



# Exploring the World of Numeracy: An Analysis of Third-Grade Elementary School Students

Ni Nyoman Rediani<sup>1\*</sup> 

<sup>1</sup> PGSD, Universitas Musamus, Merauke, Indonesia

## ARTICLE INFO

### Article history:

Received September 25, 2023

Accepted January 10, 2024

Available online February 25, 2024

### Kata Kunci:

Problematika, Literasi Numerasi, Sekolah Dasar

### Keywords:

Problematics, Numeracy Literacy, Elementary School



This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.

Copyright © 2024 by Author. Published by Universitas Pendidikan Ganesha.

## ABSTRAK

Literasi numerasi adalah salah satu literasi yang penting yang harus dikuasai oleh siswa, dimana kemampuan literasi numerasi yang baik akan mampu mendukung kemampuan literasi yang lainnya. Namun saat ini kemampuan literasi di beberapa daerah masih berada pada kategori yang cukup rendah, hal ini lah menjadi alasan mengapa penelitian yang bertujuan untuk mengkaji kemampuan literasi numerasi kelas III disekolah dasar. Jenis penelitian ini adalah kuantitatif deskriptif dengan subjek sebanyak 32 orang. Metode pengumpulan data yang digunakan adalah wawancara, observasi, dan tes. Analisis data model interaktif terdiri dari tiga hal utama yaitu reduksi data, penyajian data dan penarikan kesimpulan (verifikasi). Hasil penelitian menunjukkan bahwa kemampuan literasi numerasi siswa berada pada kategori rendah. Hal ini ditunjukkan dari hasil perhitungan skor masing-masing siswa. Hasil penelitian juga menemukan dari 6 komponen literasi numerasi yang diukur dalam penelitian ini indikator yang sangat membutuhkan perhatian adalah penggunaan alat ukur dimana materi yang ada pada kemampuan ini dalam alat ukur panjang, waktu, luas dan lain sebagainya. Kondisi ini didukung oleh hasil penelitian dengan metode yang lain dimana guru saat mengajar masih mempunyai kesadaran yang cukup rendah dalam menggunakan media pembelajaran Konkret. Ini adalah salah satu faktor yang menyebabkan rendahnya kemampuan literasi numerasi

## ABSTRACT

Numeracy literacy is a crucial skill that students must master, as strong numeracy skills can support other forms of literacy. However, in some regions, numeracy skills are still at a relatively low level. This is the reason behind conducting research aimed at assessing the numeracy literacy skills of third-grade students in elementary schools. This research is of a quantitative descriptive nature, involving a sample of 32 subjects. Data collection methods include interviews, observations, and tests. The interactive data analysis model consists of three main steps: data reduction, data presentation, and drawing conclusions (verification). The research results indicate that students' numeracy literacy skills are in the low category. This is evident from the calculated scores of each student. The study also identifies, among the six components of numeracy literacy measured in this research, that the indicator requiring the most attention is the use of measurement tools, including topics such as length, time, area, and others. This condition is supported by findings from other methods, which reveal that teachers have relatively low awareness when it comes to using concrete teaching materials. This is one of the factors contributing to the low level of numeracy literacy skills.

## 1. INTRODUCTION

The progress of a country is closely tied to the level of literacy skills its population possesses. It's worth noting that the better the literacy rate among students, the more effectively they can absorb information during the learning process (Putri Utami & Muzakki, 2020; Yuki, 2020). Literacy is defined as the ability to use language and images in diverse and rich forms for reading, writing, listening, speaking, viewing, presenting, and critically thinking about ideas (Desyandri, 2018; Dinni, 2018; Kusmiarti & Hamzah, 2019; Sufianti & Nurdyansyah, 2018). Literacy is crucial for individuals to utilize scientific information in making decisions, forming arguments, and choosing appropriate actions (Borgonovi et al., 2021; Subayani & Nugroho, 2019). Furthermore, literacy plays a significant role in developing higher-order thinking skills, including critical thinking, divergent thinking, and positive thinking (Apriyani, 2020; Dafit et al., 2021). Additionally, literacy aims to provide opportunities for learners to develop as competent communicators in the context of multiliteracy, multiculturalism, and multimedia through the possession of multiliteracy skills (Yusuf et al., 2020). Therefore, an individual's literacy skills are a key determinant of their success, which, in turn, has a direct impact on the overall well-being and can be considered a measure of a country's success.

One of the crucial aspects of literacy that deserves attention is numeracy literacy. Numeracy literacy is defined as an individual's ability to use reasoning, which involves analyzing and understanding statements through activities that manipulate symbols or mathematical language in everyday life, both in

\*Corresponding author.

E-mail addresses: [nyoman.rediani@unmus.ac.id](mailto:nyoman.rediani@unmus.ac.id) (Ni Nyoman Rediani)

written and oral forms (Latifah & Rahmawati, 2022; Sari et al., 2022; Silitonga & Simanjuntak, 2022). Numeracy can be understood as the ability to apply numerical concepts and calculation skills in everyday life, such as at home, work, and participation in community life as well as being a responsible citizen, and the ability to interpret quantitative information present in our surroundings (Lechner et al., 2021; Mahmud & Pratiwi, 2019). Numeracy literacy encompasses practical and contextual aspects, relating to understanding issues in communication, professional tasks, recreation, and culture (Winarni et al., 2021). Numeracy literacy skills serve as the front line of defense against unemployment, low income, and poor health outcomes (Faridah et al., 2022). In other words, the low numeracy skills of students significantly affect their readiness to engage in daily activities or tasks (Nurjanah et al., 2022), and this, in turn, has a substantial impact on the nation as a whole. The importance of numeracy literacy underscores the need for teachers to optimize their role in the learning process. Teachers should be capable of delivering mathematical concepts effectively and engagingly. Moreover, they should help students build a deeper understanding of these concepts, allowing students to construct, reflect on, and articulate their knowledge, fostering a sense of ownership over their learning. Understanding a concept can be achieved through various means (Radiusman, 2020).

However, the literacy skills of students in Indonesia, especially in the field of mathematics, are still relatively low (Bell et al., 2023; Widiantari et al., 2022). Many students still lack an understanding of numeracy literacy, supported by research results indicating that students' comprehension of numeracy literacy is quite low, with 68.6% of students not yet understanding numeracy literacy. Impressively, even though the understanding of numeracy is low, when asked about the implementation of numeracy literacy in daily activities, the responses were inversely proportional, with most stating that numeracy literacy is used in almost every activity (Nudiati & Sudiapermana, 2020). There is also research indicating that not all students are proficient in solving numeracy literacy problems (Nurjanah et al., 2022). Some studies suggest that students struggle with unstructured problem-solving, where they can analyze information from the problem and use their analytical interpretations to make predictions and draw conclusions. The difficulties experienced by students include understanding the problem, a lack of understanding of prerequisite materials, difficulty in constructing solution strategies, and challenges in drawing conclusions (Mahmud & Pratiwi, 2019). Furthermore, research suggests that students are not adapted to solving contextual problems, and many Indonesian students struggle to analyse information in various forms. Additionally, complaints about numeracy literacy problems include the inability to solve problems related to geometry, algebra, and unclear and poorly detailed instructions (Herawati, 2022). Based on these research findings, it can be concluded that the current level of numeracy literacy is still in the low category in Indonesia. With this condition, it is necessary to improve students' numeracy literacy skills. However, before implementing these improvements, it is essential to conduct a study to understand the causes of low numeracy literacy skills and the extent of students' numeracy literacy abilities. Therefore, research related to the assessment of students' numeracy literacy skills is needed. This research will help us identify the root causes of the issue and the level of students' understanding of numeracy literacy, enabling the development and implementation of effective improvement measures within the Indonesian education system.

These detailed explanations serve as one of the reasons why research aimed at assessing numeracy literacy in third-grade elementary school classes is being conducted. The choice of this grade level is made considering that it is crucial for students at this stage to have a strong foundation in numeracy literacy, as it forms the basis for further literacy development. Furthermore, this research differs from previous studies in terms of the numeracy indicators being examined. In this study, numeracy literacy indicators to be developed include estimating and calculating with whole numbers, using fractions, decimals, and percentages, recognizing and applying patterns and relationships, employing spatial reasoning, using measurement skills, and interpreting statistical information. Through this research, a clearer picture of the numeracy literacy situation will be obtained, enabling the development of effective strategies to address literacy-related challenges in reading and writing.

## 2. METHOD

The research conducted employed a quantitative descriptive research approach. Descriptive research is a systematic investigation that explains phenomena and events in accordance with the circumstances or occurrences that take place (Dantes, 2012). In descriptive research, the researcher does not manipulate or provide specific treatment to the research sample, allowing all activities/events to unfold as they naturally occur within a quite large population (Sudaryono, 2015). Qualitative descriptive research aims to collect data without manipulation or other interventions (Ningsih et al., 2022). Descriptive research was carried out to obtain information about numeracy literacy phenomena. This research was conducted

in three stages, namely the research preparation stage, the research implementation stage, and the final stage (Emzir, 2008).

The research preparation stage involved: 1) Identifying the research problem and related assumptions; and 2) Developing research instruments in the form of tests. The research implementation stage included: 1) Distributing tests to assess the numeracy literacy skills of third-grade students at SD Inpres Sukamaju. The final stage of the research includes: 1) Data analysis and processing; 2) Drawing conclusions based on research findings; and 3) Presenting the research results in the form of a report. The research sample consisted of 35 third-grade students at SD Inpres Sukamaju, specifically chosen due to their characteristics as third-grade students expected to have mastered numeracy literacy skills. Additionally, SD Inpres Sukamaju was selected because it is the only primary school in the Sukamaju area.

The data collection methods employed in this research include interviews, observations, and tests. Interviews were conducted to gain a broad overview of the teaching practices at SD Inpres Sukamaju. These interviews were conducted with teachers and the school principal. The interview questions focused on various aspects of the teaching process, including instructional media, teaching models, lesson planning, the teaching process itself, and evaluation methods. It is expected that the interviews will provide insights into how the teaching methods employed by the teachers influence the numeracy literacy skills of students. Observations were carried out to observe the teaching processes at SD Inpres Sukamaju.

Additionally, observations were made to assess how students responded to the prepared questions. It is hoped that the observational data will serve as valuable input for decision-making based on the research findings. Testing is the primary method used in this research. The questions were developed based on the six indicators specified by the Ministry of Education and Culture (Kemendikbud): estimating and calculating with integers, using fractions, decimals, and percentages, recognizing and using patterns and relationships, employing spatial reasoning, using measurements, and interpreting statistical information. These six indicators were further developed into 30 literacy questions with cognitive levels ranging from C2 to C5. The question framework developed can be found in Table 1.

**Table 1. Framework of Numeracy Literacy Questions for Second-Grade Elementary School**

No	Components of Numeracy Literacy	Item Indicator	Cognitive Level					Number of questions
			C1	C2	C3	C4	C5	
1	Estimating and calculating with integers	1. Understanding counting numbers up to 1000		√				2
		2. Connecting the understanding of counting numbers in everyday life			√	√		2
		3. Assessing whether a number can be expressed as a difference, product, or quotient.					√	2
2	Using fractions, decimals, and percentages	4. Understanding the concept and meaning of fractions					√	2
		5. Presenting fractions as parts of a whole using concrete objects.					√	2
		6. Solving problems involves addition and subtraction of fractions and decimals.					√	2
3	Recognizing and using patterns and relationships	7. Solving simple addition equations					√	2
		8. Continuing a number pattern					√	2
4	Using spatial reasoning	9. Connecting plane figures to objects in the surroundings					√	2
		10. Classifying plane figures based on their properties						2

No	Components of Numeracy Literacy	Item Indicator	Cognitive Level					Number of questions
			C1	C2	C3	C4	C5	
5	Using measurements	11. Recognizing measuring tools for length, time, area, and volume.		√				2
		12. Solving problems related to the timing of events				√		2
		13. Identifying types of angles		√				2
6	Interpreting statistical information	14. Sorting a specified number of objects		√				4

Data analysis in research is conducted interactively, following the methodology, which involves the active involvement of the researcher in all stages of qualitative data analysis until completion (Sugiyono, 2014). This approach consists of three main components: data reduction, data presentation, and drawing conclusions. The data reduction phase includes the selection, simplification, abstraction, and transformation of raw data emerging from field notes, involving the creation of summaries, coding, and exploration of themes. Subsequently, data presentation entails transforming the analytical results into more easily understandable forms, such as matrices, graphs, and diagrams. Finally, drawing conclusions is the last stage, involving decision-making based on the analysed data and revealing the "what" and "how" of research findings.

Furthermore, this study employs the descriptive data analysis technique using the Guttman scale and percentage statistical technique to calculate the frequency of respondents' answers for each research sub-indicator. This approach provides a robust framework for systematically organizing data into numerical or percentage forms closely related to the research object (Agung, 2014; Tohirin, 2012). Thus, this analytical method enables in-depth understanding and valid interpretation of research data. Subsequently, the percentage results are converted into categories as presented in Table 2.

**Table 2. Percentage Categories**

No	Percentage Range Limits	Evaluation Category
1	0-20	Very low
2	21-40	Low
3	41-60	Medium
4	61-80	High
5	81-100	Very high

### 3. RESULT AND DISCUSSION

#### Result

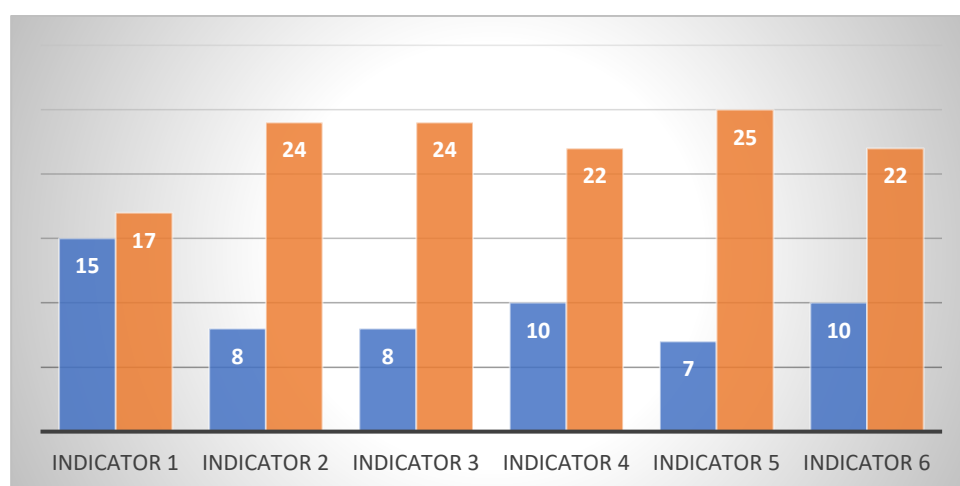
The research, aimed at assessing numeracy literacy, was conducted at SD Inpres Sukamaju with a total sample size of 32 out of 35 students. The research findings from observing the answer-filling process revealed that students completed the tasks relatively quickly, taking around 15-30 minutes to complete the questions. Observations also indicated that the children had a certain level of fear associated with mathematics. This fear arises because, for the students, mathematics is perceived as a less enjoyable and challenging subject. This condition was further supported by interview results with teachers, where students expressed their appreciation towards mathematics. This situation can be attributed to the teaching methods employed, which may not effectively make mathematics or other subjects engaging enough to capture students' interest. Interviews revealed that teachers rarely use teaching aids or enjoyable teaching methods; instead, they primarily rely on explaining the learning material to the students. This condition is likely to have an impact on the final outcomes of the learning process. To corroborate the observations and interviews, a literacy reading and writing test analysis was conducted. The overall data analysis revealed that numeracy literacy skills remained relatively low. For a more detailed breakdown, please refer to Table 3.

**Table 3. Descriptive Analysis Results**

No	Percentage Range Limits	Frequency	Percentage	Evaluation Category
1	0-20	5	15.63%	Very low
2	21-40	21	65.62%	Low

No	Percentage Range Limits	Frequency	Percentage	Evaluation Category
3	41-60	6	18.75%	Medium
4	61-80	0	0	High
5	81-100	0	0	Very high

From the analysis conducted in [Table 3](#), it can be concluded that the numeracy literacy of third-grade students at SD Inpres Sukamaju is still in the low category, with 65.62% of students scoring between 21-40. This assessment is based on the answers given by students in the prepared test. Upon calculating the results, it was found that many students struggled with the numeracy literacy indicator, particularly indicator 5, which involves measurement. Many students answered incorrectly when asked questions like "how many minutes are in 1 hour," and they also faced difficulties in converting units. Out of 5 measurement-related questions, only 2 students answered one of them correctly. Following that is indicator 2, which involves the use of fractions, decimals, and percentages. Students were still unable to perform addition with decimal numbers, and they struggled to determine fractions when combined with the various units in their surroundings. Next is indicator 3, recognizing and using patterns and relationships. Students had difficulty identifying patterns in given numbers. Indicator 4 is spatial reasoning ability, which includes understanding geometric shapes and figures. Many students answered correctly when asked questions related to connecting geometric concepts with objects in their surroundings, but they struggled with naming angles. Indicator 6 is interpreting statistical information. Students were only able to arrange measurement results in order but couldn't grasp the meaning behind the data. Out of the six literacy indicators, the "Estimating and calculating with whole numbers" component had a relatively high score. Out of 32 students, 15 answered correctly. However, there was one question in this category that only 7 students answered correctly. This issue arose because students were misled by larger hundreds and smaller units in the numerical representations, indicating that students' understanding of numerical positions was not optimal. For a more detailed presentation of the research findings, please refer to [Figure 1](#).



**Figure 1.** Students' Understanding of Numerical Positions

## Discussion

The research findings indicate that students' numeracy literacy skills are still in the low category. This is evident from the scores of each component of numeracy literacy obtained from the calculations, where the number of correct answers per indicator is only 7-8 students. Several components show very concerning data. For example, in the component of pattern and relationship usage, students still have difficulty in continuing a number pattern. Furthermore, students still struggle with contextual problems or concepts related to everyday life. It is known that numeracy literacy encompasses practical, contextual aspects related to understanding issues in communication, professionalism in work, recreation, and culture ([Winarni et al., 2021](#)). In this research, this scope has not yet been fulfilled. If left unaddressed, this condition will certainly affect other literacy skills. Numeracy literacy is the ability of an individual to acquire, interpret, use, and communicate various mathematical aspects (numbers and symbols) to solve practical problems in daily life ([Faridah et al., 2022](#); [Ratnasari, 2020](#); [Winarni et al., 2021](#)). Numeracy literacy consists of three aspects: counting, numeracy relations, and arithmetic operations ([Mahmud & Pratiwi, 2019](#)). Someone with numeracy literacy skills will have a positive impact on good thinking patterns and habits that always link numbers or specific calculations to existing problems ([Sari et al., 2022](#)). Numeracy literacy skills are needed



to solve everyday problems using mathematical knowledge, both symbols and numbers (Silitonga & Simanjuntak, 2022). Numeracy literacy can be achieved by integrating mathematical problems related to daily life (Nurjanah et al., 2022; Widiantari et al., 2022). So, numeracy literacy is an individual's ability related to numerical and symbolic calculation skills used in daily life.

From the research findings, the low literacy levels among students can be attributed to the readiness of learners in the learning process. The preparedness of learners during the learning process significantly affects their learning outcomes (Agustiani et al., 2021). Additionally, preparedness for learning is related to independent learning conducted by students (Chorrojprasert, 2020). Learner readiness in the learning process doesn't happen on its own; it also requires support from learning facilities that can be utilized both at home and in school. Facilities are all the tools needed to facilitate the learning process. Facilities in teaching and learning activities are crucial because their utilization encompasses all tools that support students' learning activities (Wulandari, 2019). One of the facilities that educators can provide in the learning process is instructional media. However, this research found that educators are not fully optimizing the use of instructional media. We know that instructional media can facilitate students' understanding of the material being studied. Furthermore, instructional media can make abstract learning more contextual, creating a more engaging learning process that fosters better student motivation to learn.

Interest in learning is also determined as the desire and intentional engagement in cognitive activities that play a crucial role in the learning process, determining what we choose to learn and how effectively we grasp the information provided (Ricardo & Meilani, 2017). Learning interest significantly influences the quality of a learning process (Sulistiyawati, 2020). Learning interest also encompasses various indicators, such as a genuine interest and joy in learning, active participation, a tendency to pay attention with high concentration, possessing positive feelings and a continuous willingness to learn, comfort during the learning process, and the capacity to make decisions related to the learning process one is undertaking (Yunitasari & Hanifah, 2020). Students' interest in learning has a substantial impact on their learning outcomes (Budiwibowo, 2016). Therefore, interest in learning is a critical factor in the learning process. A strong learning interest makes the learning process more active, and students become more engaged in their learning journey. Learner-centred teaching processes can enhance interactions among students, teachers, and their learning environments. These interactions can lead to the emergence of new knowledge for students. Active learning can serve as a platform for the development of life skills (Effendi, 2016). Active learning provides students with opportunities to showcase their abilities during the learning process. Student engagement in the learning process can boost social interactions, including interactions between students, students and teachers, as well as students and their surroundings (Effendi, 2016). Through these interactions in the learning process, students can share their knowledge with one another. Active learning methods contribute to improving the quality of students' learning (Mubayyinah & Ashari, 2017; Toha, 2018).

Based on the findings of this research, it can be concluded that the numeracy literacy of third-grade students is still categorized as relatively low. This condition is attributed to several factors, including the limited use of teaching media, conventional teaching methods in which students are less active, with most of the teaching influenced by the teacher. The low readiness of students in the learning process is one of the contributing factors to the low level of numeracy experienced literacy. This situation undoubtedly requires a solution to improve learning outcomes. One solution that can be implemented is active learning, where students are actively engaged in the learning process with guidance from the teacher through well-planned activities and appropriate teaching materials. Additionally, environment-based learning can be utilized. Considering the diverse ecosystem surrounding the school, students can learn how numeracy literacy is effectively applied and develop an understanding that numeracy literacy or mathematics can be enjoyable. Thus, numeracy literacy becomes practical, contextual, relevant to understanding issues in communication, professionalism in the workplace, recreational, and cultural. In summary, addressing the low numeracy literacy level of students requires a shift towards active learning and leveraging the rich environment around the school to make numeracy literacy engaging and applicable in various practical contexts.

#### 4. CONCLUSION

The research results indicate that students' numeracy literacy skills fall into the low category. This is evident from the scores obtained by each student. The study also identified, among the six components of numeracy literacy measured in this research, that the indicator requiring significant attention is the use of measurement tools, which includes topics such as length, time, area, and so on. This condition is supported by findings from other research methods, where it was observed that teachers have a relatively low level of awareness when it comes to using concrete teaching materials. This is one of the factors contributing to the low numeracy literacy skills among students.

## 5. REFERENCES

- Agung, G. (2014). *Metodologi Penelitian Pendidikan*. Aditya Media Publishing.
- Agustiani, I. W. D., Gumartifa, A., & Yaman, H. (2021). Readiness to Learn: Principles Contributing Factors and How it Affects Learning. *English Community Journal*, 5(2), 112–119. <https://doi.org/10.32502/ecj.v5i2.3529>.
- Apriyani, T. (2020). Pembelajaran Sastra Populer Berbasis Wattpad Sebagai Upaya Peningkatan Kemampuan Literasi Baca Tulis. *Suar Betang*, 15(1), 107–116. <https://doi.org/10.26499/surbet.v15i1.152>.
- Bell, M. F., Segal, L., Dennison, S., Kinner, S. A., Dawe, S., Spittal, M. J., & Preen, D. B. (2023). Numeracy and literacy attainment of children exposed to maternal incarceration and other adversities: A linked data study. *Journal of School Psychology*, 100(August), 101241. <https://doi.org/10.1016/j.jsp.2023.101241>.
- Borgonovi, F., Choi, A., & Paccagnella, M. (2021). The evolution of gender gaps in numeracy and literacy between childhood and young adulthood. *Economics of Education Review*, 82(November 2019), 102119. <https://doi.org/10.1016/j.econedurev.2021.102119>.
- Budiwibowo, S. (2016). Hubungan Minat Belajar Siswa Dengan Hasil Belajar Ips Di Smp Negeri 14 Kota Madiun. *Gulawentah: Jurnal Studi Sosial*, 1(1), 60. <https://doi.org/10.25273/gulawentah.v1i1.66>.
- Chorrojprasert, L. (2020). Learner readiness – Why and how should they be ready? *LEARN Journal: Language Education and Acquisition Research Network*, 13(1), 268–274. <https://eric.ed.gov/?id=EJ1242968>.
- Dafit, F., Dea Mustika, & Melihayatri, N. (2021). Pengaruh Program Pojok Literasi Terhadap Minat Baca Mahasiswa PGSD FKIP UIR. *Jurnal Basicedu*, 5(2), 2156–2163. <https://doi.org/10.31004/basicedu.v4i1.307>.
- Dantes, N. (2012). *Metode Penelitian*. CV ANDI OFFSET.
- Desyandri. (2018). Nilai-Nilai Kearifan Lokal untuk Menumbuhkembangkan Literasi Budaya di Sekolah Dasar. *Sekolah Dasar: Kajian Teori dan Praktik Pendidikan*, 27(1), 1–9. <https://doi.org/10.17977/um009v27i12018p001>.
- Dinni, H. N. (2018). HOTS ( High Order Thinking Skills ) dan Kaitannya dengan Kemampuan Literasi Matematika. *Prisma*, 1, 170–176. <https://journal.unnes.ac.id/sju/index.php/prisma/article/view/19597>.
- Effendi, M. (2016). Integrasi Pembelajaran Active Learning dan Internet-Based Learning dalam Meningkatkan Keaktifan dan Kreativitas Belajar. *Nadwa*, 7(2), 283. <https://doi.org/10.21580/nw.2013.7.2.563>.
- Emzir. (2008). *Metodologi Penelitian Pendidikan: Kuantitatif dan Kualitatif*. PT Raja Grafindo Persada.
- Faridah, N. R., Afifah, E. N., & Lailiyah, S. (2022). Efektivitas Model Pembelajaran Project Based Learning Terhadap Kemampuan Literasi Numerasi dan Literasi Digital Peserta Didik Madrasah Ibtidaiyah. *Jurnal Basicedu*, 6(1), 709–716. <https://doi.org/10.31004/basicedu.v6i1.2030>.
- Herawati, R. (2022). Penerapan Model Gradual Release of Responsibility dalam Penguatan Pembelajaran Literasi dan Numerasi. *Ideguru: Jurnal Karya Ilmiah Guru*, 7(1), 22–31. <https://doi.org/10.51169/ideguru.v7i1.335>.
- Kusmiarti, R., & Hamzah, S. (2019). Literasi Dalam Pembelajaran Bahasa Indonesia di Era Industri 4.0. *Seminar Nasional Pendidikan Bahasa dan Sastra*, 0(0), 211–222. <https://ejournal.unib.ac.id/index.php/semiba>.
- 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. <https://doi.org/10.31004/basicedu.v6i3.3003>.
- Lechner, C. M., Gauly, B., Miyamoto, A., & Wicht, A. (2021). Stability and change in adults' literacy and numeracy skills: Evidence from two large-scale panel studies. *Personality and Individual Differences*, 180(February), 110990. <https://doi.org/10.1016/j.paid.2021.110990>.
- Mahmud, M. R., & Pratiwi, I. M. (2019). Literasi Numerasi Siswa Dalam Pemecahan Masalah Tidak Terstruktur. *KALAMATIKA Jurnal Pendidikan Matematika*, 4(1), 69–88. <https://doi.org/10.22236/kalamatika.vol4no1.2019pp69-88>.
- Mubayyinah, N., & Ashari, M. Y. (2017). Efektivitas Metode Active Learning dalam Meningkatkan Hasil Belajar Pendidikan Agama Islam Siswa Kelas X-A di SMA Darul Ulum 3 Peterongan Jombang. *Jurnal Pendidikan Islam*, 1(1), 75–93.
- Ningsih, W., Asmidaryani, & Emirawati. (2022). Tantangan Dan Kesulitan Guru, Orang Tua Dan Siswa Dalam Pelaksanaan Pembelajaran Tatap Muka pada Era New Normal Pandemi Covid-19. *Al-Mafahim: Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, 5(1), 1–7. <https://doi.org/10.53398/jm.v5i1.116>.
- Nudiati, D., & Sudiapermana, E. (2020). Literasi Sebagai Kecakapan Hidup Abad 21 Pada Mahasiswa.

- Indonesian Journal of Learning Education and Counseling*, 3(1), 34–40. <https://doi.org/10.31960/ijolec.v3i1.561>.
- Nurjanah, M., Dewi, D. T., Al Fathan, K. M., & Mawardini, I. D. (2022). Literasi Numerasi Dalam Pembelajaran Tematik Siswa Kelas 3 Sd/Mi. *Muallimuna: Jurnal Madrasah Ibtidaiyah*, 7(2), 87. <https://doi.org/10.31602/muallimuna.v7i2.6499>.
- Putri Utami, I. W., & Muzakki, A. (2020). Analisis Pendampingan Literasi Budaya Dan Kewarganegaraan Di Era New Normal. *Wahana*, 72(2), 126–130. <https://doi.org/10.36456/wahana.v72i2.2851>.
- Radiusman, R. (2020). Studi Literasi: Pemahaman Konsep Anak Pada Pembelajaran Matematika. *FIBONACCI: Jurnal Pendidikan Matematika dan Matematika*, 6(1), 1–8. <https://doi.org/10.24853/fbc.6.1.1-8>.
- Ratnasari, E. M. (2020). Efektifitas Penggunaan Buku Cerita Bergambar terhadap Kecerdasan Visual Anak Prasekolah. *Jurnal PG-PAUD Trunojoyo : Jurnal Pendidikan dan Pembelajaran Anak Usia Dini*, 7(1), 10–16. <https://doi.org/10.21107/pgpaudtrunojoyo.v7i1.4287>.
- Ricardo, R., & Meilani, R. I. (2017). Impak Minat dan Motivasi Belajar Terhadap Hasil Belajar Siswa. *Jurnal Pendidikan Manajemen Perkantoran*, 2(2), 79. <https://doi.org/10.17509/jpm.v2i2.8108>.
- Sari, S. P., Natuna, D. A., & Afrianto, A. (2022). Pengaruh Kecerdasan Emosional Dan Literasi Numerasi Terhadap Kompetensi Pedagogik Guru Matematika Sekolah Menengah Pertama (Smp) Negeri Kota Pekanbaru. *JURNAL PAJAR (Pendidikan dan Pengajaran)*, 6(1), 290. <https://doi.org/10.33578/pjr.v6i1.8379>.
- Silitonga, E. A., & Simanjuntak, M. R. (2022). Pelatihan Peningkatan Kemampuan Literasi-Numerasi Siswa Sekolah Dasar Sebagai Implementasi Kegiatan Program Kampus Mengajar Angkatan 3 Pendahuluan. <https://Madaniya.Pustaka.My.Id/Journals/Contents/Article/View/255>, 3(3), 623–636. <https://doi.org/10.53696/27214834.255>.
- Subayani, N. W., & Nugroho, A. S. (2019). Pengembangan Modul Berbasis Budaya Lokal Untuk Meningkatkan Literasi Sains Dan Mereduksi Miskonsepsi Sains Mahasiswa Calon Guru Sd. *JTIEE (Journal of Teaching in Elementary Education)*, 2(2), 143. <https://doi.org/10.30587/jtiee.v2i2.753>.
- Sudaryono. (2015). *Metode Penelitian Pendidikan*. Prenamedia Group.
- Sufianti, M., & Nurdyansyah. (2018). Calistung E-Module Innovation for Strengthening Basic Literacy and Numeracy Student [ Inovasi E-Modul Calistung Untuk Penguatan Dasar Literasi dan Numerasi Siswa ]. *UMSIDA PREPRINTS SERVER*, 1, 1–14. <https://doi.org/10.21070/ups.350>.
- Sugiyono. (2014). *Metode Penelitian Kualitatif, Kuantitatif, dan R&D*. Alfabeta.
- Sulistiyawati, E. (2020). Keefektifan pendekatan kontekstual berbasis budaya lokal ditinjau dari prestasi, minat belajar, dan apresiasi terhadap matematika. *JP3M (Jurnal Penelitian Pendidikan dan Pengajaran Matematika)*, 6(1), 27–42. <https://doi.org/10.37058/jp3m.v6i1.1421>.
- Toha, S. M. (2018). Pelaksanaan Metode Active Learning dalam Meningkatkan Hasil Belajar Siswa pada Pembelajaran Pendidikan Agama Islam. *Ta'dibuna: Jurnal Pendidikan Islam*, 7(1), 79. <https://doi.org/10.32832/tadibuna.v7i1.1364>.
- Tohirin. (2012). *Metode Penelitian Kualitatif Dalam Pendidikan Dan Bimbingan Konseling*. PT Raja Grafindo Persada.
- Widiantari, N. K. K., Suparta, I. N., & Sariyasa, S. (2022). Meningkatkan Literasi Numerasi dan Pendidikan Karakter dengan E-Modul Bermuatan Etnomatematika di Era Pandemi COVID-19. *JIPM (Jurnal Ilmiah Pendidikan Matematika)*, 10(2), 331. <https://doi.org/10.25273/jipm.v10i2.10218>.
- Winarni, S., Kumalasari, A., Marlina, M., & Rohati, R. (2021). Efektivitas Video Pembelajaran Matematika Untuk Mendukung Kemampuan Literasi Numerasi Dan Digital Siswa. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, 10(2), 574. <https://doi.org/10.24127/ajpm.v10i2.3345>.
- Wulandari, E. T. (2019). Pentingnya Pengaruh Fasilitas Belajar Terhadap Prestasi Belajar Siswa The Importance of the Effect of Learning Facilities on Student Learning Achievement. *EProsiding Seminar Nasional Biologi VI*, 20, 258–261. <https://ojs.unm.ac.id/semnasbio/article/view/10545/6181>.
- Yuki, L. K. (2020). Implementasi Literasi Budaya Kuda Kosong dalam Meningkatkan Minat Membaca pada Mahasiswa Universitas Putra Indonesia. *Jurnal Soshum Insentif*, 3(1), 44–50. <https://doi.org/10.36787/jsi.v3i1.215>.
- Yunitasari, R., & Hanifah, U. (2020). Pengaruh Pembelajaran Daring terhadap Minat Belajar Siswa pada Masa COVID 19. *Edukatif: Jurnal Ilmu Pendidikan*, 2(3), 236–240. <https://doi.org/10.31004/edukatif.v2i3.142>.
- Yusuf, R., Sanusi, Razali, Maimun, Putra, I., & Fajri, I. (2020). Tinjauan Literasi Budaya dan Kewargaan Siswa SMA Se-Kota Banda Aceh. *Jurnal Pendidikan Kewarganegaraan Undiksha*, 8(2), 91–99. <https://ejournal.undiksha.ac.id/index.php/JJPP/article/view/24762>.