Analysis of Learning Motivation and Self-Confidence in Mathematics Education among Elementary School Students in Bogor Regency

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Abstract. Learning motivation and self-confidence are essential qualities that students must possess, as both serve as capital for effective learning, especially in the subject of Mathematics. This research aims to analyze the learning motivation and self-confidence in the subject of Mathematics among Elementary School students. The research population includes all fourth and sixth-grade students of SDN Tegal 02, Kemang District, Bogor Regency, totaling 54 individuals. A descriptive qualitative approach was employed in this research using a questionnaire as the research instrument. Data analysis was conducted using descriptive statistical analysis. The research results indicate that the learning motivation and self-confidence of SDN Tegal 02 students in mathematics fall within the moderate criteria, with a percentage of 50% for learning motivation and 87% for self-confidence. Regarding learning motivation, the only indicator in the moderate criteria is conducive learning environment, with a percentage of 62.96%. In terms of self-confidence, five out of six indicators are in the moderate criteria, especially in indepent with a percentage of 81.5%. Both indicators underscore the importance of the teacher's role in creating a conducive learning environment and using appropriate models to enhance students' learning motivation and self-confidence in mathematics education. Female students in SDN Tegal 02, Bogor Regency, tend to have higher motivation and confidence compared to male students. However, they exhibit a similar tendency, wherein students with high motivation also demonstrate high self-confidence, as do students with moderate and low motivation levels.

Keywords: Learning motivation, self-confidence.

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INTRODUCTION

Learning depends on motivation. Students require motivation to establish and reinforce new information in memory (Risnawati, 2013: 165).. Motivation is a determining factor that encourages students to persist in the learning process, while self-confidence provides additional support. The desire to learn and achieve academic goals is the key to success in comprehending and absorbing lesson materials. Motivation plays a crucial role in assisting students in reaching their full potential in learning. On the other hand, self-confidence is the primary foundation for expressing oneself, especially in the context of learning. The level of self-confidence significantly influences the success of the learning process. Students with high self-confidence tend to have a strong belief in continuing efforts to develop their full potential, as reflected in their achievements. Conversely, students with low or inadequate self-confidence may not have fully explored their talents, interests, and potential, leading them to adopt a passive attitude (Komara, 2016).

Student learning motivation and self-confidence play a significant role in achieving good learning outcomes. When students have high learning motivation, they approach the learning process with enthusiasm. If this motivation is supported by strong self-confidence, the learning outcomes achieved will be optimal. The motivation and self-confidence of students play a crucial role in their participation in all subjects in elementary school, especially in mathematics. Mathematics is one of the disciplines that holds important value for learning. This is due to the fact that mathematical knowledge or logical-mathematical intelligence is explicitly connected to numerical abilities used in daily life (Uno & Umar, 2010, hlm. 100). Additionally, strong learning motivation is especially needed in mathematics due to its abstract, axiomatic, and deductive nature (Uno & Umar, 2010, hlm. 108).

The presence of abstract concepts can pose challenges for students in understanding the material, leading to a loss of enthusiasm for learning. This indicates a deficiency in student learning motivation and self-confidence. It is known that students' self-confidence and learning motivation have a mutually influential relationship in enhancing their learning outcomes. Therefore, it is important for students to have strong self-confidence and learning motivation so that they remain motivated in their studies and do not doubt their abilities, ultimately leading to good learning outcomes (Umifaiqoh, 2020).

Students require strong motivation to help them establish connections between these concepts and the real world. When students feel motivated, they become more active in class, apply mathematical concepts to everyday problem-solving, and seek a deeper understanding. Furthermore, motivation plays a crucial role in encouraging students to seek additional help when they encounter difficulties in mathematics. They tend to look for extra resources, such as teachers, classmates, or additional study materials, to help them overcome challenges. Strong motivation also helps students stay resilient and not give up when facing difficult mathematical concepts. With motivation, students feel more confident in dealing with mathematics. When students have high self-confidence, they tend to feel capable and assured in tackling concepts that may be considered difficult or abstract in mathematics. Students who are confident in their ability to understand and solve mathematical problems are more motivated to learn. They believe that they can overcome difficulties and find solutions, supporting their motivation to learn further. They view mistakes as a natural part of learning and as opportunities to grow and improve their understanding. Self-confidence gained through success in mathematics also helps students build the basic mathematical skills required. The more successful they are, the higher their self-confidence, and the more motivated they are to develop more complex mathematical skills.

Students with high self-confidence are more motivated, and conversely, motivated students are more likely to develop self-confidence. Research on students' learning motivation in mathematics has been conducted by Hasnah et al. (2022), stating that the learning motivation of fourth, fifth, and sixth-grade students at UPT SD Negeri 5 Arawa in mathematics falls into the moderate category with a percentage of 60.9%. The level of student learning success can be seen from their learning motivation. Students with high motivation are expected to achieve good and optimal learning outcomes. Therefore, students should have high learning motivation for the subjects they are studying, especially in mathematics. In a study by Irman et al., (2022), specifically examining the relationship between self-confidence and mathematics learning outcomes in fourth-grade, it was found that students' mathematics learning outcomes would be lower if their level of self-confidence is lower, and conversely, if students have high self-confidence, their mathematics learning outcomes will be higher. Given the importance of student motivation and self-confidence in learning mathematics, the author is interested in analyzing learning motivation and self-confidence in the fourth and fifth grades at SDN Tegal 02, Kemang District, Bogor Regency.

REVIEW OF LITERATURE

The term 'motivation' originates from the word 'motive.' According to M. Ngalim Purwanto (2004), a motive is "anything that drives someone to act." Motive is the factor that urges and propels the subject from within to engage in specific activities to achieve goals. Considering this concept of 'motive,' motivation can be defined as an active driving force that influences the subject's actions. Furthermore, according to Arianti (2018), motivation is a psychological state within an individual that drives them with inner strength and brings joy when performing an action to achieve a specific goal. Essentially, this motivation arises from relevant emotional impulses and can emerge through interactions with the environment, both through words and actions. In the context of teaching and learning activities, motivation plays a crucial role, influencing both teachers and students in efforts to achieve better learning outcomes (Wahyuni et al., 2017).

There are two types of motivation: intrinsic motivation and extrinsic motivation. Djamarah (2015) argues that intrinsic motivation is an active drive or function without requiring external stimuli because every individual has internal motivation or drive to perform an action. Risnawati,

2013, p. 430) further explains that intrinsic motivation refers to internal drive to do something because of the value or satisfaction derived from the action itself. For example, a student who studies diligently because they enjoy the material and want to understand it well. Intrinsically motivated students tend to engage in an activity because they find it enjoyable, develop skills they consider important, or believe it is ethically and morally right. Students with high intrinsic motivation will be fully focused on the activity, without worrying too much about time or neglecting other tasks. Woolfolk et al. (2013) also emphasize that intrinsic motivation stems from internal factors such as interest, needs, satisfaction, and curiosity.

Extrinsic motivation refers to the drive that pushes an individual to perform an action with the goal of obtaining something external to the action itself. Extrinsic motivation is often influenced by external incentives, such as rewards or sanctions. For example, a student might study hard for an exam with the hope of achieving a high grade in that subject. Extrinsic motivation in students is related to external factors that are not directly related to the ongoing task, such as the desire to get high grades, financial rewards, or recognition for specific achievements. Essentially, they are motivated to perform a specific action as a means to achieve another goal, not because the action itself is the direct goal, such as understanding the material or topic being studied. Furthermore, according to Gunarsah (2008), extrinsic motivation is anything obtained through self-observation, or through suggestions, recommendations, or encouragement from others. Extrinsic motivation plays a significant role in teaching and learning activities because this motivation arises due to learning activities initiated and continued based on external stimuli that are not necessarily related to the learning activities, making it easier for learners to achieve goals in improving good learning outcomes (Herwati et al., 2023).

Furthermore, Uno (2016) mentions indicators of learning motivation, which the researcher then differentiates based on intrinsic and extrinsic motivation aspects as follows.

Table 1. Indicators of Learning Motivation

No.	Aspects	Indicators
1.	**Intrinsic Motivation**	a. The presence of passion and desire for success b. Drive and needs in learning c. Hopes and aspirations for the future
2.	**Extrinsic Motivation**	a. Recognition in learning b. Engaging activities in learning c. Conducive learning environment

Student self-confidence in the process of learning mathematics plays a crucial role that requires attention to achieve optimal learning outcomes. Self-confidence serves as a primary driver for positive interactions within the classroom environment during mathematics learning (Rustan & Bahru, 2018). This perspective aligns with the views of Malinda & Minarti (2018), who express that self-belief is the key to students' success in pursuing an understanding of mathematics.

Based on the perspectives of both researchers, conducting research and analysis on the influence of self-confidence on mathematics learning outcomes becomes an important aspect. Prior to this, a comprehensive understanding of self-confidence in the context of mathematics learning is necessary. Self-confidence refers to an individual's belief in their abilities. McElmeel (2002) states that confidence can be interpreted as belief or trust in oneself and one's ability to succeed. This includes the belief that one will act correctly, accurately, or effectively, meaning that self-confidence involves confidence in oneself and the ability to achieve success.

Self-confidence is important in shaping individuals with characteristics of excellence (Hakim, 2005). Self-confidence is crucial for the following reason:

1. Self-confidence can make someone enthusiastic to engage in activities they feel capable of and can excel in their chosen field.
2. Confident individuals are aware of their abilities and weaknesses, allowing them to feel comfortable with themselves. Because they feel at ease and value themselves, they can accept criticism from others, acknowledge others' successes, and do not need to boast about their achievements or possessions.

3. Confident individuals are motivated to continually advance and remain enthusiastic in every action they take.

Afiatin dan Martaniah (1998) formulated several aspects from Lauster and Guilford that serve as characteristics and indicators of self-confidence, namely:

1. Individuals feel strong in their actions. This is based on a belief in the strength, abilities, and skills they possess. They feel optimistic, sufficiently ambitious, not always in need of assistance from others, capable of working hard, able to handle tasks effectively, and take responsibility for decisions and actions.
2. Individuals feel accepted by their group. This is grounded in a belief in their social relationship abilities. They feel that their group or others like them, actively engage with the social environment, courageously express their desires or ideas responsibly, and do not prioritize themselves.
3. Individuals have a calm demeanor. This is based on a belief in their strength and abilities. They maintain a calm attitude, are not easily flustered, and are tolerant of various situations.

Furthermore, dan Martaniah (1998) formulated several aspects from Lauster and Guilford that serve as characteristics and indicators of self-confidence.

Table 2. Confidence Indicators

No.	Aspek	Indikator
1.	**Strong Feelings**	a. Optimistic b. Independent c. Hardworking
2.	**Accepted Feeling**	a. Actively faces environmental situations b. Courageously express desires/ideas
3.	**Possessing Calm Demeanor**	Calm

METHOD

This research adopts a qualitative descriptive research design, aiming to gather information about the existing conditions without a specific goal to test particular hypotheses. The focus is on describing a variable, phenomenon, or condition without conducting specific testing. While in some cases, descriptive research may involve efforts to prove hypotheses, it is not its main objective (Arikunto, 2016). Qualitative descriptive research aims to identify characteristics distinguishing a group of people, objects, or events (Mayer & Greenwood, 1984).

The study was conducted from May 30, 2023, to May 31, 2023, during the second semester of the academic year 2022/2023 at SDN Tegal 02, located in Desa Tegal, Kecamatan Kemang, Kabupaten Bogor, West Java. Data were collected through questionnaires, a data collection method involving a set of written questions or statements provided to respondents for written responses. Questionnaires are an efficient data collection method when the researcher has a clear understanding of the variables to be measured and the expectations from the respondents. Questionnaires can take the form of closed or open-ended questions and can be administered directly to respondents or distributed through various means, including mail or the internet (Sugiyono, 2021: 234).

Descriptive analysis was employed to identify events related to the target responses. This analysis is often used as part of a comprehensive evaluation of problematic behaviors before conducting experimental functional analysis. The descriptive analysis is intended to describe or depict the research variables, namely, learning motivation and self-confidence levels at SDN Tegal 02, Kabupaten Bogor.

The instruments, comprising motivation and self-confidence questionnaires, were in the form of closed written statements handed directly to 33 fourth-grade and 21 fifth-grade students at SDN Tegal 02, located in Kecamatan Kemang, Kabupaten Bogor. The motivation questionnaire consisted of 25 statements, while the self-confidence questionnaire had 30 statements, each with Likert scale response options. The researcher employed a Likert scale following Sugiyono (2012,

p. 134), which explained that the Likert scale is used to measure attitudes, opinions, and perceptions of individuals or groups about social phenomena. The items in this study were divided into positive and negative items, each with its scoring criteria.

Table 3. Likert Scale

Answer Alternatives	Positive	Negative
Strongly Agree	5	1
Agree	4	2
Undecided/**Neutral**	3	3
Disagree	2	4
Strongly Disagree	1	5

Then, to analyze each indicator of the research variable, it is necessary to determine its interval values using the following formula.

Analysis of learning motivation data

Number of choices : 5
Number or statements : 25
Minimum Score : $1 \times 25 = 25$
Maximum Score : $5 \times 25 = 125$
Numbers of criteria : 3 (high, mediocre, low)

$$\text{Interval} = \frac{\text{maximum score} - \text{minimum score}}{\text{numbers of criteria}} = \frac{125 - 25}{3} = \frac{100}{3} = 33{,}3$$

Table 4. Criteria for Student Learning Motivation

Interval Values	Criteria
93 - 125	High
60 – 92	Moderate
27 – 59	Low

Analisis data kepercayaan diri

Number of choices : 5
Number or statements : 25
Minimum Score : $1 \times 25 = 30$
Maximum Score : $5 \times 25 = 150$
Numbers of criteria : 3 (high, mediocre, low)

$$\text{Interval} = \frac{\text{maximum score} - \text{minimum score}}{\text{numbers of criteria}} = \frac{150 - 30}{3} = \frac{120}{3} = 40$$

Table 5. Criteria for Student Self-Confidence

Interval Values	Criteria
111 – 150	High
71 – 110	Moderate
31 – 70	Low

Next, using the same method to analyze the indicators for each variable of learning motivation and self-confidence.

RESULTS

Learning Motivation

The data obtained from the research site, which includes learning motivation and self-confidence in mathematics at SDN Tegal 02, Bogor Regency, is then presented as follows.

Table 6. Distribusi Frekuensi Motivasi Belajar Siswa SDN Tegal 02 pada Pembelajaran Matematika

Score	Criteria	Frequency	Percentage
93 – 125	High	26	48,1%
60 – 92	Moderate	27	50%
27 – 59	Low	1	1,9%
	Total	54	100%

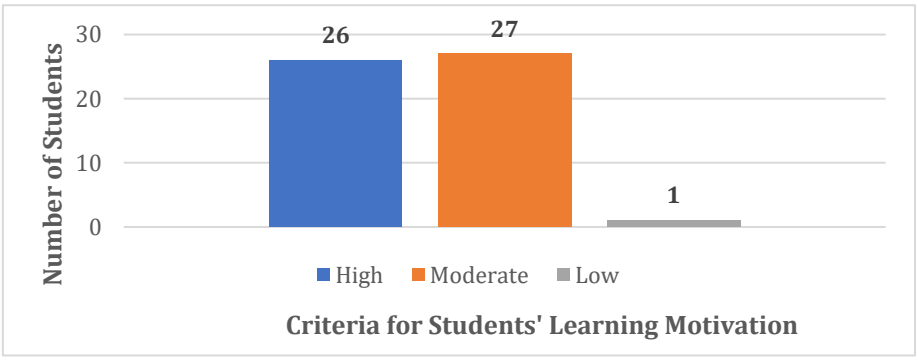

Figure 1. Frequency Distribution of Student Learning Motivation at SDN Tegal 02 in Mathematics Learning

Based on the table and figure above, it is obtained that there are 26 students or 48.1% who have high learning motivation, followed by 27 students or 50% with moderate learning motivation, and 1 student or 1.9% with low learning motivation. This indicates that the majority of 4th and 5th-grade students in SDN Tegal 02 have moderate learning motivation, making up 50% of the entire student body, while almost all the rest of the students have high learning motivation. This aligns with the researcher's anticipated findings

Based on the recapitulation of the learning motivation analysis results, it is also found that the average score of students with high scores is female students. The following are the results of the learning motivation analysis based on gender.

Table 7. Frequency of Student Learning Motivation at SDN Tegal 02 Based on Gender

Score	Criteria	Male Students		Female Students	
		Frekuensi	Percentage	Frekuensi	Percentage
93 – 125	High	4	16,7%	21	70%
60 – 92	Moderate	8	79,1%	8	26,7%
27 – 59	Low	1	4,2%	1	3,3%
	Total	30	100%	30	100%

Based on Table 7, it is observed that the majority of male students have moderate learning motivation, while females have high learning motivation. Next, to understand how students' learning motivation is reflected in the context of mathematics learning at SDN Tegal 02, Bogor Regency. Various indicators have been identified to form an overview of learning motivation, and the research results will explain these aspects as follows.

The Presence of Desire and Willingness to Succeed

Table 8. Frequency of Indicators of the Presence of Desire and Willingness to Succeed

Score	Criteria	Frekuensi	Percentage
5 – 8	High	28	51,85%
13 – 16	Moderate	23	42,59%
17 – 20	Low	3	5,56%
	Total	54	100%

Based on Table 8, it is observed that the majority of male students have moderate learning motivation, while females have high learning motivation. Next, to understand how students' learning motivation is reflected in the context of mathematics learning at SDN Tegal 02, Bogor Regency. Various indicators have been identified to form an overview of learning motivation, and the research results will explain these aspects as follows.

The Presence of Desire and Willingness to Succeed

Table 9. Frequency of The Presence of Desire and Willingness to Succeed Indicator

Score	Criteria	Frekuensi	Percentage
26 – 35	High	29	53,7%
16 – 25	Moderate	25	49,3%
6 – 15	Low	0	0%
	Total	54	100%

Based on Table 9, it is evident that motivation and needs in learning, as many as 29 students (53.7%), fall into the high criteria, 25 students (49.3%) fall into the moderate criteria, and no students (0%) fall into the low criteria.

Hopes and Aspirations for the Future

Table 10. Frequency of Hopes and Aspirations for the Future Indicator

Score	Criteria	Frekuensi	Percentage
6 – 10	High	28	51,9%
16 – 20	Moderate	20	37%
21 – 25	Low	6	11,1%
	Total	54	100%

Based on Table 10 above, students' hopes and aspirations for the future show that 28 students (51.9%) fall into the high criteria, 20 students (37%) fall into the moderate criteria, and 6 students (11.1%) fall into the low criteria.

Recognition in Learning

Table 11. Frequency of Recognition in Learning Indicator

Score	Criteria	Frekuensi	Percentage
8 – 10	High	35	64,8%
5 – 7	Moderate	18	33,3%
2 – 4	Low	1	1,9%
	Total	54	100%

Based on Table 11 above, the recognition in learning perceived by students shows that 35 students (64.8%) fall into the high criteria, 18 students (33.3%) fall into the moderate criteria, and 1 student (1.9%) falls into the low criteria.

Engaging Learning Activities

Table 12. Frequency of Engaging Learning Activities Indicator

Score	Criteria	Frekuensi	Percentage
8 – 10	High	24	44,4%
5 – 7	Moderate	21	38,9%
2 – 4	Low	9	16,7%
	Total	54	100%

According to Table 12, students perceive that mathematics learning is interesting, with 24 students (44.4%) falling into the high criteria, 17 students (31.5%) in the moderate criteria, 19 students (35.2%) in the good criteria, and 8 students (14.8%) in the very good criteria.

Conducive Learning Environment

Table 13. Frequency of Conducive Learning Environment Indicator

Score	Criteria	Frekuensi	Percentage
20- 25	High	11	20,37%
14 – 19	Moderate	34	62,96%
8 – 13	Low	9	16,67%
	Total	54	100%

According to Table 13, students who perceive a conducive learning environment in mathematics learning are 11 students (20.37%) in the high criteria, followed by 34 students (62.96%) in the moderate criteria, and 9 students (16.67%) in the low criteria.

Self-Confidence

The results of the analysis of students' self-confidence in mathematics learning are presented in the following table and figure.

Table 13. Frequency Distribution of Self-Confidence of SDN Tegal 02 Students in Mathematics Learning

Score	Criteria	Frekuensi	Percentage
111 – 150	High	7	13%
71 – 110	Moderate	47	87%
31 – 70	Low	0	0%
	Total	54	100%

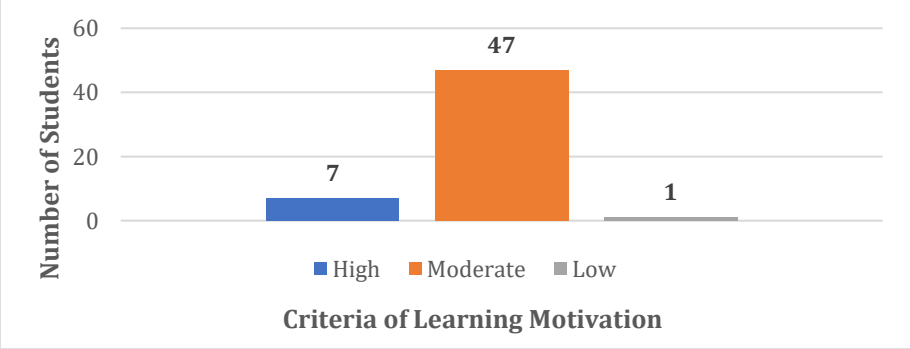

Figure 2. Frequency of Self-Confidence of SDN Tegal 02 Students in Mathematics Learning

Based on Table 13 and Figure 2, 7 students (13%) fall into the high criteria, 47 students (87%) in the moderate criteria, and no students (0%) in the low criteria.

Similar to learning motivation, the recapitulation of the analysis results of self-confidence also found that, on average, students with high scores are female. The following is the analysis of self-confidence based on gender.

Table 14. Frequency of Self-Confidence of SDN Tegal 02 Students Based on Gender

Score	Criteria	Siswa Laki-laki		Siswa Perempuan	
		Frekuensi	Percentage	Frekuensi	Percentage
93 – 125	High	6	20%	1	4,2%
60 – 92	Moderate	24	80%	23	95,8%
27 – 59	Low	0	0%	0	0%
	Total	30	100%	30	100%

Based on Table 14, it can be seen that the self-confidence of female students is mostly in the moderate criteria, with the rest having high self-confidence. Meanwhile, for male students, almost all are in the moderate criteria.

Next, each indicator of the self-confidence variable will be presented to provide an overview of the level of self-confidence of students in SDN Tegal 02, Bogor Regency.

Optimistic

Table 15. Frequency of Optimism Indicator

Score	Criteria	Frekuensi	Percentage
26 – 35	High	16	29,6%
16 – 25	Moderate	36	66,7%
6 – 15	Low	2	3,7%
	Total	54	100%

According to Table 15, students feel optimistic in learning mathematics, with 16 students (29.6%) in the high criteria, 36 students (66.7%) in the moderate criteria, and 2 students (3.7%) in the low criteria.

Independent

Table 16. Frequency of Independent Indicator

Score	Criteria	Frekuensi	Percentage
34 – 45	High	8	14,8%
22 – 33	Moderate	44	81,5%
10 – 21	Low	2	3,7%
	Total	54	100%

Based on Table 16 above, students' independence in learning mathematics is obtained with 8 students (14.8%) in the high criteria, 17 students (81.5%) in the moderate criteria, and 2 students (3.7%) in the low criteria.

Hard Work

Table 17. Frequency of Hard Work Indicator

Score	Criteria	Frekuensi	Percentage
20 – 25	High	28	51,8%
14 – 19	Moderate	21	38,9%
8 – 13	Low	5	9,3%
	Total	54	100%

Based on Table 17, students work hard in learning mathematics, with a total of 28 students (51.8%) in the high criteria, 21 students (38.9%) in the moderate criteria, and 5 students (9.3%) in the low criteria.

Actively Facing Environmental Conditions

Table 18. Frequency of Actively Facing Environmental Conditions Indicator

Score	Criteria	Frekuensi	Percentage
8 – 10	High	14	25,9%
5 – 7	Moderate	32	59,3%
2 – 4	Low	8	14,8%
	Total	54	100%

Based on Table 18, students actively facing the environmental conditions in learning mathematics are found to be 14 students (25.9%) in the high criteria, 32 students (59.3%) in the medium criteria, and 8 students (14.8%) in the low criteria.

Berani Mengemukakan Kehendak/Ide

Table 19. Frequency of Daring to Express Their Will/Ideas Indicator

Score	Criteria	Frekuensi	Percentage
12 – 15	High	4	7,4%
8 – 12	Moderate	38	70,4%
4 – 7	Low	12	22,2%
	Total	54	100%

Based on Table 19 above, in terms of the courage to express ideas or desires, there are 4 students (7.4%) in the high criteria, 38 students (70.4%) in the medium criteria, and 12 students (22.2%) in the low criteria.

Calmness

Table 20. Frequency of Calmness Indicator

Score	Criteria	Frekuensi	Percentage
15 – 20	High	12	22,2%
9 – 14	Moderate	36	66,7%
3 – 8	Low	6	11,1%
	Total	54	100%

Based on Table 20 above, students' calmness in learning mathematics is obtained with 12 students (22.2%) in the high criteria, 36 students (66.7%) in the moderate criteria, and 6 students (14.8%) in the low criteria.

Based on the analysis of students' learning motivation and self-confidence in learning mathematics, there is a tendency that students with high learning motivation will also have high self-confidence, as well as students with moderate and low learning motivation. The researcher selected 3 male students and 3 female students who obtained the highest, moderate, and lowest scores, which will be presented in the following Table 21.

Table 21. Subjects'

Student Code	Score of Leaning Motivation	Score of Self-Confidence	Criteria
M8	109	113	High
F4	118	124	High
M24	89	93	Moderate
F9	91	94	Moderate
M2	69	72	Low
F3	58	75	Low

The selection of these six students is solely intended to demonstrate that the level of learning motivation will influence or correlate with self-confidence, both in male and female students.

DISCUSSION

This study aims to describe the learning motivation and self-confidence of students in mathematics learning at SDN Tegal 02, Bogor Regency.

Learning Motivation

Based on the analysis results, the learning motivation of SDN Tegal 02 students in Bogor Regency is in the moderate criteria. In Table 6 and Figure 1, out of 54 students, 27 students (50%) are in the moderate criteria, 26 students (48.1%) in the high criteria, and 1 student (1.9%) in the low criteria. It can be observed that the number of students with high and moderate learning motivation is almost the same, with only a 1-student difference. This difference is due to variations in the level of learning motivation between male and female students, as seen in Table 7, where most male students show moderate learning motivation, while most female students exhibit high learning motivation.

Furthermore, from the analysis of learning motivation indicators for students in mathematics at SDN Tegal 02, Bogor Regency, out of 54 students, there are 28 students (51.85%) with high criteria for the indicator of desire and willingness to succeed, 29 students (53.7%) with high criteria for the indicator of encouragement and needs in learning, 28 students (51.9%) with high criteria for the indicator of hopes and aspirations for the future, 35 students (64.8%) with high criteria for the indicator of appreciation in learning, 24 students (44.4%) with high criteria for the indicator of interesting learning activities, and 34 students (62.96%) with moderate criteria for the indicator of a conducive learning environment.

For the desire to succeed indicator, the highest score is for the statement "I spend time at home studying mathematics," indicating students' efforts to follow mathematics learning effectively. Next, for the encouragement and needs in learning indicator, most students state that they listen well to the teacher's explanations during mathematics learning. For the hopes and aspirations for the future indicator, most students want to excel in mathematics as a moral responsibility to their parents. For the appreciation in learning indicator, praise and encouragement from their peers and teachers make them want to successfully work on mathematics problems. Furthermore, in the indicator of engaging activities in learning, some students state that they have difficulty understanding the teacher's explanations, resulting in a lack of focus and quick boredom in learning mathematics (Pertiwi, 2021). In the indicator of a conducive learning environment, most students feel sleepy when the teacher explains mathematical material, and they feel bored and reluctant to actively participate due to a low interest in mathematics learning (Kavinji, 2021).

Kepercayaan Diri

The analysis of students' self-confidence in Table 13 and Figure 2 shows that out of 54 students, 7 students (13%) are in the moderate criteria, 47 students (87%) are in the high criteria, and no students (0%) are in the low criteria. The analysis of self-confidence indicators reveals that 5 out of 6 indicators are in the high criteria, except for the hard work indicator, which is in the moderate criteria.

Next, the comparison of self-confidence between male and female students shows that almost all male students (95.8%) are in the moderate criteria, while female students are in the moderate criteria at 80%, with the rest having high self-confidence in learning mathematics.

The results of the self-confidence analysis on the optimism indicator show that 36 students (66.7%) are in the moderate category. Furthermore, in the indicator of expressing ideas/will courageously (Table 19), 38 students (70.4%) are in the moderate category. Then, in the self-reliance indicator, 44 students (81.5%) are in the moderate category. Some students are hesitant to ask the teacher when experiencing difficulties in learning mathematics; therefore, they try to

work on it independently or seek help from friends (Farhan & Jumardi, 2023). Both of these indicators are related to maintaining a calm attitude in learning mathematics. Table 20 shows that 12 students (22.2%) are in the high category, 36 students (66.7%) are in the moderate category, and 6 students (11.1%) are in the moderate category. In terms of maintaining a calm attitude, most students exhibit behaviors such as difficulty in focusing, decision-making, and a tendency to feel sleepy. This includes feelings of nervousness, fear, tension, anxiety, and a lack of confidence in the results of mathematical work, remaining silent during mathematics learning, and efforts to avoid when the lesson begins (Lailiyah et al., 2021), (Yuberta et al., 2020).

The indicator of students' effort in learning mathematics is in the high criteria, with 28 students (51.8%). Some students try to work as best as they can even when facing difficulties. Furthermore, on the indicator of daring to express ideas/will (Table 19), 38 students (70.4%) are in the moderate criteria. Students state that they often feel afraid to try to answer the teacher's questions because they are worried about rejection or ridicule from their peers. This is also found by Rahman, A. et al (2022) where students feel pessimistic about what they believe in.

Students' Learning Motivation and Self-Confidence in Mathematics

Based on the questionnaire results in Table 21, students with high learning motivation tend to have self-confidence, and in academic achievement, they obtain good results (Rahman, S., 2021). However, students' self-confidence does not necessarily match their learning motivation level. This indicates that students with good abilities in learning mathematics do not necessarily have high self-confidence.

Students who show high learning motivation can be identified by their diligence in completing tasks, perseverance in facing difficulties, and having interest and independence in learning. Therefore, students with strong learning motivation tend not to procrastinate in completing their tasks, which can ultimately affect the achievement of their learning goals (Nitami et al., 2015).

Based on the discussion above, in students' learning motivation, the indicator of a conducive learning environment is perceived as lacking by students, while a supportive learning environment is crucial in learning mathematics because this subject is an essential foundation with applications closely related to daily life, especially in the fields of science and technology. Although mathematics always evolves with the progress of science and technology, negative perceptions of the community towards mathematics, such as the belief that understanding mathematics requires a high level of intelligence, can hinder learning motivation, especially for those who feel less confident. Therefore, to improve the mathematics learning process, it is important to create a conducive learning environment, including the establishment of a safe and pressure-free environment in school, where rewards and punishments should not be used as tools in the mathematics learning process (Risnawati, 2013, p.183). In addition to a conducive environment, one way to stimulate students' interest and motivation to learn is through the use of games in teaching (Nathaniel, 2023).

The results of students' self-confidence at SDN Tegal 02 show that most students still tend to rely on teacher or peer support, and there is fear of expressing ideas or opinions. Some students are unwilling and afraid to answer questions. However, self-confidence is an important aspect that students must possess to interact with peers effectively. By having self-confidence, students are more likely to unleash their potential, leading to better achievements (Burn, in Oktapiani, 2019). Therefore, building confidence in individual potential needs to be emphasized so that students can feel more comfortable actively participating in the learning process and have more confidence in their abilities rather than relying on others.

Based on the above explanation, a learning process needs to be designed that can stimulate students' learning motivation and self-confidence by optimizing the learning environment. In this regard, the role of the teacher is crucial in creating a learning climate that is relaxed, comfortable, and interactive. Through such an atmosphere, the emergence of comfort and interactivity is expected, building children's confidence in their abilities to understand mathematics, so that children feel that mathematics is not difficult (Morony et al., in Faturohman et al., 2022). With strong motivation, mathematics can become a liked subject without excessive burdens.

Furthermore, it is important to communicate with students about topics that are interesting and match their interests, allowing their brains to actively think and stimulate the pursuit of things they enjoy. Additionally, explanations about the benefits of the subjects being studied need to be conveyed, tailored to individual student interests.

CONCLUSION

Based on the research results, the learning motivation and self-confidence of students at SDN Tegal 02 in learning mathematics are in the moderate criteria, with a percentage of 50% for learning motivation and 87% for self-confidence. In terms of learning motivation, the only conducive learning environment indicator is in the moderate criteria with a percentage of 62.96%. Regarding self-confidence, five out of six indicators are in the moderate criteria, especially in independence with a percentage of 81.5%. Both indicators emphasize the importance of the teacher's role in creating a conducive learning environment and using appropriate models to enhance students' learning motivation and self-confidence in learning mathematics. Female students at SDN Tegal 02 in Bogor tend to have higher motivation and confidence than male students, but they show a similar trend, where students with high motivation also exhibit high self-confidence, as well as those with moderate and low motivation.

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