



PROBLEMATIC NUMERICAL LITERACY IN ELEMENTARY SCHOOLS: SYSTEMATIC LITERATURE REVIEW

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Abstrak

Kata Kunci:

Literasi numerasi,
Problematika,
Sekolah Dasar,
Tinjauan pustaka
sistematis.

Salah satu keterampilan yang menjadi fokus utama dalam menghadapi era society 5.0 adalah literasi numerasi. Namun sayangnya, hasil dari *Program for International Student Assessment* (PISA) menunjukkan bahwa kemampuan literasi numerasi siswa di Indonesia masih tergolong rendah secara umum. Untuk mengatasi hal tersebut, pendidik perlu memahami faktor dan solusi yang dapat mempengaruhi rendahnya literasi numerasi siswa khususnya sekolah dasar. Oleh sebab itu, tujuan penelitian ini adalah mengumpulkan, merangkum dan menganalisis problematika komponen literasi numerasi di Sekolah Dasar melalui metode *Systematic Literature Review* (SLR) dengan pendekatan PRISMA. Data dari penelitian ini diambil menggunakan aplikasi Publish or Perish pada database *Googlescholar* menggunakan kata kunci "*mathematics problem*" AND "*elementary school*" OR "sekolah dasar", AND "*literacy numeracy*" OR "literasi numerasi". Hasil penelitian menunjukkan beberapa faktor yang ditemukan menyebabkan rendahnya literasi numerasi melibatkan aspek pengalaman mengajar, *self-efficacy* matematis siswa, ketersediaan bahan ajar, permasalahan perilaku siswa, dukungan kepala sekolah, dan fasilitas sekolah yang minim. Solusi untuk meningkatkan literasi numerasi siswa sekolah dasar mencakup pengembangan metode pengajaran yang efektif, penelitian lebih lanjut untuk meningkatkan pemahaman dan *self-efficacy* siswa, dukungan kepada guru melalui pengembangan sumber daya pembelajaran, strategi penguatan literasi di tingkat sekolah, investasi dalam fasilitas pendidikan, dan penerapan model pembelajaran yang sesuai dengan kebutuhan siswa.

Abstract:

Keyword:

Elementary school,
Numeracy literacy,
Problematic,
Systematic literature
review

One of the skills that is the main focus in facing the era of society 5.0 is numeracy literacy. Unfortunately, the results of the *Program for International Student Assessment* (PISA) show that the numeracy literacy skills of students in Indonesia are still relatively low in general. To overcome this, educators need to understand the factors and solutions that can affect the low numeracy literacy of students, especially elementary schools. Therefore, the purpose of this study is to collect, summarize and analyze the problematic components of numeracy literacy in elementary schools through the *Systematic Literature Review* (SLR) method with the PRISMA approach. The data from this study was retrieved using the Publish or Perish application on the *Googlescholar* database using the keywords "*mathematics problem*" AND "*elementary school*" OR "*elementary school*", AND "*numeracy literacy*" OR "*numeracy literacy*". The results showed several factors that were found to cause low numeracy literacy involving aspects of teaching experience, students' mathematical self-efficacy, availability of teaching materials, student behavior problems, principal support, and minimal school facilities. Solutions to improve numeracy literacy of primary school students include the development of effective teaching methods, further research to improve students' understanding and self-efficacy, support to teachers through the development of learning resources, literacy strengthening strategies at the school level, investment in educational facilities, and the implementation of learning models that suit students' needs.



Introduction

Society 5.0, a concept that emphasizes the integration of technology in daily life, encourages every individual to have skills that are able to adapt to the times. One of the skills that is the main focus is numeracy literacy (Rahmawati et al., 2023). Literacy is an ability that includes reading, writing, and understanding written text, as well as numeracy, which involves the ability to understand, use, and manipulate numbers, has a crucial role in shaping competent individuals in this digital era (Monica et al., 2023). However, the results of the Program for International Student Assessment (PISA) show that the numeracy literacy skills of students in Indonesia are still relatively low in general. Based on the results obtained, the numeracy literacy ranking obtained by Indonesian students in general did not experience a significant increase from 2008 to 2018 (Rejeki et al., 2022).

While primary school is an important stage in the formation of basic mathematical skills, concerns have been raised about low achievement in some of the numeracy literacy skills taught. The ability to count whole numbers, the application of percentages, decimals, fractions, and the understanding of comparisons and relations are essential mathematical skills that should be mastered at this level. Unfortunately, the results of several studies show that these three skills are still relatively low in primary school (Fuson, 2020; Resnick et al., 2023; Rusliah et al., 2021). This low level of achievement can be caused by various factors, including teaching methods that may not be optimal, a lack of educational resources, or difficulties in understanding mathematical concepts experienced by some students (Rahmawati & Mustadi, 2022). The importance of numeracy literacy is not only relevant in academic development, but also forms a crucial basis for students' ability to deal with more complex mathematical challenges at higher levels of education and everyday life.

A literature study on numeracy literacy problems in primary schools is an important step to understand the root of the problem and identify effective solutions. Through this literature study, factors that influence low achievement in numeracy literacy and solutions that have proven successful in improving numeracy literacy at the primary school level can be identified. Several studies have been published on numeracy literacy. Zainudin et al. (2023) A literature review of research trends in literacy and numeracy for primary school students. Deda et al (2023) also conducted a literature review on the importance of students' literacy and numeracy skills in facing the challenges of the 21st century. Rahmawati et al (2023) conducted a literature review on the causes of students' low numeracy literacy, how to foster students' numeracy literacy skills, and the difficulties experienced by students in solving problems in terms of numeracy literacy skills.

From several literature studies, it shows that there are still few studies that discuss numeracy literacy. Unfortunately, these literature studies have not specifically examined the factors and

solutions to numeracy literacy problems, especially in elementary schools. Therefore, this study aims to collect, summarize and analyze the problematic components of numeracy literacy in primary schools. The research questions include:

- RQ1 : What are the studies related to numeracy literacy issues in primary schools?
RQ2 : What are the factors of low numeracy literacy in primary schools?
RQ3 : What is the solution to improve numeracy literacy in primary schools?

Method

Research Design

In this study, Systematic Literature Review (SLR) with content analysis approach was chosen as the research method. The research involved searching for scientific articles related to the problems of numeracy literacy components in primary schools specifically "the ability to count whole numbers", "the use of percent or decimal or fraction or comparison", and "the use of relations and patterns". Systematic literature review was applied as a methodical approach to identify, evaluate and interpret previously conducted research in a particular domain (García-Peñalvo, 2022).

Participant

This study uses a sample of 9 articles that are relevant in the context of numeracy literacy problems in elementary schools. The articles used in this study were published between 2019 and November 2023. To ensure the quality and accuracy of the data, the articles used were selected based on the indexation recorded in Sinta and Scopus. The selection based on the journal index was done to ensure that the selected articles reflect the results of research that has passed a rigorous peer review process, and has been proven to have a positive impact in the scientific community.

Data Collection

This study uses the Systematic Literature Review (SLR) method which adopts the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) approach data selection steps described by Sharif (2019) and Moher et al. (2015). The data used in this study were obtained through electronic search and retrieval on November 24, 2023, using the Publish or Perish application and the Google Scholar database. To obtain relevant articles, the search used the keywords "mathematics problem", AND "elementary school" OR "elementary school", AND "numeracy literacy" OR "numeracy literacy". A total of 113 articles were found through these keywords, then a screening process was carried out using the predetermined inclusion and exclusion criteria, as listed in table 1.

Table 1. Inclusion and Exclusion Criteria

No.	Category	Inclusion Criteria	Exclusion Criteria
1	Publication type	Articles published in journals and proceedings	book chapters, books, corrections, short surveys, reviews, and notes
2	Journal indexation	Sinta indexed journals (Indonesian journal accreditation) and Scopus (international accreditation)	Journal not indexed by both
3	Year of publication	2019 - November 2023	Less than 2018
4	Independent variable	Problems of numeracy literacy	Other than these topics
5	Research subject	Elementary school	High School, College/University

After filtering out some irrelevant articles, 9 articles remained to be used as data for this study. The flowchart of literature selection is shown in Figure 1.

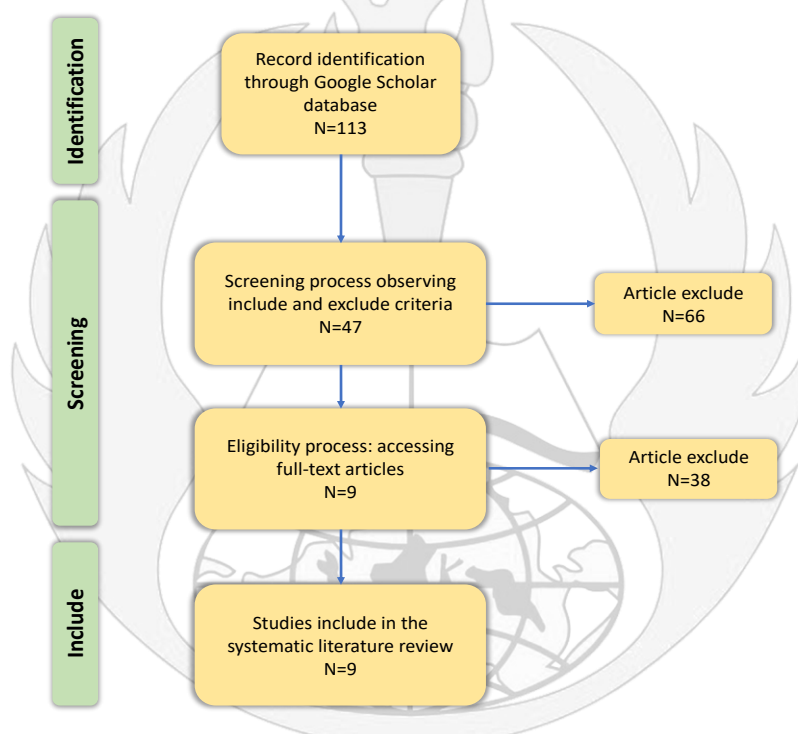


Figure 1. Flowchart of literature selection

Result And Discussion

This study presents a focus on three research questions, namely research on numeracy literacy problems in primary schools, factors that cause low numeracy literacy at this level, and solutions that can be implemented to improve numeracy literacy in primary schools. The first point, research on numeracy literacy problems, provides critical insights into previous studies that have been conducted to understand the root causes of numeracy literacy problems in primary education. The second point, on the factors of low numeracy literacy in primary schools, opens a space for analyzing the various elements that may affect students' achievement in understanding numeracy concepts. Finally, the third point discusses concrete and effective solutions that can be implemented to improve numeracy literacy at the primary school level.

Research on Numeracy Literacy Issues in Primary Schools

This sub-section will discuss the first research question "What is the research related to numeracy literacy problems in primary schools?". Table 2 shows the research on the topic of numeracy literacy problems in primary schools from 2019 to 2023.

Table 2. Research related to numeracy literacy problems in elementary schools

No.	Author & Year	Research Title	Research Method	Data Collection Instruments	Data Analysis	Research Results
1	(Asmara & Purnomo, 2023)	Context of Data and Uncertainty: One of the Challenges for Numeracy Provision in Elementary School Teacher Education	explorative descriptive method	Numeracy test and semi-structured cognitive interview	descriptive statistics	The results show that teaching experience is not always an indicator of a person's numeracy skills. Students without teaching experience can obtain better numeracy test results compared to students who have teaching experience. Both low and high achievers had difficulties in doing the test, especially on the statistics and probability content. Low achievers were able to identify relevant information, but struggled to develop it in problem-solving procedures. On the other hand, high achievers had good identification and application of mathematical procedures, but there were errors in conveying results. This research highlights the need for adequate basic mathematics teaching skills for primary school teachers. Concern for basic standards for pre-service teachers prompted this study, especially since the elementary teacher education study program students have varied mathematical backgrounds and there are no specific courses that assess numeracy skills. Although the results of this study cannot be applied in general, they can be a reference for further research, especially on elementary school teachers and prospective teachers.
2	(Zulfayani et al., 2023)	Profile Of Students' Numeracy Literacy Ability And Self Efficacy In Mathematics Learning	Quantitative Methods	Numeracy literacy test and self-efficacy questionnaire	Quantitative descriptive	The results showed that overall students' numeracy literacy skills were included in the poor criteria. There are 73.30% or 20 people from the total number of students who have not been able to solve the numeracy literacy test questions correctly. Furthermore, the overall mathematical self-efficacy of students is included in the moderate criteria with a percentage of 70% or 21 students. Furthermore, for numeracy literacy skills in terms of mathematical self-efficacy (high, medium,

						and low), each has different numeracy literacy skills. Students who have high self-efficacy, have good numeracy literacy skills, while students who have moderate and low self-efficacy, have poor numeracy literacy skills. From the results of this study, it is necessary to conduct research to improve numeracy literacy skills and mathematical self-efficacy of students at SMPN 34 Pekanbaru.
3	(Ain et al., 2023)	Permasalahan Pembelajaran Literasi Numerasi dan Karakter untuk Siswa Sekolah Dasar	Qualitative method	interview and observation	Data triangulation	The results of data analysis show that there are three main themes that are discussed in this study. The three themes are limited teaching materials to foster numeracy literacy skills, lack of numeracy literacy exercises, and behavioral problems related to character. The implications of the results of this study can be used for future researchers to analyze the needs in developing learning models, learning modules for students, and guidebooks for teachers that can develop numeracy literacy skills and student character.
4	(Wiryanto et al., 2023)	Identifikasi Kebutuhan Literasi Numerasi di Sekolah Dasar	Qualitative method	interview	Data triangulation	There are three strategies presented in the research results related to numeracy literacy strengthening strategies with an achievement of 85% and above schools are willing to support the independent curriculum program. The principal as the coordinator implements numeracy literacy activities that try to improve learning outcomes.
5	(Latifah & Rahmawati, 2022)	Penerapan Program CALISTUNG untuk Meningkatkan Literasi Numerasi Siswa Kelas Rendah di Sekolah Dasar	Qualitative method	observation, interview and documentation	Data triangulation	The process of implementing this calistung program trains and improves the numeracy literacy skills of students who have learning difficulties in reading, writing and counting. The teacher provides additional hours to these students and provides material information before implementation and provides learning media that suits the needs of students. However, the lack of school facilities makes it impossible to display media in the form of media and sound. In training and improving the numeracy literacy skills of low students, there are several obstacles faced by teachers. The character of students is very diverse, such as active and inactive students who become differentiators so that this can hinder the process of implementing calistung at SD Kemasan 03.
6	(Yulaikah & Taufikurrizal, 2022)	Improving Numeracy Skills Of Elementary School Students Through Problem-	Qualitative method	observation, field notes, interviews, and tests	Data Triangulation	The results showed that the problem-based learning model can be applied in an effort to improve the numeracy literacy skills of elementary school students. The teacher's ability to develop problem-based learning plans, present problems in the form of

		Based Learning: An Implementation Of Lesson Study				literacy, plan learning strategies, and develop numeracy literacy assessment instruments. The numeracy literacy skills of elementary school students have increased.
7	(Patriana et al., 2021)	Pembudayaan Literasi Numerasi untuk Asesmen Kompetensi Minimum dalam Kegiatan Kurikuler pada Sekolah Dasar Muhammadiyah	Qualitative method	interview, documentation and observation	qualitative interactive flow model	The results of this study are 1) planning the acculturation of numeracy literacy in curricular activities is carried out by preparing lesson plans, compiling learning materials, compiling HOTS questions, and designing learning media. 2) the implementation of numeracy literacy acculturation in curricular activities through synchronous, asynchronous, and home visit learning activities. 3) controlling the acculturation of numeracy literacy in curricular activities is carried out by monitoring planning, monitoring implementation, and monitoring student learning outcomes.
8	(Dantes & Handayani, 2021)	Peningkatan Literasi Sekolah Dan Literasi Numerasi Melalui Model Blanded Learning Pada Siswa Kelas V SD Kota Singaraja	Quantitative quasi-experiment with posttest control group design	school literacy test and numeracy test	MANOVA statistical test	The results of the study show that: First, there was an increase in the school literacy of fifth grade students in Singaraja City with the implementation of the blanded learning model ($F = 45.543$ with $p < 0.05$). Second, there was an increase in numeracy literacy of fifth grade students in Singaraja city with the implementation of the blanded learning model ($F = 3, 429$ with $p < 0.05$). Third, there was a simultaneous increase in school literacy and numeracy literacy among fifth grade primary school students in Singaraja city with the implementation of the blanded learning model ($F = 24.045$ with $p < 0.05$).
9	(Mahmud & Pratiwi, 2019)	Literasi Numerasi Siswa Dalam Pemecahan Masalah Tidak Terstruktur	Case study qualitative method	tests, document analysis and interviews	Thematic analysis and data triangulation	The results showed that students' numeracy literacy in solving unstructured problems was (1) students were able to solve unstructured problems in the context of daily life; (2) students were able to analyze the information obtained from the problem then use interpretation analysis to predict and draw conclusions. The difficulties experienced by students are (1) difficulty in understanding the problem; (2) lack of understanding of the prerequisite material; (3) difficulty in developing a solution strategy; and (4) difficulty in drawing conclusions.

Factors of Low Numeracy Literacy in Primary Schools

The factors for the low numeracy literacy of primary school students can be traced from several recent studies that explore various aspects of mathematics education. Asmara & Purnomo (2023) highlighted one potential factor, teaching experience. Interestingly, their results show that teaching experience is not always an indicator that can predict a person's numeracy skills. PGSD students without teaching experience can obtain better numeracy test results than students who have teaching experience. This finding indicates a mismatch between teaching experience and learning outcomes of PGSD students in numeracy literacy. The study revealed that the things that affect a person's numeracy skills are the varied backgrounds of mathematical abilities and there are no specific courses that assess numeracy skills.

In the context of numeracy literacy, Zulfayani et al. (2023) found a correlation between students' mathematical self-efficacy and numeracy literacy skills. Students with high self-efficacy tend to have good numeracy literacy skills, while students with low self-efficacy have poor numeracy literacy skills. This shows that psychological factors, such as self-efficacy in mathematics, can affect students' numeracy literacy skills. Therefore, these psychological aspects need to be considered in an effort to improve numeracy literacy in primary schools.

Research by Ain et al. (2023) shows that limited teaching materials, lack of numeracy literacy exercises, and behavioral problems related to student character can be factors that contribute to low numeracy literacy in primary schools. Limited access to learning materials, especially in the context of numeracy literacy, can be a serious obstacle in developing students' mathematical skills. In addition, student behavioral problems related to character can also affect students' focus and engagement in the numeracy literacy learning process.

Wiryanto et al. (2023) emphasized the identification of numeracy literacy needs in primary schools and found that numeracy literacy reinforcement strategies can support improved student learning outcomes. This strategy involves the coordination of the school principal in implementing numeracy literacy activities, which proves that the support and role of the school principal can play an important role in improving students' numeracy literacy.

Implementation of CALISTUNG Program by Latifah & Rahmawati (2022) to improve the numeracy literacy of low-grade students in primary schools shows that school facility constraints can be a factor that limits the success of the program. The lack of school facilities, such as appropriate learning media, can hinder the process of implementing numeracy literacy programs. Therefore, educational infrastructure also needs to be a concern to ensure the success of this kind of literacy initiative.

Overall, the factors of low numeracy literacy among primary school students may involve aspects of teaching experience, mathematical self-efficacy, availability of teaching materials, student behavior problems, principal support and school facilities. Understanding and addressing these factors is key to improving numeracy literacy at the primary level.

Solutions to Improve Primary School Numeracy Literacy

Various studies provide insights into solutions to address the low numeracy literacy of primary school students. In the context of mathematics teaching, Asmara & Purnomo (2023) highlights the importance of choosing effective teaching methods. Teaching methods that suit students' learning styles and provide clear and easy-to-understand explanations can help students in understanding numeracy concepts. Therefore, special attention needs to be paid to the development of teaching methods that can improve students' understanding of numeracy literacy.

Research by Zulfayani et al. (2023) shows that further research needs to be done to improve numeracy literacy and mathematical self-efficacy of students in primary schools. Improving numeracy literacy can involve developing more interactive learning methods, supporting the understanding of mathematical concepts in a more holistic way, and providing special support for students with low self-efficacy. Therefore, a holistic approach to mathematics learning can be a solution to improve students' numeracy literacy.

Ain et al. (2023) The solution highlights the need to develop learning models, learning modules and guidebooks for teachers to develop students' numeracy literacy skills and character. This solution emphasizes the importance of supporting teachers with resources that can help them face the challenges of improving students' numeracy literacy. The development of interesting and relevant learning modules, along with guidebooks that guide teachers in engaging students effectively, can help improve students' mathematical understanding and skills.

Wiryanto et al. (2023) highlights the importance of strategies to strengthen numeracy literacy in primary schools. School principals can serve as effective coordinators in implementing numeracy literacy activities to improve student learning outcomes. Principal support in directing literacy initiatives and ensuring that the activities are well integrated in the school curriculum can be an effective solution to improve students' numeracy literacy.

Implementation of CALISTUNG Program by Latifah & Rahmawati (2022) shows the need for attention to school facilities. The lack of facilities, such as appropriate learning media, can be an obstacle in maximizing numeracy literacy programs. Therefore, the solution to overcoming students' low numeracy literacy should also involve investing in educational facilities that support effective mathematics learning.

In the context of problem-based learning, Yulaikah & Taufikurrizal (2022) showed that the problem-based learning model can improve the numeracy literacy skills of primary school students. Teachers can play a key role in developing problem-based learning plans, presenting problems in the form of numeracy literacy, planning learning strategies, and developing numeracy literacy assessment instruments. Improving teachers' skills in implementing effective learning approaches can be a solution to improve students' numeracy literacy.

Overall, solutions to address the low numeracy literacy of primary school students involve the development of effective teaching methods, further research to improve students' understanding and self-

efficacy, support to teachers through the development of learning resources, literacy strengthening strategies at the school level, investment in educational facilities, and the implementation of learning models that suit students' needs. These holistic efforts are expected to bring positive changes in students' numeracy literacy in primary schools.

Conclusion

This research uses the Systematic Literature Review (SLR) method regarding numeracy literacy in schools. The results of the research show that several factors that were found to cause low numeracy literacy involve different mathematical ability backgrounds and the absence of special courses that assess numeracy skills for PGSD students, self-efficacy student mathematics, availability of teaching materials, student behavior problems, school principal support, and minimal school facilities. Solutions to improve primary school students' numeracy literacy include the development of effective teaching methods, further research to improve students' understanding and self-efficacy, support for teachers through the development of learning resources, literacy strengthening strategies at the school level, investment in educational facilities, and implementation learning models that suit student needs. It is hoped that this holistic effort can bring positive changes in the numeracy literacy of students in elementary schools. Literature studies related to numeracy literacy in elementary schools cover various aspects, from identifying problems to developing concrete solutions. Although each study highlights a particular dimension of numeracy literacy, these results can be integrated to form a more comprehensive understanding of the factors that influence numeracy literacy at the primary level. Thus, reducing the numeracy literacy problem of elementary school students can be achieved through an integrated approach involving various parties, including teachers, school principals and education policy providers.

References

- Ain, S. Q., Mustika, D., & Wulandari, A. (2023). Permasalahan Pembelajaran Literasi Numerasi dan Karakter untuk Siswa Sekolah Dasar. *Aulad: Journal on Early Childhood*, 6(2), 152–158.
- Asmara, S. D., & Purnomo, Y. W. (2023). Context of Data and Uncertainty: One of the Challenges for Numeracy Provision in Elementary School Teacher Education. *Acta Scientiae*, 25(6), 235–271.
- Dantes, N., & Handayani, N. N. L. (2021). Peningkatan literasi sekolah dan literasi numerasi melalui model blended learning pada siswa kelas v sd kota singaraja. *Widyalaya: Jurnal Ilmu Pendidikan*, 1(3), 269–283.
- Deda, Y. N., Disnawati, H., & Daniel, O. (2023). How Important of Students' Literacy and Numeracy Skills in Facing 21st-Century Challenges: A Systematic Literature Review. *Indonesian Journal Of Educational Research and Review*, 6(3).
- Fuson, K. C. (2020). Research on learning and teaching addition and subtraction of whole numbers. In *Analysis of arithmetic for mathematics teaching* (pp. 53–187). Routledge.

- García-Peñalvo, F. J. (2022). Developing robust state-of-the-art reports: Systematic Literature Reviews. *Education in the Knowledge Society*, 23, 1–23. <https://doi.org/10.14201/eks.28600>
- Latifah, L., & Rahmawati, F. P. (2022). Penerapan Program CALISTUNG untuk Meningkatkan Literasi Numerasi Siswa Kelas Rendah di Sekolah Dasar. *Jurnal Basicedu*, 6(3), 5021–5029.
- Mahmud, M. R., & Pratiwi, I. M. (2019). Literasi numerasi siswa dalam pemecahan masalah tidak terstruktur. *Kalamatika: Jurnal Pendidikan Matematika*, 4(1), 69–88.
- Monica, B., Wibowo, S. E., & Harsono, A. M. B. (2023). The Challenges of Literacy Culture in the Digital Era: The Role of Fairy Tales through the Country in Improving Literacy and Numerical Literacy. *Al Ibtida: Jurnal Pendidikan Guru MI*, 10(2), 265–274.
- Patriana, W. D., Utama, S., & Wulandari, M. D. (2021). Pembudayaan literasi numerasi untuk asesmen kompetensi minimum dalam kegiatan kurikuler pada sekolah dasar muhammadiyah. *Jurnal Basicedu*, 5(5), 3413–3430.
- Rahmawati, N. K., Nurrahmah, A., Kusuma, A. P., & Ma'ruf, A. H. (2023). *Numerical literacy in mathematical problem solving: A brief literature review*. 2614(1).
- Rakhmawati, Y., & Mustadi, A. (2022). The circumstances of literacy numeracy skill: Between notion and fact from elementary school students. *Jurnal Prima Edukasia*, 10(1), 9–18.
- Rejeki, S., Toyib, M., Sari, C. K., & Ulfah, M. S. (2022). *A review of PISA-like mathematics problems: Contexts in the content of quantity*. 2479(1).
- Resnick, I., Newcombe, N., & Goldwater, M. (2023). Reasoning about fraction and decimal magnitudes, reasoning proportionally, and mathematics achievement in Australia and the United States. *Journal of Numerical Cognition*, 9(1), 222–239.
- Rusliah, N., Handican, R., Deswita, R., & Oktafia, M. (2021). *Mathematical problem-solving skills on relation and function through Model-Eliciting Activities (MEAs)*. 1778(1), 012016.
- Wiryanto, W., Yermiandhoko, Y., Hendratno, H., Subrata, H., & Primaniarta, M. G. (2023). Identifikasi Kebutuhan Literasi Numerasi di Sekolah Dasar. *JIIIP-Jurnal Ilmiah Ilmu Pendidikan*, 6(7), 5232–5237.
- Yulaikah, Y., & Taufikurrizal, Z. (2022). IMPROVING NUMERACY SKILLS OF ELEMENTARY SCHOOL STUDENTS THROUGH PROBLEM-BASED LEARNING: AN IMPLEMENTATION OF LESSON STUDY. *Elementeris: Jurnal Ilmiah Pendidikan Dasar Islam*, 4(1), 27–36.
- Zainudin, M., Fatah, D., & Junarti, J. (2023). Literacy and Numeracy Research Trends for Elementary School Student: A Systematic Literature Review. *Journal of Education, Teaching and Learning*, 8(2), 24–31.
- Zulfayani, Z., Ariawan, R., Nufus, H., & Kafrina, K. (2023). PROFILE OF STUDENTS' NUMERACY LITERACY ABILITY AND SELF EFFICACY IN MATHEMATICS LEARNING. *Mathematics Research and Education Journal*, 7(2), 25–35.