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ANALYSIS OF NUMBER CONTENT NUMERATION PROBLEMS OF SLOW LEARNERS IN AN INCLUSIVE HIGH SCHOOL

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ABSTRACT

Slow learners often have difficulties in understanding the basic concepts of mathematics so that it takes a long time to understand the learning material. The purpose of this study is to analyze the numeracy problems of slow learners in inclusive high schools. This study uses library research method by collecting, analyzing, and interpreting information from various scientific journals, articles, and other digital sources. A total of 25 research articles that have been published through nationally accredited journals have been selected and reviewed from google scholar web to fulfill the research objectives. The results show that there are slow learners high school students who still have difficulties in numeracy in the past four years. Furthermore, the problem occurs due to several factors such as, they are difficult to imagine mathematical concepts visually, difficult to understand mathematical terms abstractly, and lose interest in learning because they often experience difficulties. The efforts made are by implementing various learning strategies such as using CRT, PjBL, and PBL learning approaches. Furthermore, giving special attention and individual guidance to each learner, using concrete learning media such as using real objects, pictures, or manipulatives to clarify abstract concepts, conducting gradual learning by dividing the material into small parts and teaching it in stages.

Keywords: *Slow learners1; Numeracy problem 2; Inclusive middle school 3.*

INTRODUCTION

Education is a learning process that aims to develop the potential of individuals as a whole as one of the important aspects that has become a priority in everyday life. Education is not just about imparting knowledge, but also equipping individuals with the skills and values needed to reach their full potential. With education, everyone has an equal opportunity to develop and contribute to society. Numeracy skills are an important foundation in everyday life. However, not all students have the same numeracy skills.

Numeracy involves an individual's ability to formulate, apply, and interpret mathematical concepts in various contexts (Wirawan et al., 2023). Mathematics is formed due to human thinking related to reasoning and can be said to be the key to learning because humans need mathematics in everyday life. Numeracy skills are part of mathematics learning and cannot be separated (Wijaya et al., 2024). Numeracy is one of the literacies in the field of mathematics that uses concepts, procedures, facts, to solve everyday problems in various types of relevant contexts (Arifin, 2020). Concepts that have a good structure and systematic from mathematics will make it easier to interpret mathematical problems (Fauziah et al., 2022).

Slow learners often have difficulties in understanding basic math concepts, including numbers. In the context of inclusive senior high schools, this difficulty becomes even more complex due to individual differences in learning abilities.

Inclusive education has a policy of providing equal and appropriate educational opportunities for all individuals including students who have below-average academic achievement abilities and have difficulty in understanding and mastering subject matter (slow learner). (Witono et al., 2020) as cited in (Fatimah & Herawati, 2023) according to the United Nation, Inclusive Education has now become an international concern to obtain more serious implementation and is shaded by various international organizations in the world. Implementing a comprehensive approach to education, not only improves the education system, but can also build a more just and humane society. Inclusive education is an approach that can meet the learning needs of all children with the principle of providing children with a variety of activities

and experiences so that they can participate and learn as successfully as students in mainstream classrooms (Purnama Dewi, n.d., 2024).

The purpose of this research is to analyze the numeracy problems of slow learners in inclusive high schools. This research will specifically identify the problems that slow learners experience in understanding number content, as well as the factors that influence these difficulties. The results of this study are expected to contribute to the development of more effective learning strategies for slow learners in inclusive schools.

METHOD

This research is a type of qualitative research using the library research method by collecting, analyzing, and interpreting information from various scientific journals, articles, and other digital sources. Library study can be defined as a series of activities included in the library data collection method, reading and recording and processing research materials. Literature study research has four main characteristics. First, researchers work directly with existing writings or figures, not with the results of direct observations in the field. Second, the data used is ready to use, so researchers do not need to go out looking for data themselves. Third, the data used is usually "secondary" data, meaning that it is not original data that has just been collected, but data that has been processed by others. Finally, data in literature studies can be obtained from various sources and different times (Antar & Supriyadi, 2016).

The search for research articles was carried out using the Google Scholar website by paying attention to these four criteria to fulfill the research objectives.

RESULTS

There are 25 articles from research results selected through google scholar that are considered to meet the criteria so that they are suitable for use in obtaining the results of this study. The following is a table of inclusive education research gaps that distinguish between previous and current research.

Table 1. Research Gap

Researcher/Year	**Key Findings**	**Comparison with this Research**
(Ratna Wulandari 2021)	Teachers' pedagogical competence in inclusive schools in Indonesia is low, influenced by their diverse educational backgrounds, lack of understanding of students' characteristics and difficulties in evaluating the learning process. education background, lack of understanding of students' characteristics and difficulties in evaluating students' learning. The results suggest the need for improvements in teacher education and training to improve these pedagogical competencies.	This study reinforces these findings by showing a practical analysis of teachers' teaching activities, as well as qualitatively documenting the field implementation process.
(Nakhomi, 2022)	Teachers are limited in the classroom to give intensive attention to inclusion students.	The difference lies in the learning model. Project-based learning (PjBL) is an

Researcher/Year	**Key Findings**	**Comparison with this Research**
		alternative for efforts to provide learning.
(Fatoni Sholihin et al., 2023)	Revealing the causes of slow learner children's math learning difficulties. (1) the learning design is made without involving the accompanying teacher so that it is not suitable for slow learner children, (2) PDBK accompanying teachers often do not go to class with several problems, (3) learning media used are not specifically for slow learner children so they are not facilitated and still have difficulty understanding mathematics material. learning media used are not specifically for slow learner children so that they are not facilitated and still have	Previous research conducted research that focused on the fulfillment of students' learning styles. with the subject of slow learner learners and math teachers. While this research analyzes the problems that occur, especially numeracy regarding number content.

Researcher/Year	**Key Findings**	**Comparison with this Research**
	difficulty in understanding math material.	
(Kustiningrum et al., n.d., 2024)	Conditions Schools that have already accepted do not immediately handle slow learner children easily. Educators are not ready to handle children in their classes with different characteristics, complain and find it difficult to teach the same method and with the same treatment so that learning objectives are not achieved as expected.	Both of these studies focus on the existence of inclusive education but this study explores more deeply the problems or difficulties that occur in slow learner students.

The table above shows that this research analyzes the problems of slow learner students in inclusive schools, emphasizing the importance of all stakeholders working together. There is a comparison with previous research which generally focuses on teacher training needs in the broader context of Indonesia. This research offers a deeper insight into the problems of slow learner students in inclusive schools in numeracy. Some of the problems in the research presented in the table above, it can be seen that there are several main problems related to teacher competence in handling inclusion students, especially slow learner students in Indonesia in the last 4 years, namely:

1. Low Pedagogical Competence: Teachers in inclusive schools generally have pedagogical competencies that still need to be improved. This is influenced by their diverse educational backgrounds, lack of understanding of the characteristics of slow learner students and difficulties in evaluating students' learning processes.
2. Lack of Individualized Attention: Teachers often find it difficult to give sufficient attention to each inclusion student, especially slow learners. This is due to the limited time and resources teachers have.
3. Inappropriate Learning Design: Learning designs implemented in inclusive classrooms often do not accommodate the special needs of slow learners. The learning materials, learning media and learning methods used have not been adapted to the learning characteristics of slow learner students.
4. Lack of Teacher Readiness: Teachers are not fully prepared to deal with the diversity of student abilities in the inclusive classroom. They often find it difficult to apply various learning methods to meet students' different learning needs.

In addition to the data listed in the table above, there are also the following findings:

1. Slow learner students experience difficulties in learning something, be it in the academic field or in acquiring skills. Slow learners have an IQ between 70 and 90, which means they need more time and intensity of practice to repeat the subject matter in order to meet the demands of normal education (Irfan et al., 2023).
2. It is clear that there are slow learners in mathematics classes who are often neglected despite their size, and this neglect is considered a barrier to achieving the goals of the educational process (Al-Mahdi & Abdul-Rahman, n.d.).
3. Slow learner students need a special approach to understand material related to symbols, abstractions, and concepts. Math learning should occur in a context that is not separate or abstract, but rather involves children's real experiences (Listiawati et al., 2023).
4. Slow learners often go undetected because they do not show abnormalities in their development, as can be found in children with mental retardation. Therefore, they do not receive special education (Murdiyanto et al., 2023).

5. Inclusive education is included in the discussion of special service management in the study of educational management science to encourage schools to be able to synergize between components in the substance of educational management and every process in management to achieve effective and efficient educational goals and support educational equity programs that have long been promoted by the government (Cahyaning et al., 2023).
6. Based on the basic education data (Dapodik) as of December 2022, 40,928 schools have implemented inclusive education at the levels of elementary school, junior high school, senior high school, and vocational high school. Of these education units, 135,946 students with special needs have been learning in them (Kemdikbud administrator, 2023) (SAIDI et al., 2024).
7. Evaluation of inclusive school programs should consider various factors, such as the success of the inclusion program, students' comfort, and the suitability of the program to students' needs to ensure that inclusion students have equal opportunities to learn and develop in an inclusive environment (Munna et al., 2024).
8. Through inclusive education, it is hoped that slow learner students can build self-esteem (self-confidence) so that they can value themselves, but still be able to accept the shortcomings that exist in themselves (Damayanti et al., 2023).
9. The obstacles that are often found are related to the mood that is sometimes not good by slow learner students, as well as difficulties in writing, reading. In overcoming this, assistance and guidance from special assistant teachers are prioritized as well as support from subject teachers (Nabilla & Inayati, 2024).

DISCUSSIONS

Based on the findings of some of the literature, slow learner students are a group of students who have unique characteristics and require special attention in the learning process. They have difficulty in understanding concepts, especially abstract ones, and take longer to master the subject matter. Behind the difficulties of slow learner students, they have potential that can be developed, but requires an appropriate and individualized learning approach. In line

with research (Aziz et al., 2016) that mathematics teachers in inclusive classes choose cooperative learning models because teachers are very familiar with these learning models. In addition, in using this learning method, teachers emphasize the occurrence of a lively classroom atmosphere. The cooperative learning model with the group discussion method is expected to provide opportunities for slow learner students to socialize with friends or regular students in the class. The teacher also hopes that with this method regular students can become peer tutors for slow learner students, so that there is not a big gap between the two.

A child's slow learning process is not a reason to give up. Instead, it is a signal for us to pay more attention. Teachers and the school environment must create an inclusive atmosphere so that all children feel valued and supported (Iqbal Sauqi & Nova Estu Harsiwi, 2024). To support this, teachers can apply various learning approaches such as CRT, PjBL, and PBL. The Culturally Responsive Teaching (CRT) approach can optimize student outcomes in the dimensions of knowledge, attitudes and skills that describe the relationship between the 3 elements of Culturally Responsive Teaching, namely comprehensive intellectual growth, cultural competence and inclusion, and social awareness (Fitriani et al., 2024). Furthermore, the Project Based Learning (PjBL) model is one of the alternative models in mathematics learning that can foster cooperation (Kusrini Anggraeni et al., n.d.). Problem-based learning (PBL) is a learner-centered learning model that has been widely known, the theoretical basis for PBL is Piaget's cognitive development theory, Dewey's theory, Bruner's theory of Discovery Learning. Before implementing PBL, teachers need to train students to learn cooperatively (Ardianti et al., 2021). The learning process in inclusive schools is more or less the same as general education. Curriculum implementation uses the principle of flexibility, so that it can be adapted and adjusted to the conditions, characteristics and needs of students (Assayyidah & Harsiwi, 2024).

Determining and choosing the right learning strategy is a crucial step in helping slow learner students, especially those who have difficulty in understanding numeracy concepts. Each student has a unique learning style, so an individualized approach is needed to optimize their learning process. The success of slow learner students in mastering numeracy concepts is highly

dependent on choosing the right learning strategy. An effective strategy will be able to accommodate the learning difficulties faced by students and encourage them to reach their maximum potential. It is important to understand that the numeracy difficulties experienced by slow learner students are individualized.

Therefore, the selection of learning strategies should be based on identifying the specific needs of each student. Thus, learning can be more meaningful and effective. In the context of mathematics learning, choosing the right strategy is very important to help slow learner students build a strong understanding of number concepts. Varied and interesting strategies can make math learning more fun and less boring.

CONCLUSION

Inclusive education is a very important effort to provide equal learning opportunities for all students, including slow learners. With the right support and attention, slow learners can reach their full potential and contribute positively to society. Teachers have a central role in determining and selecting appropriate learning strategies for slow learners. With in-depth knowledge of student characteristics and learning materials, teachers can design appropriate and effective learning activities.

CONFLICT OF INTEREST

The Author(s) declare(s) that there is no conflict of interest.

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