

# Mathematics Literacy Ability Reviewing From Mathematic Reasoning On Students With Special Needs At Siyono 1 State Primary School

*by Sugiman Matematika*

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# Mathematics Literacy Ability Reviewing From Mathematic Reasoning On Students With Special Needs At Siyono 1 State Primary School

Danuri Danuri<sup>1\*</sup>, St. Budi Waluya<sup>1</sup>, Sugiman Sugiman<sup>1</sup>, Y.L. Sukestiyarno<sup>1</sup>,  
Rianisa Scientisa A<sup>2</sup>

<sup>1</sup>Universitas Negeri Semarang, Indonesia

<sup>2</sup>Universitas PGRI Yogyakarta, Indonesia

\*Corresponding Author: danuri@students.unnes.ac.id

**Abstract.** This research aims to investigate 1) students' understanding of mathematical literacy. 2) Mathematical literacy level based on the mathematical reasoning of students with special needs (SSN) 3) Influencing factors. 4) learning process. 5) problems experienced. 6) Solutions to improve it for SSN This research was qualitative research. Data obtained through interview, questionnaire, test and documentation. The analysis techniques were data gathering, presentation, reduction, and conclusion drawing or verifying. The data validity used triangulation techniques and sources. The findings show that 1) 3 regular students categorized good, 1 regular students and 1 SSN were less good. 2) regular students were able to present statements, manipulate mathematics, and conclude logically while the SSN were not. 3) students' understanding level, motivation and assistance. 4) motivation building, exercises, lecturing method. 5) no inclusive teacher, students' low understanding, motivation and literacy level. 6) teacher training, special assistance, exercises, lecturing method and giving trick and easy way.

**Key words:** Mathematical Literacy; SSN; Mathematical Reasoning

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## INTRODUCTION

One of the supporting factors for the progress and development of a country is education, with education it is expected to be able to change the level of poverty into welfare for the people in a country. Through education, students will automatically get facilities to support the implementation of education, guidance, and instruction so that they are able to become citizens who have awareness and able to implement their rights and duty. (Haderani, 2018).<sup>i</sup>

An inclusive school is one of the formal schools that provides educational services for students with special needs in which they are educated together with those who are normal (students who do not have special needs) in one classroom during learning activities. Inclusive Education is Education which is based on human rights and social models; the system must be adapted to the child, not the child who adapt to the system (Thomas & Bacon, 2013).<sup>ii</sup> Strategies, methods, or ways of implementing inclusive education in each country are kmf vary widely. The success of implementing inclusive education is influenced by many factors including cultural, political, and human resources factors (Kwon,

2005).<sup>iii</sup> Children with special needs are defined as children who have special characteristics that are different from other children in terms of mental, emotional, and physical, though they do not always show those dissabilities. Based on these terms, children with special needs are unique children and have their own characteristics that distinguish them from children in general (Heward, 2003).<sup>iv</sup> Children with disabilities are much more likely to attend inclusive education (Bose & Heymann, 2020).<sup>v</sup>

Mathematics is one of the subjects that is considered a difficult subject. Mathematics is a subject in which there is a process of reasoning and understanding concepts related to one another. Students' mathematical literacy requires logical reasoning and numeracy at a high level (Ni'mah et al., 2017)<sup>vi</sup>, which shows that face-to-face explanations are still needed when communicating numeracy skills (Neitzel et al., 2020).<sup>vii</sup> Indonesia participated in the PISA study (Program for International Student Assessment) which is as an international assessment held by the OECD. The assessment covers three competencies including reading (reading literacy), mathematics (mathematical literacy), and science (scientific literacy). In 2015, the

result of PISA increased compared to the previous year and mathematics competence increased by 275 points to 386 points. However, the increase result of PISA is still relatively low when it compares to the country's average score (Putra:2019).<sup>viii</sup> The low achievement of students

in the PISA study is one of the government and the government of education concerns which according to a reserach students still have difficulties in working on problems in the form of mathematical literacy.

**Tabel 1.** The result of Numeracy Test

Number	Student's Name	Score
1.	AJU	2.94
2.	HKD	23.5
3.	AGP	14.7
4.	NAS	14.7
5.	JAB (Slow Learner)	0

Based on the data above, it can be seen that students' understanding of mathematical numeracy literacy is still low. Students have not been able to apply formulas that are in accordance with existing problems, inaccurate in counting, and have problems in understanding questions.

This shows that student learning outcomes are

still far from expectations. Beside numeracy test results, there are also literacy questionnaire scores in terms of mathematical reasoning. The following are the results of the literacy questionnaire scores in terms of mathematical reasoning:

**Tabel 2.** The Literacy Questionnaire in terms of Mathematical Reasoning

Number	Student's Name	Score
1.	AJU	3,28
2.	HKD	2,80
3.	AGP	2,85
4.	NAS	3
5.	JAB (Slow Learner)	2,76

Based on the data above, the scores obtained fall into poor category. Students both with special needs and those without special needs have not been able to optimally use their abilities such as analyzing and communicating the completion of mathematical literacy problems, and determining the right formula in working on mathematical literacy problems.

The reason the researcher is interested in doing this research is that the researcher realizes that the level of mathematical literacy in terms of mathematical reasoning in elementary schools is very low. With this research, it is hopefully able to help find out the obstacle things for students in solving mathematical literacy problems with mathematical reasoning, and to get the right solution which can be applied to learning and automatically improving mathematical literacy skills by students' mathematical reasoning.

#### RESEARCH METHOD

This research is a qualitative research with a descriptive approach and uses a humanistic

model. The reason for it is because the subject of the research is human. The subjects of this research were the fifth grade students of SD Negeri Siyono I, totaling 4 regular students and 1 student with special needs (SSN).

The techniques used in collecting data were interviews, questionnaires, written tests, and documentation. Interviews were used to determine the level of students' mathematical literacy ability in terms of mathematical reasoning, finding out the factors that affect the level of students' mathematical literacy skills in terms of mathematical reasoning, the implementation of learning that has been applied, the obstacles experienced, and the solutions to overcome obstacles. Questionnaires were used to measure the students' level of mathematical literacy ability in terms of mathematical reasoning based on the students' opinions. Written tests were used to strengthen students' mathematical literacy skills in terms of mathematical reasoning. While documentation

were used as supporting data, documentation were taken from the form of lesson plans, AKM results, and supporting photos during research activities.

In conducting data analysis, the researcher uses an interactive model, in which there are some elements in the form of data collection, data reduction, data display, and conclusion drawing or verification. To test the validity of the data in this study, the researchers used the triangulation method. Triangulation in testing credibility is an activity of checking data from various sources and various times (Sugiyono, 2007:273).<sup>ix</sup> In this research, the researcher used triangulation method and source triangulation.

## RESULT AND DISCUSSION

### Students' Level of Understanding Related to Mathematical Literacy

Mathematical literacy is the ability that exists

within a person to be able to formulate, use, and interpret mathematics<sup>7</sup> in various contexts (Setiawan, 2014:245).<sup>x</sup> The low achievement of Indonesian students in the PISA study become government and education concern. Mathematical literacy ability is considered important because it can help students in solving a problem that occurs in daily life that has to do with mathematics. Fang states that it is important for mathematics teachers to support students' mathematical literacy (Fang & Chapman, 2020).<sup>xi</sup> Learning mathematics by applying the literacy learning process will produce better results (Sumirattana et al., 2017).<sup>xii</sup>

There is a lot of evidence showing that numeracy literacy is necessary for children according to their respective abilities (Napoli & Purpura, 2018).<sup>xiii</sup> The following are the results of the questionnaire and the results of the mathematical literacy ability test in terms of mathematical reasoning:

**Table 3.** The results of the mathematical literacy questionnaire in terms of mathematical reasoning

Responden	score	Percentage	Category
AJU	29	73%	Good
HKD	33	83%	Good
AGP	25	63%	poor
NAS	29	73%	good
JAB ( <i>slow learner</i> )	26	65%	poor

Based on the explanation above and based on the results of the mathematical literacy questionnaire in terms of mathematical reasoning, students with special needs in SD Siyono I, especially class V is categorized as a slow learner. The student faces difficulty in understanding the material presented by the teacher, besides the teacher also experiences a shortage in providing services for students with special needs. Related to this, the level of mathematical literacy for students with special needs in class V at SD Siyono I is still very low. This is in accordance with the results of the study as follows:

AJU, a regular student or students who does not have special needs are included in the good category. AJU is able to explain the meaning of mathematical literacy using its own sentences, understand the meaning of the questions contained in the questions, and determine the formula to answer the questions. HKD who is regular students or students who does not have special needs are included in the good category. HKD is able to explain the meaning of mathematical literacy using his own sentences, understand the meaning of the questions in the questions, and determine the formula used to

answer the questions even though there is an inappropriate use of formulas in some questions.

AGP who is regular students or students who do not have special needs included in the poor category. AGP is able to explain the meaning of mathematical literacy by using its own sentences, but he needs to read the questions repeatedly in order to understand the meaning of the questions, he still faces difficulty in determining the formula to solve problems on some questions. NAS who categorized as regular students or students who does not have special needs are included in the good category. He is able to explain the meaning of mathematical literacy using its own sentences, he needs to read questions repeatedly in order to understand the intent of the question, but he is able to determine the formula to solve the problem on several questions.

JAB, a student with special needs in class V is included in the poor category. He is able to explain the meaning of mathematical literacy by using its own sentences, but he needs extra guidance in order to understand the meaning of the questions, more instruction and requires repeatly explanation to be able to determine the formula used in solving problems of the question.

14 Based on the discussion above, it can be concluded that students are able to explain mathematical literacy according to their own understanding and sentences. There are 3 regular students or students who do not have special needs who have mathematical literacy skills in good category, 1 regular student or students who does not have special needs who is in poor category, and 1 slow learner student or students with special needs who is in poor category on his mathematical literacy.

**Mathematical Literacy Ability in terms of Mathematical Reasoning**

Mathematical reasoning is thinking about the problems that exist in mathematics subject logically to find ways to solve them. The indicators of mathematical reasoning according to Anisah (Anisah & Darmawijoyo, 2013) are:

- a. Students are able to make logical conclusions.
- b. Students are able to provide explanations with models, facts, characteristic, and relationship or by performing mathematical manipulations.
- c. Students are able to predict the right answer and provide solutions.
- d. Students are able to apply patterns and relationships to analyze mathematical situations.
- e. Students are able to compose and test conjectures.
- f. Students are able to compile direct and indirect evidence, and are able to use mathematical induction.

Based on the explanation related to the understanding of mathematical reasoning and indicators of mathematical reasoning above, regular students or students who do not have special needs for mathematical reasoning are in good and sufficient categories. Meanwhile, children with special needs in class V have mathematical reasoning is in poor category. Based on the 6 indicators of mathematical reasoning according to Anisah, the researchers took 3 indicators of mathematical reasoning which include:

- a. The ability to present mathematical statements in a written way.
- b. Students are able to provide explanations with models, facts, characteristic, and relationships or by performing mathematical manipulations.
- c. Students are able to draw logical conclusions.

**Tabel 4.** Mathematical Literacy Ability Test Results in terms of Mathematical Reasoning

Responden Code	Score	Category
AJU	75	Good
HKD	70	Good
AGP	55	Fair
NAS	75	Good
JAB (slow learner)	40	Poor

Based on the table above, it can be seen that the level of mathematical literacy ability in terms of mathematical reasoning in students is as follows:

AJU has good category in mathematical literacy skills in terms of mathematical. In solving numeracy problems, AJU has been able to present mathematical statements in a written way, perform mathematical manipulations even though some numbers are incorrect, and provide conclusions even though the conclusions written in some numbers are also incorrect.

HKD has good category in mathematical literacy skills in terms of mathematical reasoning. In his interview, HKD assumed that he had no difficulty in understanding the material presented by the teacher and when working on the questions. In solving numeracy problems, HKD had been able to present mathematical statements in a written way. However, in question number 5 he was failed to present mathematical statements. He was able to perform mathematical manipulations correctly and provided conclusions even though the conclusions written in number 1 and number 5 were incorrect.

AGP's category in mathematical literacy ability in terms of mathematical reasoning is fair. In solving numeracy problems, he had been able to present mathematical statements in a written way, perform mathematical manipulations, except number 5, he still found difficulty in performing it. He was also able to provide conclusions in accordance with the answers he had written, although there were some mistakes in calculating the results of solving numerical problems provided by the researcher.

NAS has mathematical literacy skills in terms of mathematical reasoning in good category. In solving numeracy problems, he has been able to present mathematical statements in a written way, but in question number 4 NAS find difficulty determining the tariff to be paid. Then in question number 5 NAS has not been able to present mathematical statements in a written way. Overall, NAS has been able to perform mathematical manipulations even though the answers written are incorrect, and he is also able

to provide conclusions, but not for conclusion number 1 and 5.

JAB is a student who has special needs or the slow learner in the fifth grade of SD Negeri Siyono I, he has poor category in mathematical literacy skills in terms of mathematical reasoning. In solving numeracy questions, JAB must be fully assisted by researchers so that he can understand the meaning of the questions on the numeracy questions provided. JAB has not been able to present mathematical statements in a written way, except number 1 even though he has not been able to determine exactly how much Mr. Darmo's contribution gives to the Maju Bersama orphanage. JAB has not been able to do mathematical manipulation on questions number 1,2, and number 5. While on questions number 3 and 4 JAB has been able to do it even though the researcher must help him by giving some instruction. Overall JAB has been able to provide conclusions from the answers that has been written, but the answers are still incorrect.

Based on the above discussion, it can be concluded that there are 3 regular students who have mathematical literacy skills in the good category, 1 regular student who has mathematical literacy skills in fair category, and 1 slow learner student or students with special needs who has poor category in mathematical literacy skill. The students' mathematical reasoning abilities are as follows:

- a. In general, regular students have been able to present mathematical statements, but not for the students with special as they still need to be guided by researchers.
- b. In general, regular students have been able to perform mathematical manipulations, although there are students incorrect in performing mathematical manipulations on some numbers. While, the student with special needs has not been able to perform mathematical manipulations on some numbers.
- c. In general, students have been able to draw logical conclusions, although there are some students who have not been right in writing answers when drawing conclusions in some numbers.

#### **Factors Affecting the Level of Mathematical Literacy Ability in terms of Mathematical Reasoning**

According to Yuni Aprilianti, the factors that can affect the level of mathematical reasoning in students with special needs are as follows:

- a. Students tend to have difficulty in remembering the subject matter that has been conveyed by the teacher at the previous meeting.
- b. Students have difficulty understanding the questions and analyzing them so that students only answer the questions based on their own knowledge and what is being asked in the question.
- c. Students' lack of accuracy in understanding the problems of the questions.
- d. Students' Lack of understanding of the appropriate formula to solve the problem on the question.
- e. Students' lack of understanding related to material concepts so that students find difficulties in compiling mathematical models, describing answers, and compiling arguments in solving problems in questions.

Based on the results of research conducted by researchers in class V SD Negeri Siyono I, the factors that can affect the level of mathematical literacy in terms of mathematical reasoning for the students with special needs are as follows:

- a. The level of understanding possessed by the students themselves
- b. Low level of mathematical literacy
- c. The Maximum of learning assistance
- d. Students' Learning motivation
- e. The Frequent of students' practice

Based on the above discussion, it can be concluded that in general the factors that can affect the level of mathematical literacy ability in terms of mathematical reasoning in students with special needs in class V SD Negeri Siyono I are as follows:

- a. The level of understanding that students have.
- b. Students' learning motivation.
- c. The Maximum of learning assistance.
- d. The Frequent of students' numeracy practice.

#### **The Implementation of Learning to Facilitate the Level of Mathematical Literacy Ability in the term of Mathematical Reasoning**

The implementation of Problem Based Learning (PBL) model is learning considered capable in developing students' mathematical literacy skills. Interesting worksheet which consist of various colourful pictures are able to attract students' attention, It is also able to train students in solving problems that have different forms (Hidayat Rahmat:2021).<sup>xiv</sup>

The teachers of SD N I Siono rarely use learning media and implement various of learning

models. But, The school I has implemented various learning activities to improve mathematical literacy skills in terms of mathematical reasoning for students with special needs including such as:

- a. Building student learning motivation first, so that students are excited during the teaching and learning process. By doing so, students are expected to feel happy and enjoy the class so that the students will understand the material presented by the teacher well.
- b. Providing frequent practice of Mathematic problems with the same type to increase the understanding of students with special needs. By doing so, hopefully the students with special needs are accustomed to solve mathematical problems and improve mathematical literacy skills in terms of mathematical reasoning.
- c. Providing special assistance. By Providing special assistance, hopefully Students with special needs will receive services according to their needs. So that children will find it easier to understand the material presented by the teacher.
- d. Reading become students' habit. By the implementation of reading habits, it is expected to increase students' understanding related to the material being learned, knowledge, and train them to find the meaning of the text they are reading.
- e. Frequently holding quizzes about memorizing cubic sequences, multiplication, division, and mathematical formulas. With quiz activities related to mathematical material, students are expected to be able to remember both formulas, multiplication, division, and cubic sequences. So that it can make it easier for students to solve problems contain mathematic problems.
- f. Conveying the material repeatedly until students with special needs understand the meaning of the question. By explaining or conveying material repeatedly, hopefully students can memorize the material given well, so that it will influence the level of students' understanding. If students already understand the material, they will be able to complete or answer questions related to the material delivered by the teacher.

Based on the discussion above, it can be concluded that the implementation of learning to facilitate mathematical literacy skills in terms of mathematical reasoning in class V SD Negeri

Siyono I is as follows:

- a. Building students' learning motivation before learning activities begin.
- b. Providing practices and quizzes.
- c. Giving the simplest ways and some tricks in answering questions.
- d. Giving opportunities for students to ask questions for the material they do not understand.
- e. Using lecturing method and explaining it repeatedly

#### **Obstacles of schools and Children with Special Needs in Solving Mathematical Literacy Problems in terms of Mathematical Reasoning**

Yusmin states that there are 3 difficulties experienced in learning mathematic those are (Yusmin, 2017):

- a. Difficulty in using the concept
- b. Difficulty in using principles
- c. Difficulty in solving a problem on verbal questions.

Based on the results of the research conducted, there are 3 obstacles experienced by SD Negeri Siyono I which include obstacles faced by school, teachers and students. They are :

- a. Teachers at SD Negeri Siyono I are basically teachers for normal class so that they are less in providing services and assistance for the students with special needs.
- b. There are some students of SD Negeri I Siyono who find difficulties in understanding materials given by the teacher, so it affect the students' ability of mathematical literacy in the form of mathematical reasoning
- c. Lack of using teaching media in delivering material.
- d. Low learning motivation of student with special needs
- e. The low level of understanding of students with special needs.
- f. Student with special needs are often careless in understanding questions
- g. Student with special need has bad habit of sleeping during the class as he usually sleep late at night.
- h. Students find difficulties in understanding the problems or statements in the questions.
- i. Students have not been able to determine the right formula to solve the problems contained in the questions.

Based on the discussion above, it can be concluded that there are some solutions to prove mathematical literacy skills in terms of mathematical reasoning are as follows:

- a. Provide opportunities for teachers to attend trainings related to children with special needs and inclusive schools.
- b. Provide special assistance.
- c. Provide numeracy questions.
- d. Hold mathematic quizzes.
- e. Applying question and answer method, lecturing, and creating fun learning.
- f. Gives tricks and quick ways to solve problems in questions.

#### Solutions to Improve Mathematical Literacy Ability in terms of Mathematical Reasoning in Children with Special Needs in Class V

Based on the obstacles experienced by SD Negeri Siyono I, the researchers found several solutions that have been implemented by the principal of SD Negeri Siyono I and class V teachers at SD Negeri Siyono I to overcome the obstacles experienced by SD Negeri Siyono I as follows:

- a. Provide more assistance when learning activities for students with special needs.
- b. Collaborate and involve parents in guiding children when learning.
- c. Collaborating with psychologists to assist teachers in honing the skills possessed by children with special needs and controlling emotions.
- d. Provide opportunities for teachers to attend trainings related to children with special needs and inclusive schools.
- e. Provide props as an example of building props.
- f. Often gives math quizzes before going home from school.
- g. Often gives practice math problems.
- h. Creating fun learning.
- i. Provide practice questions.
- j. Applying the question and answer method when teaching and learning activities take place.
- k. Gives tricks to answer math problems.
- l. Teaches quick formulas to answer questions.

Based on the discussion above, it can be concluded that the solutions to improve mathematical literacy skills in terms of mathematical reasoning are as follows:

- a. Provide opportunities for teachers to attend trainings related to children with special needs and inclusive schools.
- b. Provide special assistance.
- c. Provide numeracy questions.
- d. Hold a math quiz.
- e. Applying question and answer methods, lectures, and creating fun learning.

- f. Gives tricks and quick ways to solve problems in questions.

#### CONCLUSION

Based on the results of research and discussion, the following conclusions can be taken: The level of understanding of students related to mathematical literacy is as follows: there are 3 regular students or students who do not have special needs who have good category in mathematical literacy skills, 1 regular student or students who do not have special needs who has poor category in mathematical literacy skills, and 1 slow learner or student with special needs student who has poor category mathematical literacy skills.

Mathematical literacy ability in terms of mathematical reasoning in fifth grade of student with Special Needs at SD Negeri Siyono I are as follows: a) In general, regular students have been able to present mathematical statements, but not for the students with special needs. b) In general, regular students have been able to manipulate mathematics, although there are still students who are incorrect in performing mathematical manipulations on some numbers, while students with special needs are not able to do it. c) In general, students have been able to draw logical conclusions, although there are some students who are incorrect in writing answers when drawing conclusions in some numbers.

Factors that affect the level of mathematical literacy ability in terms of mathematical reasoning in the fifth grade students with Special Needs at SD Negeri Siyono I are as follows: a) students' level of understanding. b) Students' learning motivation c) Maximum assistance. d) practice numeracy problems frequently.

The implementation of learning to facilitate the level of mathematical literacy skills in terms of mathematical reasoning in the fifth grade students with Special Needs at SD Negeri Siyono I are as follows: a) Building students' learning motivation before learning activities begin. b) Providing exercises and quizzes. c) Teaching the simplest ways and give tricks in answering questions. d) Giving opportunities for students to ask questions when there is material that do not understand. e) Using the lecturing method and explaining materials repeatedly.

The obstacles experienced by schools and student with special needs in solving mathematical literacy problems (numeracy) in terms of mathematical reasoning are as follows: a) There is no special assistant teacher who assist

students with special needs. b) The students' low level of understanding about the material presented by the teacher. c) Lack of using teaching media. d) Lack of students' learning motivation. e) The students' low level of literacy skills. f) Students have not been able to determine the right formula to solve the problems exist in the questions. g) Students find difficulties in applying arithmetic operations, especially multiplication and division arithmetic operations.

Solutions to improve mathematical literacy skills in terms of mathematical reasoning in the fifth grade students with special needs at SD Negeri Siyono I include: a) Providing opportunities for teachers to take part in trainings related to children with special needs and inclusive schools. b) Providing special assistance. c) Providing exercises on numeracy questions. d) Holding mathematic quizzes. e) Applying the question and answer method and creating fun learning. f) Provide tricks and quick ways to solve problems in the questions.

#### SUGGESTIONS

Based on the conclusions above, the researchers provide the following suggestions:

##### a. Suggestions for School

Schools should be able to maximize the use of teaching and learning media and facilities to support the learning process. Schools need to work with educators who are expert dealing with children with special needs, so that students will get maximum service.

##### b. Suggestions for Teachers

Teachers are expected to be able to provide more special attention and assistance outside the class, so that students have the opportunity to convey difficulties experienced and increase students' understanding related to the material that has been delivered during the learning activities.

##### c. Suggestions for Students

Students must feel free to convey the difficulties experienced and communicate them to the teachers and they also have to try hard in increasing their learning motivation.

#### BIBLIOGRAPHY

- Afifah Ani. (2021). *Metode Guided Discovery Dalam Pembelajaran Matematika*. Aceh: Syiah Kuala University Press.
- Aprilianti Yuni, Luvy Sylviana Zanthi. "Analisis Kemampuan Penalaran Matematik siswa SMP Pada materi Segi empat dan Segitiga".

Journal on Education.1(02).

- Bose, B., & Heymann, J. (2020). Do inclusive education laws improve primary schooling among children with disabilities? *International Journal of Educational Development*, 77(April), 102208. <https://doi.org/10.1016/j.ijedudev.2020.102208>
- Dewi, Novita Karina, Zainuddin Untu dkk. (2020). "Analisis Kesulitan Menyelesaikan Soal Matematika Materi Operasi Hitung Bilangan Pecahan Siswa Kelas VII". *Jurnal PRIMATIKA*.9(02):64-65.
- Fang, Z., & Chapman, S. (2020). Disciplinary literacy in mathematics: One mathematician's reading practices. *Journal of Mathematical Behavior*, 59(March), 100799. <https://doi.org/10.1016/j.jmathb.2020.100799>.
- Haderani. (2018). "Tinjauan Filosofis Tentang Fungsi Pendidikan Dalam Hidup Manusia". *Jurnal Ilmiah Kependidikan*.7(1):41-49.
- Heward, W. L. (2003). Ten faulty notions about teaching and learning that hinder the effectiveness of special education. *Journal of Special Education*, 36(4), 186–205. <https://doi.org/10.1177/002246690303600401>
- Hidayat Rahmat, Atma Murni, Yenita Roza. (2021). "Pengembangan Perangkat Pembelajaran Matematika Menggunakan Model Problem Based Learning untuk Memfasilitasi Kemampuan Literasi Matematis Peserta Didik". *Jurnal Pendidikan Matematika*.5(03):3018-3021.
- Kwon, H. (2005). Inclusion in South Korea: The current situation and future directions. *International Journal of Disability, Development and Education*, 52(1), 59–68. <https://doi.org/10.1080/10349120500071910>.
- Napoli, A. R., & Purpura, D. J. (2018). The home literacy and numeracy environment in preschool: Cross-domain relations of parent-child practices and child outcomes. *Journal of Experimental Child Psychology*, 166, 581–603. <https://doi.org/10.1016/j.jecp.2017.10.002>.
- Neitzel, S. M., van Zwieten, P. A. M., Hendriksen, A., Duggan, D., Bush, S. R., Fang, Z., Chapman, S., Bakke, A., Genlott, A. A., Grönlund, Å., Sumirattana, S., Makanong, A., Thipkong, S., Campbell, L., Gray, S., MacIntyre, T., Stone, K., Zikl, P.,

- Havličková, K., ... Junaedi, I. (2020). Measuring health literacy of elementary school teachers in Shahrekord. *Teaching and Teacher Education*, 9(1), 1252–1258. <https://doi.org/10.1016/j.tte.2017.03.002>.
- Ni'mah, L., Junaedi, I., & Mariani, S. (2017). Mathematical Literacy'S Vocational Students Based on Logical and Numerical Reasoning. *Infinity Journal*, 6(2), 95. <https://doi.org/10.22460/infinity.v6i2.p95-110>
- Putra, Yudi Yunika, Rajab Vebrian.(2019).*Literasi Matematika*.Yogyakarta:Budi Utama.
- Setiawan, Harianto,dkk. (2014).Soal Matematika dalam PISA Kaiannya dengan Literasi Matematika dan Keterampilan Berpikir Tingkat Tinggi. Prosiding Seminar Nasional Matematika.Universitas Jember. 244-245.
- Sugiyono. (2007).*Metodologi Penelitian Bisnis*.Jakarta:Gramedia.
- Sumirattana, S., Mekanong, A., & Thipkong, S. (2017). Using realistic mathematics education and the DAPIC problem-solving process to enhance secondary school students' mathematical literacy. *Kasetsart Journal of Social Sciences*, 38(3), 307–315. <https://doi.org/10.1016/j.kjss.2016.06.001>.
- Thomas, S., & Bacon, A. (2013). Stress and Affective Inductions in Addiction Research. *The Wiley-Blackwell Handbook of Addiction Psychopharmacology*, September, 411–434. <https://doi.org/10.1002/9781118384404.ch15>.

# Mathematics Literacy Ability Reviewing From Mathematic Reasoning On Students With Special Needs At Siyono 1 State Primary School

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