

Why Is It Difficult to Teach Mathematics? An Analysis from the Perspective of Elementary School/MI Teachers

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Abstract. This study was motivated by the statement that mathematics is a difficult subject. Many students experience difficulties in learning mathematics. This study focuses on answering this rumor from the perspective of elementary school/MI teachers. What difficulties do teachers experience when teaching mathematics, resulting in students having difficulty understanding the material? The objectives of this study are 1) to analyze which mathematics material is considered most difficult by students, 2) why students have difficulty learning this mathematics material, 3) what difficulties students experience when learning mathematics, 4) what difficulties elementary school/MI teachers experience when teaching mathematics, and 5) what kind of mathematics learning should be carried out in the classroom. This study used a survey method, with the population being elementary school/MI teachers on the island of Java, Indonesia. Meanwhile, the sample data was obtained from elementary school/MI teachers spread across the Java region, such as West Java Province, DKI Jakarta, Banten, etc., with 133 respondents. The instrument used was a questionnaire filled out via Google Form and Mentimeter links. The results of the study reveal 1) several mathematics materials that are considered most difficult by students, 2) several factors causing students to experience difficulties in learning mathematics, 3) a mapping of the difficulties students experience when learning mathematics, 4) a grouping of the difficulties that elementary school/MI teachers experience in teaching mathematics, and 5) suggestions for mathematics learning that should be carried out in the classroom.

Keywords: Difficulties; Elementary School/Madrasah Ibtidaiyah Teachers; Mathematics Lessons; Teaching Mathematics; Understanding Mathematics.

1. Introduction

Mathematics is one of the basic subjects taught in almost all education systems around the world (Johansson & Hansen, 2019). However, to date, mathematics remains the subject most often associated with difficulty, both by students and by the majority of the public (Karagiannakis & Cooreman, 2014; Mutodi & Ngirande, 2014; Shamsuddin et al., 2018; Ardi et al., 2019; Zanabazar et al., 2023). This condition is not only found in Indonesia, but also in many other countries. Various international studies such as TIMSS (Trends in International Mathematics and Science Study) and PISA (Programme for International Student Assessment) show that the mathematical literacy skills of students in many developing countries are still below the international average standard (Aydin et al., 2012; Fenanlampir et al., 2019; Machromah et al., 2020; Yustitia et al., 2024). This reflects the serious challenges in the mathematics learning process faced by teachers and students.

In Indonesia, especially at the elementary school (SD) and Madrasah Ibtidaiyah (MI) levels, mathematics is often considered a nightmare by some students (Maulana et al., 2012; Permatasari, 2021). Many students state that mathematics is the most difficult subject to understand, causing anxiety and even reluctance to learn (Ashcraft & Moore, 2009; Wahid et al., 2018; Evangelopoulou et al., 2023; Wang, 2024). This phenomenon is not only caused by the characteristics of mathematics itself, but can also be influenced by various other factors such as the learning approach used by teachers, limitations in media and methods, and differences in student learning styles.

In a global context that increasingly demands critical, logical, and numerical thinking skills,

mathematics skills have become essential in the 21st century (Rizki & Priatna, 2019; Novita & Herman, 2021). Therefore, it is crucial to understand the root causes of students' low understanding of mathematics. To that end, this article aims to analyze the difficulties of learning mathematics from the perspective of elementary school/MI teachers in order to obtain a more comprehensive picture of the real challenges in the field. This analysis is expected to serve as a basis for the development of mathematics learning strategies that are more effective, enjoyable, and meaningful for elementary school/MI students in Indonesia.

1.1. Problem Statement

Mathematics, as a core subject in the basic education curriculum, remains a major challenge in the learning process in elementary schools, especially in Indonesia (Kusmaryono et al., 2020; Soleh, 2021; Trisnani et al., 2024). Various public statements and observations in the field show that many students have difficulty understanding mathematical concepts (Karagiannakis & Cooreman, 2014; Skopeliti, 2022). These difficulties often lead to low interest in learning, anxiety about lessons, and suboptimal academic achievement (Bjälkebring, 2019; Mutlu, 2019; Sainio et al., 2019; Commodari & La Rosa, 2021; Aruvee & Vintere, 2023). This raises a fundamental question: why do students find mathematics difficult, and what actually happens in the teaching process that causes this?

The main problem faced today is that the types of difficulties experienced by students in learning mathematics and the difficulties experienced by elementary school/MI teachers in teaching have not been clearly mapped out. Often, the label "difficult subject" is not followed by a deep understanding of the factors that cause it. Do these difficulties arise because of the characteristics of the material, inappropriate teaching approaches, a lack of supporting media, limitations in teachers' pedagogical competencies, or a lack of connection between the material and students' real lives?

The lack of structured data on the root causes of this problem is a major obstacle to designing appropriate solutions. As a result, mathematics learning tends to be conventional, teacher-centered, and lacking in innovation, which ultimately reinforces the stigma that mathematics is a difficult and boring subject (Ramaa, 2014; Yurekli et al., 2020; Canto López et al., 2022; Concha et al., 2022). If not immediately identified and addressed, this condition can have an impact on low numeracy literacy among students and weaken their foundation of logical thinking in subsequent levels of education.

Therefore, it is necessary to conduct a systematic investigation into the perceptions and experiences of elementary school/MI teachers in teaching mathematics, as well as the difficulties faced by students in learning this subject. This research is important because it can provide a comprehensive map of the problems, as well as recommend more relevant, enjoyable, and effective learning approaches. The results are not only beneficial for teachers and students, but also for education policy makers and curriculum developers in their efforts to improve the quality of basic education in Indonesia.

1.2. Related Research

Several previous studies have revealed that the difficulty of teaching mathematics at the elementary/madrasah level is a complex issue rooted in various factors. Various studies have been conducted to understand the challenges in mathematics learning, especially at the primary education level. One relevant study is that by Anggo et al. (2025), which reveals that students' difficulties in understanding mathematics are mainly due to the lack of concrete media and teachers' limitations in applying contextual approaches. This study suggests the importance of real-world problem-based learning to improve understanding of mathematical concepts.

Another study was conducted by Szczygieł & Pieronkiewicz (2022), which focused on analyzing math anxiety among elementary school students. The results showed that psychological factors such as fear of failure and pressure from school and home environments also influence difficulties in learning mathematics. This study emphasizes the importance of creating a fun and pressure-free learning environment so that students are more open to mathematics lessons.

Meanwhile, Topal & Özsoy (2024) explored the pedagogical challenges teachers face in teaching mathematics in lower elementary grades. This study revealed that many teachers experience confusion in simplifying abstract mathematical concepts into lessons that are easy for students to understand. This study highlights the need for special pedagogical training for lower grade teachers so that they are able to design teaching strategies that are appropriate for children's cognitive development stages.

Although these three studies make important contributions to understanding the complexity of mathematics learning in elementary schools, each tends to focus on only one aspect: either the student perspective, the psychological aspect, or the pedagogical challenges faced by teachers. This study is novel because it simultaneously combines the perspectives of elementary school/MI teachers on student difficulties, teachers' own teaching difficulties, and expectations of an ideal learning model. By involving elementary school/MI teacher respondents from various regions in Java and using a technology-based survey approach (Google Form & Mentimeter), this study also provides a broader and more up-to-date mapping of the actual conditions in the field.

Thus, this study not only complements previous studies but also presents a state-of-the-art holistic approach and actual quantitative data to understand the difficulties in mathematics learning from various perspectives of basic education practitioners. The findings of this study are expected to serve as a basis for designing a more contextual and enjoyable mathematics learning model that has a direct impact on improving the quality of learning for elementary school/MI students.

1.3. Research Objectives

This study focuses on analyzing the difficulties in mathematics learning at the elementary school/MI level from the perspective of teachers, as the main actors in the learning process in the classroom. The main focus of this research is to explore and map the forms of difficulties experienced by students in understanding mathematics material and the challenges faced by teachers in delivering this material. Using a survey approach involving elementary school/MI teachers from various regions in Java, this study aims to obtain a comprehensive and contextual picture of the problems that have been challenges in mathematics teaching at the elementary education level.

The objectives of this study are to analyze:

- 1) which mathematics material is considered most difficult by students
- 2) why students experience difficulties in learning these mathematics materials
- 3) what kind of difficulties students experience when learning mathematics
- 4) what difficulties elementary school/MI teachers experience when teaching mathematics
- 5) what kind of mathematics learning should be carried out in the classroom

2. Theoretical Framework

2.1. Mathematics as a Subject in Elementary School/MI

Mathematics is a science related to patterns, structures, regularities, and relationships between abstract concepts that are constructed logically and systematically (Feferman, 2014; Morsanyi & Szücs, 2014; Fløystad, 2023). In the context of basic education, mathematics is not merely taught as a collection of formulas and calculation procedures, but as a means of developing logical, critical, and systematic thinking from an early age (Feferman, 2014; Morsanyi & Szücs, 2014; Fløystad, 2023).

Mathematics is also a symbolic language used to model real-life situations into forms that can be analyzed rationally and quantitatively (Feferman, 2014; Morsanyi & Szücs, 2014; Fløystad, 2023). Thus, learning mathematics is not only about calculating, but also about training problem-solving and higher-order thinking skills (HOTS).

The objectives of mathematics learning in elementary school/MI include (Fuson, 2015; Zuliana et al., 2019; Putnam, 2020):

- 1) Equipping students with basic calculation skills (arithmetic)
- 2) Developing an understanding of concepts of numbers, geometry, measurement, and data
- 3) Training logical, analytical, and systematic thinking
- 4) Instilling a meticulous, disciplined, and responsible attitude in solving problems
- 5) Relating mathematics to everyday life so that students understand its meaning and benefits

Meanwhile, when linking the characteristics of mathematics and the mental development of elementary school/MI children, mathematics learning should be (Elofsson et al., 2018; Bognar et al., 2025; Pasani & Amelia, 2025):

- 1) Be concrete-based to abstract. Elementary school/MI students are at the concrete operational stage, so mathematics learning should ideally begin with real objects or concrete media before moving on to symbols or formulas
- 2) Progressive and structured. The material is arranged hierarchically, meaning that understanding of initial concepts greatly influences understanding of subsequent concepts.
- 3) Conceptual and procedural. In addition to understanding 'how to calculate', students also need to understand 'why' a procedure is carried out. This is important for training reasoning skills and avoiding meaningless memorization.
- 4) Contextual and applicable. Mathematics learning that is related to everyday life can help students understand that mathematics is not an abstract subject that is separate from the real world.
- 5) Challenging yet enjoyable. Because mathematics is often considered difficult, it is important to present it through interactive, interesting, and enjoyable approaches, such as games, mathematical stories, or digital media.

2.2. Elementary School/MI Teachers

Elementary school/MI teachers play a crucial role in shaping the foundations of students' academic abilities, character, and social skills. At this level, teachers are not only conveyors of subject matter, but also guides for students' cognitive, affective, and psychomotor development (Amorim, 2024; Hank & Huber, 2024; Pureza, 2024).

As educators in the early stages of formal education, elementary school/MI teachers must have a broad understanding of various subjects, including high pedagogical and social skills. They are also expected to be role models in terms of positive attitudes, values, and behavior for students who are in a very important stage of development.

According to Permendiknas No. 16 Tahun 2007, there are four main competencies that a teacher, including elementary school/MI teachers, must have (Lengkanawati et al., 2015; Sauri & Sanusi, 2024):

- 1) Pedagogical competence, the ability to manage student learning, including understanding student characteristics, designing learning, implementing educational learning, and evaluating learning outcomes
- 2) Professional competency, mastery of subject matter in a broad and deep manner, including the scientific substance that underpins the subject, as well as teaching methodology
- 3) Social competence, the ability to communicate effectively with students, fellow educators, parents, and the community
- 4) Personal competencies, a stable, mature, wise, and authoritative personality, as well as being a role model for students

Specifically for elementary school/MI teachers, they are required to be able to teach various subjects in an integrative manner, so that cross-disciplinary mastery is very important.

3. Method

3.1. Research Design

This study is a survey study. A survey study is a study that involves collecting data from a group of people through the use of questionnaires or interviews (Coughlan et al., 2009; Müller, 2014; Kettler, 2019; Beck, 2024). The purpose is to gather information about the attitudes, opinions, behaviors, or specific characteristics of a larger population (Coughlan et al., 2009; Müller, 2014; Kettler, 2019; Beck, 2024).

Instrument Development → Instrument Validation → Survey-Google form: Elementary School/MI teachers
 Survey-Mentimeter: Elementary School/MI teachers

Figure 1. Survey Activity Flow

This survey research (Figure 1) was conducted with the aim of describing the characteristics, opinions or perspectives, or behavior of the population (elementary school/MI teachers) in order to answer the research objectives, namely 1) to analyze which mathematics material is considered most difficult by students, 2) why students experience difficulties in learning these mathematics materials, 3) what kind of difficulties students experience when learning mathematics, 4) what difficulties elementary school/MI teachers experience when teaching mathematics, 5) what kind of mathematics learning should be carried out in the classroom. The survey was conducted through two digital media:

a. Survey via Google Form

This survey was conducted to obtain data related to the research objectives, namely 1) to analyze which mathematics material is considered most difficult by students, 2) why students experience difficulties in learning these mathematics materials, 3) what kind of difficulties students experience when learning mathematics, 4) what difficulties elementary school/MI teachers experience when teaching mathematics, 5) what kind of mathematics learning should be carried out in the classroom.

b. Survey via Mentimeter

This survey is to obtain data and reinforce answers related to the research objectives "What kind of mathematics learning should be done in the classroom" from the results of the survey via Google Form.

3.2. Respondent

The population defined in this study is elementary school/MI teachers on the island of Java, Indonesia. Meanwhile, the sample data was obtained from elementary school/MI teachers spread across the Java region, such as West Java Province, DKI Jakarta, Banten, etc., with 133 respondents, selected at random.

The characteristics of the 133 survey samples are as follows.

a. Gender

The respondents were predominantly female (Table 1).

Table 1. Gender of Respondents

Sample of Elementary School/MI Teachers on the island of Java = 133 people	
Male	Female
26 (17.3%)	110 (87.2%)

b. Age

Of the 133 respondents, the sample was dominated by those aged 30 tahun ≤ A < 50 years, accounting for 68.4%. The details are as follows (Table 2).

Table 2. Age Range of Respondents

Age Criteria	Number of Respondents (%)
A < 22 years	3 (2.3%)
22 tahun ≤ A < 30 years	18 (13.5%)
30 tahun ≤ A < 50 years	91 (68.4%)
50 years ≤ A	21 (15.8%)

A= Age

c. Length of time as an elementary school/MI teacher

How long have the 133 respondents been working as elementary school/MI teachers is explained in the following Table 3.

Table 3. Length of time as an elementary school/MI teacher

Length of Time	Number of Respondents (%)
LT < 1 years	7 (5.3%)
1 years ≤ LT < 3 years	18 (13.5%)
3 years ≤ LT < 5 years	10 (7.5%)
5 years ≤ LT < 10 years	11 (8.3%)
10 years ≤ LT	87 (65.4%)

LT= length of time as an elementary school/MI teacher

Most respondents have been elementary school/MI teachers for more than 10 years (65.4%).

d. At the time of this study, they were teaching upper or lower grades

The distribution of respondents in terms of the grade levels they taught is as follows (Table 4).

Table 4. Class Levels Taught

Sample of Elementary School/MI Teachers on the island of Java= 133 people	
Lower Grades (1, 2, and 3)	Upper Grades (4, 5, and 6)
47 (35.3%)	86 (64.7%)

e. Teacher classification

Of the total 133 respondents, there were two types of teacher classifications, namely 62 people (47%) were elementary school teachers, while 71 people (53%) were MI teachers (Figure 2).

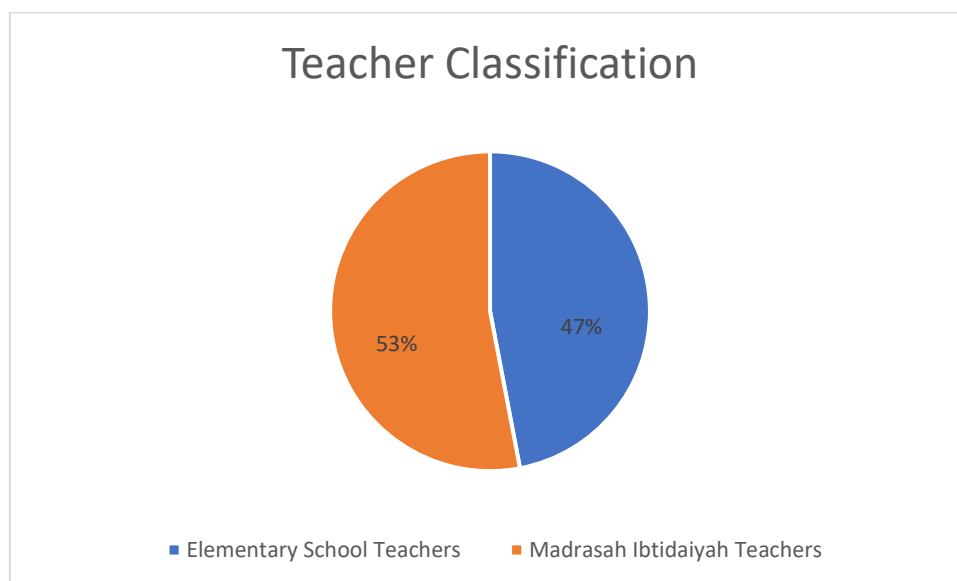


Figure 2. Respondent Classification

3.3. Data Collection

To answer the research objectives, data collection was conducted using two digital applications, namely Google Form and Mentimeter.

a. Google Form

Data was collected through Google Forms to answer the research questions: 1) What mathematics material is considered most difficult by students? 2) Why students experience difficulties in learning these mathematics materials? 3) What kind of difficulties students experience when learning mathematics? 4) What difficulties elementary school/MI teachers experience when teaching mathematics? 5) What kind of mathematics learning should be carried out in the classroom? All survey questions were presented to respondents in the form of open-ended questions (Table 5).

Table 5. Survey Questions via Google Form

No.	Survey Questions	Answer Type
1	In your opinion, which mathematics material do students find most difficult?	Free response
2	In your opinion, why do students experience difficulties when learning mathematics in certain subjects?	Free response
3	In your opinion, what difficulties do students experience when learning mathematics?	Free response
4	Have you ever had difficulty explaining mathematics material to students? If so, what kind of difficulties and how?	Free response
5	Which mathematics material do you find the most difficult to teach so that students can easily understand it?	Free response
6	In your opinion, how should mathematics be taught to students?	Free response

The survey link is <https://forms.gle/8cHEgVMYVHz9qdKLA>.

b. Mentimeter

There is only one question surveyed through Mentimeter, namely "In your opinion, what kind of learning ... so that our students can enjoy (learning) mathematics?" Although there is only one question, respondents can provide 1 to 3 responses/answers. The hope is that the results of this survey will strengthen the data from the Google Form survey for the item, "In your opinion, how should mathematics be taught to students?" The link is <https://www.menti.com/alhk9ev1iwzq>.

3.4. Data Analysis

From both types of survey media, namely Google Forms and Mentimeter, all data filled in by respondents is in the form of open-ended responses.

a. Data Analysis from Google Forms

The data obtained from Google Forms consists of open-ended responses. This open-ended survey data was processed by identifying important themes or patterns in the data, then grouping the data into relevant categories in order to interpret the findings obtained from the survey (thematic analysis or content analysis), related to respondents' answers regarding 1) what mathematics material is considered most difficult by students, 2) why students experience difficulties in learning these mathematics materials, 3) what kind of difficulties students experience when learning mathematics, 4) what difficulties elementary school/MI teachers experience when teaching mathematics, 5) what kind of mathematics learning should be carried out in the classroom (Coughlan et al., 2009; Müller, 2014; Kettler, 2019; Beck, 2024; Isrokatun et al., 2024). After the data was grouped into more specific categories, it was illustrated in bar and pie charts to make it more meaningful (Huang et al., 2009; Sandnes et al., 2020; Hill, 2025).

b. Data Analysis from Mentimeter

The data obtained from Mentimeter is also in the form of open-ended data with a word limit of 25 words for each entry, for 3 responses that respondents can submit. There is no specific data processing from the results of this survey. The respondents' responses automatically form a Word Cloud, which is a visual representation of the words that appear most frequently in the text data set. The size of the words reflects their frequency or dominance; the larger the word size is, the more frequent the word appeared in the data (Jain et al., 2015; Herold et al., 2019; Feng et al., 2022). This Word Cloud serves three purposes: 1) it can quickly map the perceptions or opinions of respondents, 2) it presents qualitative information visually, attractive, and in an easy-to-understand manner, and 3) it makes it easier to sort out suggestions on what kind of mathematics learning should be done in the classroom (Jain et al., 2015; Herold et al., 2019; Feng et al., 2022).

3.5. Validity and Reliability

This study used an instrument in the form of an open-ended questionnaire. Before this instrument was used, content validity was first conducted, with the aim of ensuring that the research instrument used measured what it was supposed to measure (Muliana et al., 2020; Almanasreh et al., 2022; Mokkaik et al., 2025). In other words, content validity ensures that the questions on Google Forms and Mentimeter are relevant to the theme/concept to be measured, with the respondents being elementary school/MI teachers.

Content validity was conducted by:

- a. Expert analysis, namely a review by two experts experienced in educational research and the development of various research instruments, as well as the revision of questionnaire items that were deemed unfit based on the suggestions of the two experts (Muliana et al., 2020; Almanasreh et al., 2022; Mokkaik et al., 2025).
- b. Limited pilot testing. This pilot testing was applied to three types of participants: 1) one elementary school teacher, 2) one expert in research instrument development, and 3) one IT expert and online application-based instrument developer. The three trial participants were tasked with 1) examining the questions on the survey link to see whether they were easy to understand and answer, 2) examining the appearance of the survey link page to see whether it was appropriate or not, and 3) trying to answer the survey questions (Muliana et al., 2020; Almanasreh et al., 2022; Mokkaik et al., 2025). Once the answers were submitted, the researchers checked the responses and ensured that there were no technical issues with the completion process. Next, the researchers accessed the Responses menu and deleted the test answers, as these answers were not part of the survey research.

4. Findings

The objectives of this study were 1) to analyze which mathematics material is considered most difficult by students, 2) why students experience difficulties in learning these mathematics materials, 3) what kind of difficulties students experience when learning mathematics, 4) what difficulties elementary school/MI teachers experience when teaching mathematics, 5) what kind of mathematics learning should be carried out in the classroom. The results of the study are as follows.

4.1. Mathematics Material Considered Most Difficult by Students

From 133 responses to the question, "In your opinion, which mathematics material do students find most difficult?" the following summary was obtained (Table 6).

Table 6. Mathematics Material Considered Most Difficult by Students

Survey Questions	Responses	
	Lower Grades	Upper Grades
In your opinion, which mathematics material do students find most difficult?	<ol style="list-style-type: none"> 1. Addition & Subtraction 2. Multiplication and Division 3. Solving word problems 	<ol style="list-style-type: none"> 1. Vertical addition 2. Multiplication, Division, and Fractions 3. Greatest common factor & Smallest common multiple 4. Calculations with negative numbers 5. Fractions and Decimals 6. Ratios 7. Volume & Solid Figures 8. Unit Conversion 9. Solving word problems

From the grouping of responses from elementary school/MI teachers above, the most dominant answer related to "Mathematics material that is considered most difficult by students" is multiplication, division, and fractions.

4.2. Reasons Students Experience Difficulties in Learning Mathematics

The reasons students experience difficulties in learning mathematics material were explored through the question, "In your opinion, why do students experience difficulties when learning mathematics in certain subjects?" with a free response answer type. The summary of responses from 133 elementary school/MI teachers is as follows Table 7).

Table 7. Reasons Students Experience Difficulties in Learning Mathematics

Survey Questions	Responses
In your opinion, why do students experience difficulties when learning mathematics in certain subjects?	<ol style="list-style-type: none"> 1. Not yet mastering prerequisite material, such as not yet mastering basic arithmetic operations and not yet memorizing multiplication 2. Weak reasoning and logic in understanding word problems, making it difficult to understand mathematical language 3. Perceiving mathematics as a frightening and difficult subject 4. Lack of focus during lessons, due to lack of interest and motivation, resulting in reluctance to think when encountering problems that are perceived as difficult 5. Insufficient study or practice of problems at home 6. Learning is still abstract for students and there is a lack of use of learning media 7. The presentation of material is not interesting for students

From the above grouping, the most dominant answers related to "Reasons students experience difficulties in learning mathematics" are 1) not yet mastering prerequisite material, such as not yet mastering basic arithmetic operations and not yet memorizing multiplication, and 2) weak reasoning and logic in understanding word problems, making it difficult to understand mathematical language.

4.3. Difficulties Students Experienced when Learning Mathematics

From 133 responses to the question, "In your opinion, what difficulties do students experience when learning mathematics?" the following summary can be made (Table 8).

Table 8. Difficulties Students Experienced when Learning Mathematics

Survey Question	Responses	
	Lower Grades	Upper Grades
In your opinion, what difficulties do students experience when learning mathematics?	<ol style="list-style-type: none"> 1. Difficulty in writing numbers, such as mixing them up, etc. 2. Not yet proficient in basic arithmetic operations in lower grades, such as addition and subtraction. 	<ol style="list-style-type: none"> 1. Still not proficient in basic arithmetic operations since in lower grades, such as not yet memorizing multiplication and division, etc. 2. Difficulty in understanding mathematical language, making it hard to understand word problems. 3. Difficulties in remembering formulas and weaknesses in understanding mathematical language, as well as a lack of proficiency in basic arithmetic operations, cause difficulties in answering and solving word problems.

From the table above, one difficulty that students experience when learning mathematics causes difficulties for students in subsequent material, both for students in lower grades and students in higher grades. And if narrowed down, there are two types of difficulties that are the root causes of subsequent difficulties, namely 1) not being skilled in basic mathematical operations, and 2) weak understanding of illustrating story problems in mathematical language.

4.4. Difficulties Experienced by Elementary School/MI Teachers when Teaching Mathematics

Several difficulties experienced by elementary school/MI teachers when teaching mathematics in class were surveyed through the questions, "Have you ever had difficulty explaining mathematics material to students? If so, what kind of difficulties and how?" and "Which mathematics material do you find the most difficult to teach so that students can easily understand it?" The results of the responses can be summarized as follows (Table 9).

Table 9. Difficulties Experienced by Elementary School/MI Teachers when Teaching Mathematics

No.	Survey Question	Responses (for those who have experienced it)
1	Have you ever had difficulty explaining mathematics material to students? If so, what kind of difficulties and how?	<ol style="list-style-type: none"> 1. Making students proficient in basic mathematical operations 2. Translating word problems into mathematical language or symbols

No.	Survey Question	Responses (for those who have experienced it)
2	Which mathematics material do you find the most difficult to teach so that students can easily understand it?	3. Instilling mathematical concepts so that students can understand them 1. In every subject in every grade level 2. Mathematics material that requires prerequisite skills

As many as 97% of elementary school/MI teachers responded that they had experienced difficulties in helping students understand mathematics material. This is illustrated in the following Figure 3.

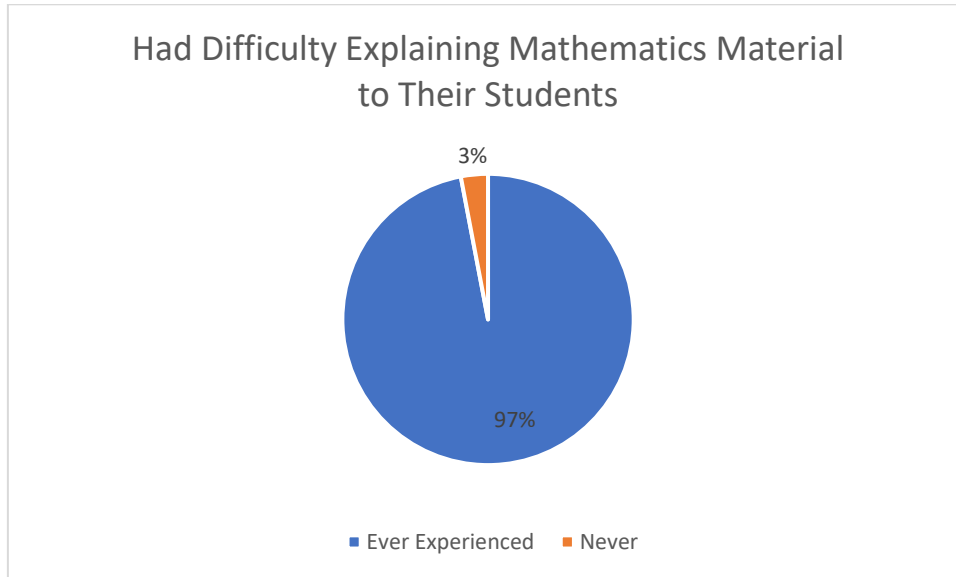


Figure 3. Elementary School/MI Teachers Who Had Difficulty Explaining Mathematics Material to Their Students

There are three types of difficulties experienced by teachers, namely how to teach so that 1) students memorize/become skilled in basic mathematical operations, 2) students are able to convert story problems into mathematical language or symbols, and 3) they can instill mathematical concepts so that students can understand them. Meanwhile, the respondents' answers regarding "Which mathematics material do you find the most difficult to teach so that students can easily understand it?" showed that almost every material at the elementary school/MI level is difficult. Students' difficulties with mathematical concepts in previous grades are the root cause of the difficulties they experience in subsequent grades.

In this study, through a Google Form link, respondents were also asked to provide self-assessments regarding their perceptions of mathematics itself. The survey results are as follows (Figure 4).

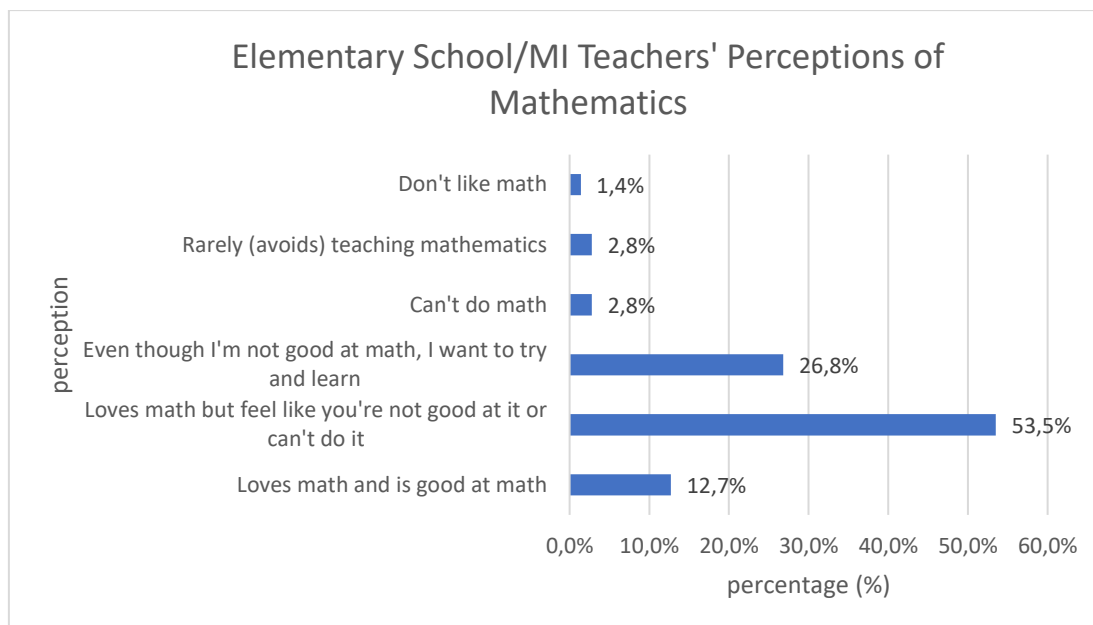


Figure 4. Elementary school/MI Teachers' Perceptions of Mathematics

It turns out that even though they are elementary school/MI teachers, there are still those who feel that 1) they don't like math, 1.4%; 2) they feel they can't do math, 2.8%; and even 3) rarely (avoids) teaching mathematics, 2.8%. Meanwhile, 4) even though they are not good at mathematics, they are willing to try and learn, 26.8%; and 5) like mathematics but feel that they are not good at mathematics, occupy the highest percentage, namely 53.5%. Of the 133 respondents who 6) like mathematics and are good at mathematics, only 12.7%.

4.5. Recommendations for Mathematics Instruction That Should Be Implemented in the Classroom

Unlike the previous instrument, this survey was conducted through two different survey links, namely Google Form and Mentimeter. The survey questions were: "In your opinion, how should mathematics be taught to students?" on the Google Form link, and "In your opinion, what kind of learning ... so that our students can enjoy (learning) mathematics?" on the Mentimeter link. The results are as follows.

a. Survey Results via Google Form

The results are summarized in the following Table 10.

Table 10. Suggestions for Mathematics Instruction That Should Be Implemented in the Classroom

Survey Question	Responses
In your opinion, how should mathematics be taught to students?	<ol style="list-style-type: none"> 1. Learning that uses media (teaching aids) and presents concrete objects (concrete to abstract), both digital and non-digital media 2. Learning that is interesting, challenging, and enjoyable, for example through games, interactive games, etc., so that students are involved 3. Learning that relates to students' daily lives (contextual) 4. Learning that enables students to master basic mathematical operations, making it easier for them to understand subsequent material 5. Increase practice questions 6. Teachers must be proficient in mathematics themselves, so they can be good teachers for their students

On the other hand, only 12.7% of elementary school/MI teachers like and feel competent in mathematics. This is an important finding that highlights the need to improve teachers' competence and confidence in teaching mathematics. Research by Kasa et al. (2024) shows that teachers' perceptions of mathematics have a significant impact on the learning strategies they choose, as well as the level of student enthusiasm in the teaching and learning process.

Referring to various previous research results, this discussion emphasizes the importance of enjoyable, contextual, and concrete media-based learning designs—both digital and non-digital. This approach is in line with the principles of constructivist learning, which encourages active student involvement and knowledge building from real experiences. Game-based learning, as proposed by Mirosavljević (2022), has been proven to increase students' motivation and understanding of basic mathematical concepts.

Thus, the results of this study confirm that to overcome challenges in mathematics learning in elementary school/MI, a comprehensive strategy is needed—not only to improve students' abilities but also to empower teachers to be more pedagogically and psychologically prepared. This study adds a new dimension by combining the voices of elementary school teachers and MI teachers directly as the basis for analysis, which is a novelty in the context of basic education research in Indonesia.

6. Conclusion

Why do elementary school/MI teachers find it difficult to teach mathematics? From the results of this study, there are at least two main contributing factors, namely student factors and elementary school/MI teacher factors. Several factors that influence students include 1) students' weak skills in basic mathematical operations, which results in 2) students' difficulty in understanding the concepts and reasoning required when dealing with word problems, 3) students' low understanding and reasoning of mathematical language, and as a result, 4) mathematics becomes a subject that is less appealing to elementary school/MI students. The difficulty of teaching is also influenced by teacher factors, where it turns out that only 12.7% of elementary school/MI teachers like mathematics and feel that they are good at mathematics. Therefore, there are at least four types of learning suggestions that should be implemented in the classroom so that in the future, mathematics will no longer be considered a difficult subject by students, namely 1) learning that uses media (teaching aids) and presents concrete objects (concrete to abstract), both digital and non-digital media, 2) learning that is interesting, challenging, and enjoyable, for example through games, interactive games, etc., so that students are involved, 3) learning that is related to students' daily lives (contextual), and 4) learning that enables students to be capable and skilled in basic mathematical operations, making it easier for them to understand subsequent material. Thus, this study makes an important contribution to the study of mathematics learning and teacher education, especially in the context of primary education. This study reinforces global findings that difficulties in learning mathematics do not only stem from students' cognitive abilities but are also greatly influenced by teachers' attitudes, self-confidence, and pedagogical competence. The finding that only a small proportion of elementary school/MI teachers like and feel capable in mathematics emphasizes the importance of serious attention to the affective aspects and mathematical dispositions of prospective and current teachers, as is also a concern in international mathematics education research.

Limitation

There are several limitations to this study, including:

- 1) This study was conducted as a survey that was not followed up with in-depth interviews with respondents in order to obtain more complete and comprehensive data
- 2) The survey on students' difficulties in learning mathematics was obtained from teachers' responses. These results would be more valid if the students' difficulties were also surveyed directly from the students

- 3) The survey related to the data that 12.7% of elementary school/MI teachers like mathematics and feel that they are good at mathematics would certainly be more valid if it was followed up with a test that could show how well elementary school/MI teachers have mastered mathematical concepts authentically.
- 4) Elementary school/MI school teachers here are the survey respondents. If this survey is conducted with respondents or data analysis separately, it is possible to obtain different research results

Recommendation

Given the limitations of the research described above, the following recommendations can be made:

a. Future researchers

- 1) To complement the results of this survey, future researchers can conduct more comprehensive studies using a wider range of research instruments, such as questionnaires and interviews.
- 2) Future researchers can also conduct similar surveys in which data on teachers is collected from teacher respondents, while data on students is collected from student respondents.
- 3) To prove how teachers perceive mathematics, in addition to being surveyed, it would be more comprehensive to also test their abilities, so that it would be clear how well teachers have mastered mathematical concepts.
- 4) Future researchers can conduct similar studies but with separate samples of elementary school teachers and MI teachers. The survey data from elementary school teachers and the survey data from MI teachers would then be processed and discussed separately.

b. Education policy makers, curriculum developers, teachers, and related academics

The recommended types of learning can be tried and applied in the classroom, with the hope that in the future, mathematics will no longer be considered a difficult subject by elementary school/MI students.

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Conflict of Interest

The author declares that there is no conflict of interest with any party related to this research and the writing of this article.

Declaration of Generative AI-assisted Technologies

This manuscript was prepared without the assistance of Generative AI. All intellectual contributions, critical analyses, and final revisions were conducted by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the content presented in this work.

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