

Efforts to Improve Mathematics Learning Interest Through Basic Literacy and Numeracy Assistance Among Grade 2 Elementary Students

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Abstract

This study aims to determine the effect of coaching on reading, writing, and arithmetic (reading, writing, and arithmetic) on the interest in learning Mathematics of grade II students of MI Sunan Muria Poncokusumo. The background of this study is the low interest in learning Mathematics among elementary school students caused by the weak basic skills of reading, writing, and arithmetic. This study uses a quantitative approach with a descriptive method. The data collection technique was carried out through a questionnaire given to 21 grade 2 students. The instrument was compiled based on three indicators of learning interest, namely liking, interest, and learning diligence. The results showed that most students gave positive responses. As many as 71.4% of students strongly agreed that coaching on counting made it easier for them to do Mathematics problems, and 81% of students strongly agreed that coaching on reading and writing made them prefer learning Mathematics. The conclusion of this study is that coaching on reading, writing, and arithmetic contributes positively to increasing the interest in learning Mathematics of grade 2 students, especially in terms of liking and interest in the lesson.

1. Introduction

Education plays an important role in creating quality and highly competitive human resources. In the increasingly complex digital era, basic skills such as reading, writing, and arithmetic (calistung) are the main foundation for students' success in mastering various disciplines, especially mathematics (Sari & Pratama, 2021). Of the several subjects studied by elementary school students, mathematics is one of the core subjects, not only honing logic and analytical skills, but also being the key to understanding other scientific concepts (Haryanto, 2020). However, interest in learning mathematics among students, especially at the elementary school level, is often an issue that needs serious attention because elementary school students feel that mathematics is not fun and is a difficult subject. This low interest can be caused by various factors, such as less attractive learning methods (Fitriani & Yusuf, 2022), lack of mastery of basic literacy and numeracy skills, or lack of motivation from the learning environment (Nuraini, 2023).

With the existence of structured and systematic basic literacy and numeracy assistance is one of the solutions to increase students' interest in learning mathematics (Rahmawati & Putra, 2020). In addition, the negative viewpoint that students have on mathematics lessons also needs to be changed, changes and directions to good viewpoints and prejudices are not always negative, such as thinking that mathematics is an easy and fun lesson. Furthermore, the main focus in learning mathematics lessons is good basic literacy and numeracy skills. Because with good basic literacy and numeracy skills, it will not only make it easier for students to understand mathematics subject matter, but will also create a sense of confidence and independence in the learning process. A student who is good at basic literacy and numeracy skills tends to understand mathematical concepts more easily, so they do not feel burdened or confused in dealing with complicated problems (Lestari & Wijaya, 2022). In addition, students carry out a fun and interactive basic literacy and numeracy assistance process can create a positive learning atmosphere, thus students can increase students' interest and motivation to learn (Pratama, 2021). It is known that the relationship between basic literacy and numeracy assistance and students' interest in learning mathematics is very close, because if students have good basic literacy and numeracy skills, it will be one of the supporting factors for those who create an initial interest in learning mathematics, so that good and effective basic literacy and numeracy assistance will increase students' interest in learning mathematics. But if students think that mathematics is a difficult subject, then it is necessary to identify students' basic literacy and numeracy abilities because some students are not interested in learning

mathematics because of their low calistung ability.

The main focus of this study is on the school's efforts to increase students' interest in learning mathematics through the development of calistung at MI Sunan Muria Poncokusumo. MI Sunan Muria Poncokusumo is a representative research location in determining the condition of students in rural areas at the basic education level (Handayani & Firmansyah, 2023). MI Sunan Muria Poncokusumo as a faith-based educational institution not only emphasizes students' knowledge on the academic aspect, but also on the formation of students' virtuous character. Like elementary schools in general, MI Sunan Muria Poncokusumo also faces several obstacles in increasing students' interest in learning mathematics. Therefore, this study is expected to provide a clear picture of how the process of fostering basic literacy and numeracy can affect students' interest in learning mathematics.

This study also aims to find out and analyze how basic literacy and numeracy can increase the interest in learning mathematics of second grade students of MI Sunan Muria Poncokusumo. Because by understanding the relationship between basic literacy and numeracy and interest in learning mathematics, this research is expected to provide benefits for the development of effective learning process strategy programs at the elementary education level (Setiawan & Ramadhani, 2021). Then, the results of this research are expected to be a reference for educators and policy position holders in designing more effective and sustainable programs (Wulandari, 2022). Efforts to increase the interest in learning mathematics of elementary school students are expected to be a driver of students' academic achievement, as well as to form students who are ready to face future challenges. However, until now, it has been found that there are limitations of research that examines more deeply the direct relationship between the implementation of basic literacy and numeracy and also about increasing students' interest in learning mathematics at the elementary school level, especially in the Madrasah Ibtidaiyah environment in rural areas. Therefore, this study aims to identify and analyze the influence of basic literacy and numeracy on increasing the interest in learning mathematics of grade II students at MI Sunan Muria Poncokusumo.

Mathematics education at the elementary level has an important role in shaping students' basic abilities to think logically and critically. As stated by Sari & Pratama (2021), basic skills such as basic literacy and numeracy are one of the important factors in carrying out mathematics learning, because they can have an impact on understanding more complex and comprehensive mathematical concepts. This is in agreement with Haryanto's (2020) statement which focuses on emphasizing that mathematics is the key to mastering other sciences. However, the biggest challenge that is often faced is that students have a low interest in mathematics subjects. Several studies show that one of the factors that cause students to have low interest is a lack of motivation and discomfort in students in dealing with math lessons (Fitriani & Yusuf, 2022). In this discussion topic, basic literacy and numeracy assistance can be one of the solutions to increase students' interest in learning mathematics, because this coaching makes the student learning experience more enjoyable and meaningful. Systematic basic literacy and numeracy assistance, as revealed by Rahmawati & Putra (2020), plays an important role in creating students' confidence, and helping them to understand mathematics subject matter more easily. With a fun coaching process approach in the basic literacy and numeracy assistance process, it can increase students' interest in mathematics and change their perspective on lessons that were previously considered difficult and scary to be more interesting and easy to understand (Lestari & Wijaya, 2022). Therefore, this study is important to find out how effective calistung coaching can increase interest in learning mathematics among elementary school students.

Construction of Calistung → Interest in learning

2. Method

In this study, a type of quantitative research was used with a descriptive analysis approach method. In this study, we will analyze a data taken from MI Sunan Muria in grade 2 students, namely in the form of numbers. This research was carried out at MI Sunan Muria Poncokusumo on April 10, 2025, with a population of 21 students in grade 2 who have received calistung coaching. This study has 2 bound variables, namely (X) which is an effort to increase students' interest in learning mathematics and

variable (Y), namely through basic literacy and numeracy assistance. The data collection technique uses a questionnaire in the form of a questionnaire, containing several indicators of student learning interest, there are 10 statements given to students. In this study, four alternative answers were used, namely strongly agree, agree, disagree and strongly disagree with the scoring guidelines as follows:

Table 1.2 Scoring Guidelines

Answer Caption	Positive statements	Negative statements
Strongly agree	4	1
Agree	3	2
Disagree	2	3
Strongly Disagree	1	4

3. Results and Discussion

They should be combined. The study results should be clear and concise. Restrict the use of tables and figures to depict data that is essential to the message and interpretation of the study. The results should be presented in a logical sequence in the text, tables and illustrations. The part of result exposes the findings obtained from research data which is related to the hypotheses. The results should summarize (scientific) findings rather than providing data in great detail. The discussion should explore the significance of the results of the work. Explains the findings obtained from research data along with theory and similar research comparison. Make the discussion corresponding to the results, but do not reiterate the results. The following components should be covered in discussion: How do your results relate to the original question or objectives outlined in the Introduction section (what/how)? Do you provide interpretation scientifically for each of your results or findings presented (why)? Are your results consistent with what other investigators have reported (what else)? Or are there any differences?. Include in the discussion the implications of the findings and their limitations, how the findings fit into the context of other relevant work, and directions for future research.

The results of the research and discussion include statements that are in accordance with the indicators of student learning interest which include 3 aspects. 1) there is a love for learning, 2) there is an interest in learning, 3) diligence in learning and doing assignments (Fitriani & Winata, 2019), through the results of the questionnaire that has been given to students in the form of 10 statements of indicators of efforts to increase interest in learning mathematics through the development of basic literacy and numeracy, So the following descriptive analysis was obtained:

Table 2.1 Results of positive statement analysis

N	STATEMENT	ANSWER OPTIONS			
		Strongly Agree (4)	Agree (3) (2)	Disagree	Strongly Disagree (1)
1	By participating in counting coaching, I can easily do Mathematics problems.	15 students (71,4%)	6 students (28.6%)	-	-
2	By participating in reading coaching, I easily understand Mathematics problems.	15 students (71,4%)	6 students (28.6%)	-	-
3	I enjoy participating in writing coaching because students it makes my writing neat and easy to read.	16 (76.2%)	5 students (23.8%)	-	-

4	I am not afraid to try Mathematics problems because I am used to practicing arithmetic.	9 students (42.9%)	12 students (57.1%)	-	-
5	I prefer to study Mathematics because I practice reading and writing often.	17 students (81.0%)	4 students (19.0%)	-	-
6	I often do Math assignments at home after getting used to practicing reading and arithmetic.	-	10 students (47.6%)	9 students (42.9%)	2 students (9.5%)
7	The reading, writing, and arithmetic coaching made it easier for me to learn Mathematics.	12 students (57.1%)	7 students (33.3%)	-	2 students (9.5%)

The first statement "**By following the calculation coaching, I can easily do Mathematics problems.**" This statement is a positive statement that refers to the 2nd indicator, namely interest in learning. A total of 15 students (71.4%) gave point 3, namely the answer "**agree**" and 6 students (28.6%) gave point 4 which means "**strongly agree**". The second statement "**By following reading coaching, I can easily understand Mathematics problems.**" This statement is a positive statement that refers to the 2nd indicator, namely interest in learning. A total of 6 students (28.6%) gave 3 points which means "**agree**" and 15 students (71.4%) gave 4 points, namely "**strongly agree**". Third statement "**I am happy to follow writing coaching because it makes my writing neat and easy to read.**" This statement is a positive statement that refers to the 3rd indicator, namely the love of learning. It is known that 5 students (23.8%) who gave point 3 meant "**agree**" and 16 students (76.2%) gave point 4. means "**strongly agree**" answer. Fourth statement: "**I am not afraid to try math problems because I am used to practicing arithmetic.**" This statement is a positive statement that refers to the 2nd indicator, namely interest in learning, it is known that 12 students (57.1%) gave point 3 which is "**agree**" and 9 students (42.9%) gave point 4 meaning "**strongly agree**". Fifth statement: "**I prefer to study Mathematics because I practice reading and writing a lot.**" This statement is a positive statement that refers to the first indicator, namely liking learning, it is known that 4 students (19.0%) gave point 3 meaning "agreed" and 17 students or (81.0%) gave point 4 meaning "**strongly agree**" and no student gave point 1 which was "**strongly disagree**" and 2 was "**disagree**". Sixth statement: "**I often do math assignments at home after getting used to practicing reading and arithmetic.**" It is a positive statement that refers to the 3rd student's interest in learning, namely diligent learning and doing assignments, it is known that 2 students (9.5%) gave 1 point which means "**strongly disagree**", 9 students (42.9%) gave point 2 which means "**disagree**" and 10 students (47.6%) gave 3 points which means "**agree**". The seventh statement "**Reading, writing, and counting coaching makes it easier for me to learn Mathematics.**" This statement is a positive statement that refers to the 2nd indicator, namely interest in learning, it is known that 2 students (9.5%) gave point 1 which is "**strongly disagree**", 7 students (33.3%) gave point 3 which is the choice of answer "**agree**" and 12 students (57.1%) gave point 4 which means "**strongly agree**".

Table 2.2 Negative statement analysis results

N	STATEMENT	ANSWER OPTIONS			
		Strongly Agree (1)	Agree (2) (3)	Disagree (4) Strongly Disagree (4)	
8	I was lazy to do math assignments even though I could read, write and calculate well.	4 students (19.0%)	3 students (14.3%)	7 students (33.3%)	7 students (33.3%)
9	I felt that the math exercises did not help me in the Math lessons.	2 students (9.5%)	5 students (23.8%)	4 students (19.0%)	10 students (47,6%)

1	I don't like to study Mathematics even though I am often invited to practice counting and reading.	9 students (42.9%)	1 student (4.8%)	6 students (28.6%)	5 students (23.8%)
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The eighth statement "**I am lazy to do Mathematics assignments even though I can read, write and calculate well**". This statement is a negative statement that has been modified from the 3rd indicator, namely diligent learning and doing assignments. A total of 4 students (19.0%) gave point 1 which was "**strongly agree**", 3 students (14.3%) gave point 2 which was the choice of answer "**agree**", 7 students (33.3%) gave point 3 which was "**disagree**" and 7 students (33.3%) gave point 4 which means "**strongly disagree**". Ninth statement "**I feel that the numeracy exercises are not helping me in Math lessons**". This statement is a negative statement that has been modified from the 2nd indicator of interest in learning, it is known that 2 students (9.5%) gave point 1 which is "**strongly agree**", 5 students (23.8%) gave point 2 which is the choice of answer "**agree**", 4 students (19.0%) gave point 3 which is "**disagree**" and 10 students (47.6%) gave point 4 which means "**strongly disagree**". Tenth statement: "**I don't like to study Mathematics even though I am often invited to practice counting and reading**". This statement is a negative statement that has been modified from the first indicator, namely the liking for learning. It is known that 9 students (42.9%) gave point 1 which is "**strongly agree**", 1 student (4.8%) gave point 2 which is the answer choice "**agree**", 6 students (28.6%) gave point 3 which is "**disagree**" and 5 students (23.8%) gave point 4 which means "**strongly disagree**".

The results of the questionnaire given to 2nd grade elementary school students showed that the development of calistung (reading, writing, and arithmetic) had a positive influence on increasing interest in learning mathematics. Most students responded with statements of "agree" and "strongly agree" to statements that reflected their liking, interest, and active involvement in learning mathematics after following the process of basic literacy and numeracy assistance. This shows that when students master basic skills such as reading and numeracy well, students become more confident and motivated to take mathematics lessons more enthusiastically (Firdaus, 2020; Fitriani & Winata, 2019). The statement "By participating in the counting assistance I can easily do Mathematics problems" and the statement "By participating in reading assistance I can easily understand Mathematics problems" students gave a very good response. This supports the findings of Harwati and Rahayu (2023), who state that basic literacy and numeracy assistance is one of the initial keys to success in the mathematics learning process, especially at the elementary education stage. The basic literacy and numeracy assistance not only plays a role in improving students' basic cognitive abilities, but also becomes a medium to form a positive mindset towards mathematics lessons, which some students consider math to be very difficult.

The stage of increasing interest in learning mathematics in students is also seen in the fifth statement, namely "I prefer to study Mathematics because I often practice reading and writing," there are 81.0% of students who choose "very agree". These results strengthen the opinion of Fitriani and Yusuf (2022), who explain that diverse and structured learning methods, such as the combination of the basic literacy and numeracy process with the main lesson in class, are one of the factors in efforts to increase students' interest in learning the material learned. In agreement with Haryanto's (2020) theory, which states that students' ability to master mathematics lessons has an important relationship with students' logical thinking skills formed from an early age. However, the development of basic literacy and numeracy has not been fully successful in forming students' independent learning habits, as stated in the results of the sixth and eighth statements. It is known that there are still students who have low interest in learning such as being lazy to do assignments even though they have participated in basic literacy and numeracy assistance. This shows that a strengthened and more effective assistance process is needed, especially in the aspects of motivation and the formation of independent learning character in students. Nuraini (2023) emphasizes the importance of the role of the learning environment and intrinsic motivation to improve consistent learning habits. The basic literacy and numeracy assistance strategy carried out in schools should not only emphasize the cognitive aspect, but also pay attention to the affective and social-emotional aspects of students.

The results of the seventh and ninth statements explained that the majority of students were aware of the benefits of basic literacy and numeracy assistance on mathematics learning ability, although it was found that some students still doubted the effectiveness of basic literacy and numeracy assistance. With doubts in students, a more diverse contextual approach is needed in the implementation of the basic literacy and numeracy assistance process. Kurniawan and Pratama (2021) stated that a contextual approach in the mathematics learning process will help students to connect the subject matter with the daily living environment, so that it will have a positive impact through increasing the relevance between students' learning interests and basic literacy and numeracy assistance. In addition, Lestari and Wijaya (2020) support the implementation of a more interactive learning process to overcome boredom and boredom that often arise in students when they feel tired to focus. In the social aspect, Handayani and Firmansyah (2023) emphasized that the cultural characteristics and social environment of students, especially in rural areas, also affect the effectiveness of basic literacy and numeracy assistance because for families with low literacy environments, the basic literacy and numeracy assistance program will be very important to be a link between these limitations. Rahmawati and Putra (2020) emphasized that basic literacy and numeracy assistance is the basis of initial knowledge of the entire academic process of students at the elementary education level. Therefore, basic literacy and numeracy assistance needs to have a good and effective assistance strategy so that it not only focuses on the ability to develop basic knowledge, but also empowers students socially.

Agreeing with this concept, Pratama (2021) stated that interactive learning that emphasizes active student involvement is one of the efforts to significantly increase motivation and interest in learning. In addition, it is necessary to apply interesting and fun methods during the basic literacy and numeracy assistance process, so that students feel helped to develop basic skills without feeling pressured and burdened or feeling afraid, so that they are better prepared to face the learning process. This view is also strengthened by Setiawan and Ramadhani (2021), who stated that an effective learning strategy for elementary school students must consider psychological and emotional aspects, so that the learning process can be received optimally and have a good impact in the long run. The relationship between students' calistung ability and mathematical achievement has been empirically proven by Lestari and Wijaya (2022), which shows that there is a strong positive relationship between the two. The ability to understand students' math problems is closely related to reading, writing, and arithmetic skills. In addition, according to Sari and Pratama (2021), calistung has a role as a link between early literacy skills and understanding of advanced mathematical concepts. Therefore, there is a strategy to increase interest in learning mathematics through the development of calistung not only according to their needs, but also strategic and sustainable.

3.1. Conclusion

Based on the results of data analysis and discussions that have been carried out, it can be concluded that the development of calistung (reading, writing, and arithmetic) has been proven to have a significant influence in increasing interest in learning mathematics in grade 2 elementary school students. This assistance is not just a basic skill exercise, but is an important basic fulcrum in shaping students' cognitive and affective readiness in accepting and understanding the mathematical concepts taught by teachers. This can be seen from the majority of positive student responses to almost all indicators related to interest in learning mathematics, both in terms of liking learning, interest in the material, to diligent study and doing assignments. The application of basic literacy and numeracy assistance in a structured and interesting manner is able to create a pleasant learning atmosphere and increase students' confidence in mathematics lessons. Reading and writing skills help students understand math problems better, while numeracy skills make it easier to complete basic math operations. This has implications for an increase in students' interest in participating in the learning process. In addition, assistance programs that are carried out regularly also play a role in creating positive learning habits and supporting the formation of independent learning character from an early age. Although the results of the study show that a significant increase in students' interest in learning occurs, it is still found that some students have not been created consistent in doing assignments independently at home. This condition shows that basic literacy and numeracy assistance requires support from various other factors, such as a supportive learning environment, active parental involvement, and a more varied and fun learning approach. Interactive and contextual learning strategies have proven to be effective in reaching students' needs more thoroughly and encouraging their active involvement in the learning process. In addition, the role of teachers as facilitators and motivators is very important in directing the

implementation of basic literacy and numeracy assistance to be more optimal and in accordance with the characteristics of students. The social and cultural environment is also a variable that also affects the effectiveness of assistance. Therefore, the successful implementation of basic literacy and numeracy assistance is one that is able to adapt to the social context of students and combine academic approaches with affective and humanistic approaches. Overall, this study concludes that basic literacy and numeracy assistance can be used as one of the main strategies in increasing interest in learning mathematics at the elementary school level. This strategy has a positive impact not only on academic ability, but also on students' attitudes, habits, and motivation to learn. With consistent implementation, the right approach, and support from various parties, basic literacy and numeracy assistance can be a strategic step in strengthening the foundation of basic education and preparing students for the next level of education.

Author Contributions

Syafira Fadillah Maulidah: Conceptualization, Data curation, Formal analysis, Investigation, Writing – Original Preparation, Writing – review and editing.

Candra Utama: Supervision, Validation.

All the authors have read and approved the final manuscript.

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