsa. Data collection techniques were carried out through observation, interviews, and documentation (Basri, 2014). Observation techniques were used by the researcher to observe and record ongoing activities to directly determine the activities of teachers and students during the learning process, understand the teacher's ability to deliver lesson materials, and determine the students' ability to absorb the material in mathematics learning, as well as to observe the classroom environment and the location of the teaching and learning activities (Ahyar et al., 2020). Interviews were conducted to obtain information or data such as speech, thoughts, ideas, and to gain information to be used as a research source regarding mathematics learning for intellectually disabled students at SDLB Catur Bina Bangsa West Metro in Metro City. Documentation was used to gather data on variables such as records, transcripts, books, newspapers, ledgers, agendas, and so on.

The research instruments that could be used include: (1) interview guides for teachers, parents, and students in the mathematics learning model, (2) observation sheets for teachers, parents, and students. The data analysis used includes data reduction, which is the process of summarizing, selecting key points, and finding data considered important according to the research focus, followed by data display (presentation of data) in the form of brief descriptions, charts, or narratives, and conclusion drawing/verification, which involves drawing conclusions from the
research results. The triangulation technique used is the triangulation of techniques by testing the credibility of data by cross-checking data with the same source using different techniques (Sugiyono, 2017).

RESULTS AND DISCUSSION
Result
During the learning activities at SDLB Catur Bina Bangsa, teachers have prepared everything from the syllabus, lesson plans (RPP), and teaching materials, reinforced by the results of observations conducted by teachers providing RPP, syllabus, and teaching materials, thus facilitating the learning process to achieve learning objectives. In the implementation of mathematics learning in class 4 SDLB Catur Bina Bangsa, two strategies are combined, namely the direct introduction strategy and direct learning strategy. During the implementation of mathematics learning, the teacher provides materials that range from easy to difficult, such as mentioning various types of currency fractions, where the teacher provides pictures of currency fractions and together they identify them. In the participation process of learning, the four students always participate in mathematics learning. Positive reinforcement for intellectually disabled children during learning has been implemented by giving praise or clapping from the teacher or their classmates, making the children feel happy and enthusiastic in their learning. The provision of individual-based material has been implemented by teaching each child according to their different abilities in mathematics learning for intellectually disabled children.

The material provided supports the achievement of previously set goals, which has been implemented for mathematics learning for intellectually disabled children, namely by paying attention to pictures, students can compare currency fractions accurately, and by paying attention to pictures, students can sort currency fractions accurately, the teacher provides supportive material during the implementation of learning. The material delivered is adjusted to the students' ability limits due to their IQ limitations. In the material of currency fractions, children are still confused to understand the material that has been delivered, and the material may need to be taught repeatedly. The material delivered is beneficial for daily life; by knowing the currency, students can implement it in daily life, for example, when buying books or snacks, intellectually disabled students know the nominal value. The material is designed from easy to difficult, from concrete to abstract. During the implementation of mathematics learning, the teacher provides material that is easy to difficult, from identifying currencies together, then mentioning currencies, sorting, and comparing currencies in front of the class together.

Positive reinforcement and negative reinforcement for intellectually disabled children during learning have been implemented. Positive reinforcement by giving praise or rewards such as thumbs up, congratulations, giving grades, or even prizes in the form of objects. Meanwhile, negative reinforcement comes in the form of reprimands when they perform incorrect actions to prevent repetition. The provision of punishment for intellectually disabled children during learning has been implemented, such as giving reprimands, advising them not to repeat the wrong actions. Based on classification/grouping (according to children's cognitive development, mental age, stages from concrete to semi-concrete to abstract), it has been done by classifying students according to their developmental stages. The
obstacles faced by teachers are when children become bored during learning, they will chat among themselves, walk around in class, and refuse to continue the lesson, whereas supporting factors such as learning media from school are already available. Responses during learning show that the four students always show positive responses. Students always receive lessons with enthusiasm. Although mathematics is considered a difficult subject, the four students always receive the material given well.

Evaluation implementation, such as at the end of each lesson, is done to stimulate the children's brains about what was taught during the lesson, and evaluation is also done during midterms or final exams by providing questions. Based on observation results conducted by the researcher, it is known that learning evaluation has been carried out in teaching, such as at the end of each lesson, the teacher provides oral and written questions to review the learning that has been done.

Discussion
The analysis of mathematics learning for students with intellectual disabilities at the Catur Bina Bangsa Special Elementary School (SDLB) is divided into three parts: planning, learning, and evaluation. Here is the analysis of mathematics learning for students with intellectual disabilities at Catur Bina Bangsa SDLB West Metro. In planning mathematics learning, students with intellectual disabilities have several components that need to be prepared, such as creating a syllabus, lesson plans, and the materials to be used. The material in this study includes stating various money fractions, comparing money fractions, and arranging currency fractions. During the learning activities at Catur Bina Bangsa SDLB, the teachers have prepared everything from syllabus, lesson plans, to teaching materials. This preparation is reinforced by observations conducted by teachers, who provide lesson plans, syllabus, and teaching materials. This facilitates the learning process to achieve the learning objectives.

The learning strategy used is direct introduction, which is a structured step-by-step approach in giving instructions or commands. This strategy provides positive learning experiences and increases self-confidence and motivation to excel in the subject. The direct learning strategy involves a lot of teacher direction and is effective in conveying information or building skills step by step. This strategy can be given to intellectually disabled children by combining it with other learning strategies. In the implementation of mathematics learning in grade 4 at SDLB Catur Bina Bangsa, the material given to intellectually disabled students starts from easy and progresses to difficult, ensuring a gradual delivery of content. Considering the learning characteristics of intellectually disabled children, the material should be delivered gradually and based on the students' initial abilities. Students also require intensive assistance if they need meaningful help at any time. In the participation process, during the research activities, the four students always participate in learning. They enthusiastically participate in learning activities. When the four students are absent, parents will contact the school to report illness or absence from learning. Thus, learning in the classroom continues for the attending students.

Positive reinforcement should be promptly given in the mathematics learning approach for intellectually disabled students to encourage appropriate responses. This serves as extrinsic reinforcement, such as rewards, praise, and rewards. During the research activities, positive reinforcement was observed from subject teachers to the four students. For example, admonitions were given to the four students if any student
disrupted learning activities in class by shouting or disturbing. And when a student performs well, the teacher praises them, saying "good job, clever," which applies to all four students. In individualized learning programs, the material given should be individualized and based on the students' initial abilities. During mathematics learning activities in grade 4 at SDLB Catur Bina Bangsa, the material provided by the teacher is individualized. This is in line with the fact that in the mathematics learning approach for mildly intellectually disabled children, the material given to students should support the achievement of previously determined goals, and the material provided should match the students' ability limits.

The material presented during the learning process supports the achievement of previously set goals. During the implementation of mathematics learning for intellectually disabled students in grade 4 at SDLB Catur Bina Bangsa, the material provided is supportive, leading to the achievement of set goals. The material is tailored to the students' ability limits, individualized, and based on their initial abilities. During mathematics learning activities for intellectually disabled students in grade 4 at SDLB Catur Bina Bangsa, the material provided by the teacher is individualized to each student's ability limit. The teacher also does not burden the children with their intellectual limitations, as observed during interviews and observations where the children were still confused about the material even after repeated teaching. Observation results also indicate that the material presented is tailored to the students' ability limits due to their IQ limitations.

The material presented is beneficial for daily life. Mildly intellectually disabled children, also known as mildly intellectually disabled, are unable to follow programs in regular schools but still have skills that can be developed, including reading, writing, spelling, and counting; adapting and not depending on others, simple skills for future work. During mathematics learning activities for mildly intellectually disabled students in grade 4 at SDLB Catur Bina Bangsa, the material presented relates to currency fractions. Observations show that by knowing the currency, students can implement it in daily life, such as when buying books or snacks, students with intellectual disabilities know the nominal value.

The material is designed from easy to difficult, from concrete to abstract. In teaching intellectually disabled children, the information provided must be easy to understand because they require more time to process information. During mathematics learning activities for intellectually disabled students in grade 4 at SDLB Catur Bina Bangsa, the material provided by the teacher is gradually designed from easy to difficult and from concrete to abstract. Observation results show that during mathematics learning, the teacher provides material from easy to difficult and from concrete to abstract, from identifying currency together to stating, arranging, and comparing currency in front of the class together.

The provision of reinforcement (both positive and negative reinforcement) during mathematics learning activities for intellectually disabled students in grade 4 at SDLB Catur Bina Bangsa includes positive reinforcement and negative reinforcement provided by the subject teacher to the four students. For example, if a student disrupts learning activities in class by shouting, the teacher simply admonishes them with the words "ssst, be quiet, don't disturb your classmates." And when a student performs well, the teacher praises them saying "good, clever," which applies to all students in the class. During the learning activities, the four students occasionally make noise and disturb their classmates. Observation results show that
the provision of positive reinforcement and negative reinforcement for intellectually disabled students during learning activities has been implemented. Positive reinforcement is provided by giving praise or rewards such as thumbs up, congratulations, giving grades, or even material rewards. Meanwhile, negative reinforcement comes in the form of reprimands when inappropriate actions are taken to prevent them from being repeated.

For the provision of punishment during mathematics learning activities for intellectually disabled students in grade 4 at SDLB Catur Bina Bangsa, punishment is apparent from the teacher to the four students, such as giving reprimands if a student disrupts learning activities in class, and immediately asking the student to apologize so that the incident does not recur. Observation results regarding the provision of punishment for intellectually disabled students during learning activities show that it has been implemented, such as giving reprimands, advising, and promising not to repeat wrong actions. Classification/grouping (according to the cognitive development of children, mental age) during mathematics learning activities for intellectually disabled students in grade 4 at SDLB Catur Bina Bangsa, the material provided by the teacher is individualized according to their IQ, which ranges from 68 to 52, and also according to the mental age of the children, which is 12 years, and progresses from semi-concrete to abstract stages. Thus, there is no difference in learning because they are the same age and fall into the category of mildly intellectually disabled or educable. Observation results show that the material presented is designed based on classification/grouping (according to the cognitive development of children, mental age of children, from concrete to semi-concrete to abstract stages).

Barriers and supporting factors for the implementation of mathematics learning for intellectually disabled students, during mathematics learning activities for intellectually disabled students in grade 4 at SDLB Catur Bina Bangsa, the barriers experienced include having children with special needs in one class with various specificities, hyperactive children, and the need to repeat the material multiple times due to IQ limitations, which can take weeks to deliver. Supporting factors include supportive media in learning, enabling the learning process to run smoothly. Observation results show that during learning, there are barriers experienced by teachers, such as when children become bored with learning, they will chat among themselves, walk around the class, and refuse to continue the lesson, while the supporting factor of learning media is available from the school. Student responses during learning, based on the research results outlined above, although mathematics is considered a difficult subject for the four students, the responses shown by the four students during learning are always positive. This happens because the school environment is supportive, with classmates and teachers helping each other. The four students are always enthusiastic about participating in the learning provided. And when they encounter difficulties, the four students will ask the teacher or other classmates. Based on observations conducted, it is known that during learning, the four students always show positive responses. Students always receive lessons with enthusiasm. Although mathematics is considered a difficult subject, the four students always receive the material well.

The implementation of evaluation in the mathematics learning approach for mildly intellectually disabled students requires evaluation to be carried out to
determine the students' learning methods for each teaching material to be more effective. Learning will be more effective for intellectually disabled students if the material given is arranged based on the assessment results and refers to the students' initial abilities. And after learning, an evaluation is conducted to determine whether the program provided is appropriate and shows improvement or vice versa. During the implementation of mathematics learning for intellectually disabled students in grade 4 at SDLB Catur Bina Bangsa, the evaluation implementation is evident, such as at the end of each lesson, the teacher gives questions to stimulate the children's brains about what was taught during the lesson, and evaluations are also conducted during midterms or final exams by giving questions. Based on the observation results conducted by researchers, it is known that learning evaluation has been carried out in learning, such as at the end of each lesson, the teacher gives questions orally or in writing to review the learning that has been done.

CONCLUSION

Based on the results of the research and discussions that have been described, it can be concluded that the implementation of mathematics learning for students with intellectual disabilities can be seen from various aspects. First, most aspects of organizing mathematics learning materials for intellectually disabled children have been implemented. Second, all aspects of mathematics learning strategies for intellectually disabled children have been implemented, including providing reinforcement, giving punishment, and classifying materials according to the children's development. Third, the obstacles experienced by teachers during teaching include intellectually disabled children being very hyperactive, as well as children becoming restless or unwilling to continue lessons when they feel bored. Fourth, the response of intellectually disabled students during learning tends to be positive. Therefore, if there is future research related to learning for intellectually disabled children, this can be seen from other perspectives, such as their learning styles. By conducting more analyses from various aspects, comprehensive and valid information can be obtained.

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