Journal of Educational Learning and Innovation
p-ISSN:2775-2623 and e-ISSN: 2775-2739
Volume 2 Number 2 September 2022, Halaman 279-295
DOI: 10.46229/elia.v2i2

MATHEMATICAL LITERACY PROFILE OF ELEMENTARY SCHOOL STUDENTS IN INDONESIA: A SCOPING REVIEW

Intan Putri Hapsari[1], Totok Victor Didik Saputro[2], Yosua Damas Sadewo[3]

[1] Curriculum & Pedagogy Program, Department of Curriculum, Teaching and Learning, Ontario Institute for Studies in Education, University of Toronto, Toronto-Canada
Email: intan.hapsari@mail.utoronto.ca
[2] Primary School Study Program, Institut Shanti Bhuana, Bengkayang-Indonesia
Email: totok.victor@shantibhuana.ac.id
[3] Postgraduate Study Program of Educational Technology, Universitas Negeri Jakarta, Jakarta-Indonesia
Email: yosuadamassadewo_9902921035@mhs.unj.ac.id

(***Received***: 06 September 2022; ***Reviewed:*** 07 September 2022; ***Accepted:*** 09 September 2022; ***Available online***: September-2022; ***Published:*** September-2022)

ARTIKEL INFO
Keywords:
Elementary school; mathematical literacy; scoping review

Abstract. *Mathematical literacy becomed one of skills that had to be mastered by the students in this era. Mathematical literacy could start to be learned in elementary level. This study aimed to describe the research trends of mathematical literacy profile for elementary school students in Indonesia. This study used scoping review research with 5 steps including 1) identifying the initial research questions; 2) identifying relevant studies; 3) study selection; 4) charting and collating the data; and 5) summarizing and reporting the results. The data exploration process was taken through open-access websites such as Google Scholar, ERIC, and Springer using keywords "Literasi Matematika Siswa Sekolah Dasar", "Mathematical Literacy of Elementary School Students in Indonesia". The exploration process was also limited publication for 5 last years. The data reduction process was analyzed using the Preferred Reporting of Items for Systematic Review and Meta-Analyses (PRISMA). The study results were classified to the 3 components such as 1) research methodologies trends, 2) mathematical literacy development, and 3) student's achievement based on mathematical literacy.*

INTRODUCTION

Mathematics is one of the subjects that have to be learned at the elementary level. Mathematics learning emphasizes students' understanding of facts, concepts, principles, and mathematical operations (Widada et al., 2018). To improve students learning in mathematics, one of the skills

that have to be improved by students is mathematical literacy.

Mathematical literacy is one of the fundamental skills that students have to master it in the current area (Ahyan et al., 2021). Lestari et al. (2020) states that mathematical literacy is defined as the skills to formulate, determine, and interpret mathematics in various contexts. Students' skills to solve problems in daily life will be better if students have good mathematical literacy skills (Geiger et al., 2015).

Mathematical literacy has to be taught from elementary level. Students will be introduced the realistic mathematics or related to daily activities (Rahmawati, 2022). The biggest challenging aspect for teachers is to create students' perspective about mathematics is not diffult subject. Teachers should facilitate students to learn mathematics based on daily activities problems.

The fact tells that the mathematical literacy of Indonesia students is very low (Rahmawati, 2022). It happens because curriculum in Indonesia have not clearly emphasized problem-solving but rather on procedural matters. Students are taught to memorize the formulas without understanding the context of problems.

To solve students' difficulties, (Julianto et al., 2021) state that learning media could improve students' mathematical literacy skills. Learning media facilitated students to participate actively. Learning media also provided students curiosity and meaningful learning (Mujiani, 2016).

Researchers identify published articles to determine the research methodologies trends for mathematical literacy of elementary school students in Indonesia. Scoping review is used on this research. Scoping review aims to identify nature and extent of research evidence (Grant & Booth, 2009). Based on the background of this research, the researcher explores the published article to describe the trends of research publication about mathematical literacy of elementary school students in Indonesia.

METHOD

This study was a scoping review research. The exploration process of scoping review used open-access websites such as Google Scholar, ERIC, and Springer with limitation for 5 last years. Scoping review used Arksey and O'Malley's Framework including 5 steps namely 1) identifying the initial research questions; 2) identifying relevant studies; 3) study selection; 4) charting and collating the data; and 5) summarizing and reporting the results (Arksey & O'Malley, 2005).

Identifying the initial research questions

This study was focused on the trends of the research development about

mathematical literacy of elementary school students in Indonesia. To ensure the literatures have been related to the research topic, researchers formulate the initial research questions for encouraging the exploration process. The following is identification results of the initial research questions.

1. What are the research methodologies trends that relate to the mathematical literacy of elementary school students in Indonesia?
2. How is the mathematical literacy development of elementary school students in Indonesia?
3. How is the student's achievement for elementary school students in Indonesia based on the development of mathematical literacy?

Identifying relevant studies

The relevant studies of this research that relate to the topic namely mathematical literacy of elementary school students in Indonesia. The exploration process was taken through open-access websites such as Google Scholar, ERIC, and Springer for 5 last years. The studies identification used the limitation for the keywords namely "Literasi Matematika Siswa Sekolah Dasar" and "Mathematical Literacy of Elementary School Students in Indonesia. This step was done to identify the initial research questions.

Study Selection

Using the keywords that are formulated, there were 1057 articles that were obtained. From the articles exploration results, there were several articles that were not qualified to the research criteria. The data reduction refered to the Preferred Reporting of Items for Systematic Review and Meta-Analyses (PRISMA) (Moher et al., 2009). The data reduction was shown in the Figure 1.

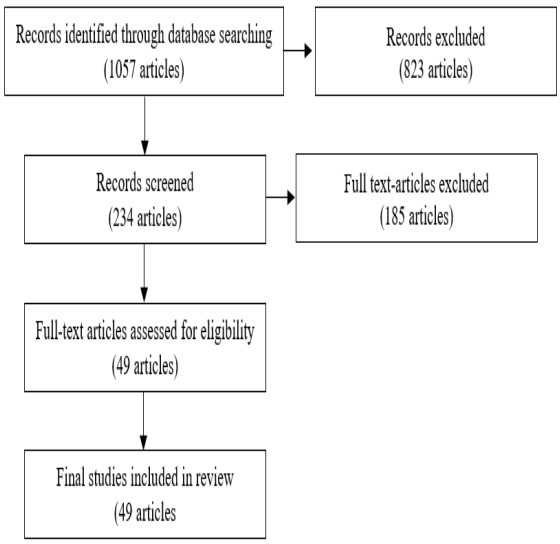

Figure 1. Data reduction process

Figure 1 showed there were several relevant articles and irrelevant articles to the research topic. The appropriatness criteria of screening results for the mathematical literacy of elementary school students in Indonesia were shown in Table 1.

Table 1. The appropriateness criteria

Relevant studies	Irrelevant studies
Mathematical literacy	All form of literacy in Indonesian Language subject, Science subject, and social subject
Elementary school students	All form mathematical literacy in secondary education, higher education, and pre-service students of primary program

Charting and collating the data

The next steps of this research are charting and collating the data. In these steps, the articles summarizing were shown in the table that contains the authors, publication types, and outcomes. Detail of included studies is provided in Table 2.

Table 2. Included studies

No	Authors	Publication Types	Outcomes
1	(Abidin et al., 2020)	Indonesian Journal Indexed by Sinta 3 (S3)	Project based learning model could facilitate students' mathematical literacy
2	(Ahyan et al., 2021)	International Proceeding indexed by Scopus	Mathematical literacy is still interesting topic for research especially in learning and assessment process, curriculum development, and teachers' involvement
3	(Amaliya & Fathurohman, 2022)	Indonesian Journal Indexed by Sinta 4 (S4)	Mathematical literacy was improved by implementing visual learning style
4	(Ananda & Wandini, 2022)	Indonesian Journal Indexed by Sinta 2 (S2)	Students with high self-efficacy have good mathematical literacy
5	(Aprinastuti, 2020)	International Proceeding indexed by Scopus	Developing traditional games for improving students' mathematical literacy
6	(Ashri & Pujiastuti, 2021)	Indonesian Journal Indexed by Sinta 5 (S5)	Students' mathematical literacy skills still need to be improved
7	(Asnawati et al., 2022)	Indonesian Journal Indexed by Sinta 3 (S3)	There is no significant difference between the mathematical literacy skills of male and female students
8	(Azizah & Kurniasih, 2022)	Indonesian Journal Indexed by Sinta 4 (S4)	Parental assistance has a good impact on students' mathematical literacy
9	(Baharuddin et al., 2022)	Indonesian Journal Indexed by Sinta 4 (S4)	Students with low mathematical literacy could only master 1 indicator namely planning the strategy
10	(Farhan et al., 2021)	Indonesian Journal Indexed by Sinta 3 (S3)	Implementation of PBL model was effective to improve students' mathematical literacy
11	(Fitria & Atikah, 2020)	International Proceeding indexed by Sinta	Students could interpret the contextual problems
12	(Fitrianawati et al., 2020)	International Proceeding indexed by Scopus	The relationship between mathematical literacy and creative thinking ability
13	(Fitriyani et al., 2021)	Indonesian Journal Indexed by Sinta 3 (S3)	Learning media based on comic was affected to facilitate students' mathematical literacy
14	(Ginanjar & Akmal, 2020)	Indonesian Journal Indexed by Sinta 3 (S3)	Students worksheet was effective to improve students' mathematical literacy
15	(Handun et al., 2020)	Indonesian Journal Indexed by Sinta 4 (S4)	Mathematical literacy was improved by implementing realistic mathematics education
16	(Harahap et al., 2022)	Indonesian Journal Indexed by Sinta 3 (S3)	Students' mathematical literacy was still in low category

17	(Hasibuan et al., 2022)	Indonesian Journal Indexed by Sinta 4 (S4)	Development learning media based on comic could facilitate students' mathematical literacy
18	(Istiana et al., 2020)	Indonesian Journal Indexed by Sinta 4 (S4)	Mathematical literacy was improved by implementing realistic mathematics education
19	(Julianto et al., 2021)	International Journal indexed by Copernicus	Mobile Learning Integrated Ethnomathematics as Strategy could facilitate students' mathematical literacy and logical thinking skills
20	(Jumarniati et al., 2021)	Indonesian Journal Indexed by Sinta 4 (S4)	Female students have higher mathematical literacy skills than male students
21	(Junarti & Zainudin, 2022)	Indonesian Journal Indexed by Sinta 3 (S3)	Realistic mathematics education was efficient to improve mathematical literacy
22	(Kadaritna et al., 2020)	Indonesian Journal Indexed by Sinta 2 (S2)	Female students have higher mathematical literacy skills than male students
23	(Karjiyati et al., 2022)	Indonesian Journal Indexed by Sinta 4 (S4)	Realistic mathematics education was efficient to improve mathematical literacy
24	(Kurniawati et al., 2020)	International Proceeding indexed by Scopus	There were 3 level of mathematical literacy; teachers must provide a variety of appropriate learning models
25	(Lestari et al., 2022)	Indonesian Journal Indexed by Sinta 3 (S3)	Students with high self-efficacy could master indicator of mathematical literacy
26	(Marlina, 2021)	Indonesian Journal Indexed by Sinta 4 (S4)	Video-based circle learning model has an effect on students' mathematical literacy
27	(Novitasari, 2022)	Indonesian Book Chapter	The development of test instrument had positive effect to mathematical literacy
28	(Mufidah & Karso, 2021)	International Proceeding indexed by Scopus	Mathematical literacy was affected by learning models
29	(Muyassaroh & Dewi, 2021)	Indonesian Journal	Mathematics learning based on ethnomathematics problems could facilitate students' mathematical literacy
30	(Nasrun et al., 2021)	International Journal indexed by Scopus	Mathematical literacy could be improved by solving word problems
31	(Novita et al., 2022)	International Proceeding indexed by Scopus	Students was difficulties in formulating real-life problems
32	(Nurdianti et al., 2021)	Indonesian Journal Indexed by Sinta 4 (S4)	Mathematical literacy was improved by implementing team quiz method
33	(Nurhasanah et al., 2020)	International Proceeding indexed by Scopus	Teachers need to implement meaningful and innovative strategies

34	(Oktiningrum & Wardhani, 2020)	International Journal indexed by Copernicus	Mathematical literacy was improving by solving contextual problems
35	(Perdana & Suswandari, 2021)	Indonesian Journal Indexed by Sinta 4 (S4)	Mathematical literacy was affected with students' curiosity
36	(Pradana et al., 2020)	International Journal indexed by Scopus	Virtual Mathematics Kits (VMK) as the digital media has big impact to support students' mathematical literacy
37	(Pradipta et al., 2020)	Indonesian Journal Indexed by Sinta 2 (S2)	The development of mathematical literacy instrument
38	(Putri et al., 2022)	Indonesian Journal Indexed by Google Scholar	Students' mathematical literacy level affected their achievement
39	(Qoriawati et al., 2021)	Indonesian Journal Indexed by Sinta 4 (S4)	Students could identify the information, explain problem-solving, and formulate the conclusion
40	(Rahmawati, 2022)	International Proceeding indexed by Scopus	Students' responses after taking Mathematics in Life based on literacy show positive responses
41	(Rakhmawati & Mustadi, 2022)	Indonesian Journal Indexed by Sinta 2 (S2)	Mathematical basic literacy activities have not been implemented properly
42	(Riyatuljannah & Fatonah, 2021)	Indonesian Journal Indexed by Sinta 3 (S3)	Students' mathematical literacy achievement based on quantity content was in good category
43	(Rosadi et al., 2022)	Indonesian Journal Indexed by Sinta 3 (S3)	Implementation of discovery learning – realistic mathematics education improved students' mathematical literacy
44	(Sari, 2022)	Indonesian Journal Indexed by Sinta 5 (S5)	STEM was an alternative strategy to facilitate students' mathematical literacy
45	(Shodiq & Rokhmawati, 2021)	International Proceeding indexed by Scopus	Development cognitive neuroscience based on learning improved students' mathematical literacy
46	(Simarmata et al., 2020)	Indonesian Journal indexed by Google Scholar	Students' Mathematical literacy is still in low category
47	(Syawahid, 2022)	Indonesian Journal Indexed by Sinta 4 (S4)	Development students worksheet for students' mathematical literacy was in valid, practice, and effective criteria
48	(Witha et al., 2020)	Indonesian Journal indexed by Google Scholar	Implementing Realistic mathematics education based on ethnomathematics solves students' mathematical literacy
49	(Wulandari & Pujiastuti, 2021)	Indonesian Journal indexed by Sinta 4 (S4)	Mathematics textbook provides students' mathematical literacy

Summarizing and reporting the results

The last steps on this scoping review were summarizing and reporting the results. summarizing and reporting the results were shown in the results and discussion.

RESULTS AND DISCUSSION

Mathematical literacy of elementary school students in Indonesia was classified in a common topic. This statement was proved by the most articles were published. There were 49 articles that related to the topic criteria of this scoping review. The scoping review results of this research were research methodologies trends, mathematical literacy development, and student achievement based on mathematical literacy.

Research methodologies trends

The mathematical literacy research of elementary school students in Indonesia was done with several research methodologies. The research methodologies trends were shown in Figure 2.

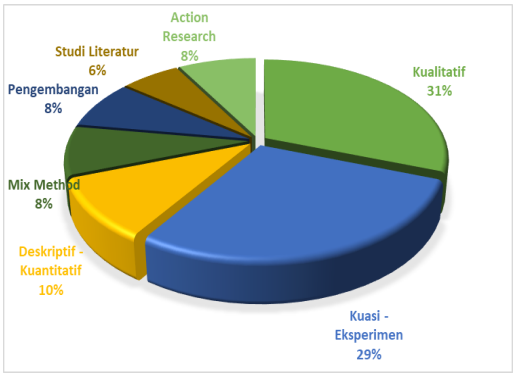

Figure 2. Research methodologies trends percentage

Figure 2 showed the most frequently implemented research methodology in the mathematical literacy of elementary school students was qualitative research. This qualitative research was focused on the development of students' mathematical literacy in contextual problems (Ashri & Pujiastuti, 2021), the development of mathematical literacy based on students' self-efficacy and studying styles (Ananda & Wandini, 2022), and the analysis of thematic textbook in elementary school (Kurniawati et al., 2020). Another result showed that quasi-experiment research was chosen to be the other most frequently implemented research in Indonesia.

The quasi-experiment was focused on the implementation of the learning models and media based on mathematical literacy. The learning model for the most frequently implemented in this research result was realistic mathematics education (Junarti & Zainudin, 2022; Karjiyati et al., 2022; Pradana et al., 2020; Rosadi et al., 2022). Based on learning media, researchers mostly used comics and learning videos (Fitriyani et al., 2021; Hasibuan et al., 2022; Marlina, 2021). Figure 2 also showed the research methodologies trends percentage of mathematical literacy for elementary school students in Indonesia were descriptive-quantitative (10%), mix-

method (8%), development (8%), action research (8%), and literature studies (6%).

Mathematical literacy development

The mathematical literacy of elementary school students in Indonesia did not only focused on students' learning outcomes but also give the attention to the learning process. This evidenced by several studies on the development of students' mathematical literacy on solving contextual problems and the application of learning models and media. In solving contextual problems, students were invited to recognize mathematical problems related to problems in everyday life (Baharuddin et al., 2022; Muyassaroh & Dewi, 2021). Students with low mathematical literacy could make it difficult for students to solve contextual problems. The opposite also applies, students with high mathematical literacy could solve contextual problems well.

In the application of learning models and media, (Junarti & Zainudin, 2022; Rosadi et al., 2022) stated that the realistic mathematics education learning model can improve students' mathematical literacy skills. This is supported by (Karjiyati et al., 2022) that stetd that a realistic mathematic education learning model made it easier for students to develop mathematical literacy skills. Judging from the application media, learning media in the comics form was very suitable to be implemented in developing the mathematical literacy of elementary school students in Indonesia (Fitriyani et al., 2021; Hasibuan et al., 2022). This happens because the learning characteristics of elementary school students who enjoyed illustrated stories make learning mathematics at the elementary school level fun and more meaningful (Fitriyani et al., 2021; Nurhasanah et al., 2020). Other results were also shown by (Amaliya & Fathurohman, 2022; Marlina, 2021) who stated that learning with video-based on circle learning also had a good impact on the development of elementary students' mathematical literacy skills.

Student's Achievement based on Mathematical Literacy

The achievement of elementary school students in terms of mathematical literacy skills obtained various results. (Harahap et al., 2022) stated that the average percentage of students' skills in mathematical literacy was 57.67% and categorized as low performance. These results were in accordance with research (Kadaritna et al., 2020; Putra et al., 2021; Rakhmawati & Mustadi, 2022) that stated the mathematical literacy skills of elementary school students was in the low category. Gender factors also affect the mathematical literacy skills of elementary school students. Female students have better mathematical literacy skills than male students (Jumarniati et al., 2021;

Kadaritna et al., 2020). This condition occurs because the basic skills of mathematical literacy have not been implemented properly. The low mathematical literacy skills of elementary school students caused students to only be able to master one indicator in solving a given problem, namely the indicator of planning problem solving (Baharuddin et al., 2022). This low mathematical literacy skills of students also made students only able to solve 1 of the 4 questions given (Putri et al., 2022). This happens because students have difficulty understanding the application of mathematical concepts related to the given problem (Asnawati et al., 2022).

There were students who have good mathematical literacy skills as well. The students could provide a stimulus so that students were more motivated and curious about participating in learning (Perdana & Suswandari, 2021). Students with high mathematical literacy skills were able to solve mathematical problems in a coherent and precise manner (Putri et al., 2022). (Baharuddin et al., 2022) added that students with high mathematical literacy skills were able to master 4 indicators of problem-solving namely identifying problems, planning solutions, solving problems, and creating conclusions. Students with high mathematical literacy skills also had an impact on students' logical thinking skills such as understanding, planning, determining, solving problems, and conclusions (Julianto et al., 2021).

To improve the mathematical literacy skills of elementary school students, teachers have to implement strategies or learning models that could facilitate students actively in the classroom (Kurniawati et al., 2020; Purnasari & Sadewo, 2021). There were several alternative learning strategies to develop mathematical literacy skills namely learning using a culture-based approach or ethnomathematics (Aprinastuti, 2020; Julianto et al., 2021; Mufidah & Karso, 2021; Sadewo & Purnasari, 2021), problem based learning (Farhan et al., 2021), realistic mathematics education (Junarti & Zainudin, 2022; Karjiyati et al., 2022; Pradana et al., 2020; Rosadi et al., 2022), problem-solving learning (I. S. Lestari et al., 2022), STEM (Sari, 2022) and multiliteration learning (Puspita et al., 2021). This application of learning strategy also depends on the knowledge and experience of the teacher in transferring learning materials. Teachers have to provide learning motivation and familiarize students with solving mathematical problems related to contextual problems (Kurniawati et al., 2020; Oktiningrum & Wardhani, 2020).

CONCLUSION

This study showed that the mathematical literacy of elementary school students in Indonesia was one of the most important research topics in the last 5 years. These results were shown from 49 published articles related to the mathematical literacy of elementary school students in Indonesia. Other research results were 1) research methodologies trends related to the mathematical literacy topic including qualitative research (31%), quasi-experimental (29%), descriptive-quantitative (10%), mixed-methods (8%), development (8%), action research (8%), and literature studies (6%); 2) mathematical literacy development; and 3) student's achievement based on mathematical literacy.

Based on the research methodologies trends, research on this topic still has a great opportunity to be carried out by implementing research types such as mix-methods, developments, action research, and literature studies. Based on its development, the application of a combination of several learning models can be an alternative to solving problems related to the mathematical literacy abilities of elementary school students. In the aspect of student achievement, the impact of elementary students' mathematical literacy skills on the attitude aspect can be an interesting object of research in the future.

REFERENCES

Abidin, Z., Utomo, A. C., Pratiwi, V., & Farokhah, L. (2020). Project-Based Learning - Literacy in Improving Students' Mathematical Reasoning Abilities in Elementary Schools. *JMIE (Journal of Madrasah Ibtidaiyah Education)*, *4*(1), 39–52. https://doi.org/10.32934/jmie.v4i1.170

Ahyan, S., Turmudi, T., & Juandi, D. (2021). Bibliometric analysis of research on mathematical literacy in Indonesia. *Journal of Physics: Conference Series*. https://doi.org/10.1088/1742-6596/1869/1/012120

Amaliya, I., & Fathurohman, I. (2022). Analisis kemampuan literasi matematika ditinjau dari gaya belajar siswa sekolah dasar. *Jurnal Riset Pendidikan Dasar*, *05*(1), 45–56.

Ananda, E. R., & Wandini, R. R. (2022). Analisis kemampuan literasi matematika siswa ditinjau dari self efficacy siswa. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *6*(5), 5113–5126. https://doi.org/10.31004/obsesi.v6i5.2659

Aprinastuti, C. (2020). Developing mathematical literacy by implementing traditional games. *Advances in Social Science, Education and Humanities Research*, *397*, 642–647. https://doi.org/10.2991/assehr.k.200129.081

Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, 19–32. https://doi.org/10.1080/1364557032000119616

Ashri, D. N., & Pujiastuti, H. (2021). Literasi numerasi pada pembelajaran tematik terpadu di kelas rendah sekolah dasar. *Jurnal Karya Pendidikan Matematika*, *8*(2), 1–7.

Asnawati, R., Wisyastuti, Maulina, D., Anggoro, B. S., Ferdiansyah, M., & Izzati, N. (2022). Evaluating the numeracy cognitive level of Indonesian elementary school students using the minimum competency assessment. *Jurnal Pendidikan MIPA*, *23*(2), 428–436.

Azizah, H., & Kurniasih, M. D. (2022). Analisis hubungan perhatian orang tua dan kemampuan literasi matematika sekolah dasar di masa pandemi covid-19. *EDUKATIF: Jurnal Ilmu Pendidikan*, *4*(3), 4758–4765.

Baharuddin, M. R., Jumariati, & Wahyuni, S. (2022). Deskripsi kemampuan literasi matematis pada materi bangun datar ditinjau dari kemampuan awal siswa. *Pedagogy*, *7*(1), 82–95.

Farhan, M., Satianingsih, R., & Yustitia, V. (2021). Problem based learning on literacy mathematics: Experimental study in elementary school. *Journal of Medives : Journal of Mathematics Education IKIP Veteran Semarang*, *5*(1), 118–128. https://doi.org/10.31331/medivesveteran.v5i1.1492

Fitria, Y., & Atikah, N. (2020). An Analysis of Mathematics-Integrated Scientific Literacy Competence of in-Service Teachers in Elementary School. *ICEE-4 "The Direction of Elementary Education in the Future Challenge,"* 905–912.

Fitrianawati, M., Sintawati, M., Marsigit, & Retnowati, E. (2020). Analysis toward relationship between mathematical literacy and creative thinking abilities of students. *Journal of Physics: Conference Series*, *1521*(3).

https://doi.org/10.1088/1742-6596/1521/3/032104

Fitriyani, Y., Eliyanti, M., & Lestari, M. A. (2021). Penerapan media komik untuk meningkatkan kemampuan literasi dalam memahami soal cerita matematika di sekolah dasar. *AULADUNA: Jurnal Pendidikan Dasar Islam*, *8*(2), 168–179.

Geiger, V., Goos, M., & Forgasz, H. (2015). A rich interpretation of numeracy for the 21st century: A survey of the state of the field. *ZDM - International Journal on Mathematics Education*, *47*(4), 531–548. https://doi.org/10.1007/s11858-015-0708-1

Ginanjar, A. Y., & Akmal, R. (2020). Efektivitas Lembar Kerja Untuk Meningkatkan Kemampuan Literasi Matematika Mahasiswa Pendidikan Guru Sekolah Dasar. *Jurnal Basicedu*, *5*(1), 239–246. https://doi.org/10.31004/basicedu.v5i1.655

Grant, M. J., & Booth, A. (2009). A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Information and Libraries Journal*, 91–108. https://doi.org/10.1111/j.1471-1842.2009.00848.x

Handun, Habudin, & Rachmiati, W. (2020). The influence of using realistic mathematics instruction on mathematical literation skills of elementary school students. *Primary: Jurnal Keilmuan Dan Kependidikan Dasar*, *12*(01), 67–76.

Harahap, D. G. S., Nasution, F., Nst, E. S., & Sormin, S. A. (2022). Analisis kemampuan literasi siswa sekolah dasar. *Jurnal Basicedu*, *6*(2), 2089–2098.

Hasibuan, N. H., Gusmania, Y., & Rahman, S. (2022). Efektivitas pengembangan media pembelajaran komik berbasis kodular untuk kemampuan pemahaman literasi matematika siswa SDS Edustar. *Jurnal ABSIS*, *4*(2), 501–510.

Istiana, M. E., Satianingsih, R., & Yustitia, V. (2020). Pengaruh Realistic Mathematics Education terhadap Kemampuan Literasi Matematika Siswa. *UNION: Jurnal Ilmiah Pendidikan Matematika*, *8*(3), 423–430. https://doi.org/10.30738/union.v8i3.8446

Julianto, N., Rejekiningsih, T., & Akhyar, M. (2021). Evaluating learning media on mathematical literacy through student's logical thinking

skill: Mobile learning integrated ethnomathematics as strategy to improve student's logical thinking skill. *International Journal of Social Science and Human Research*, *04*(12), 3986–3990. https://doi.org/10.47191/ijsshr/v4-i12-75

Jumarniati, Baharuddin, M. R., & Firman, S. (2021). Deskripsi kemampuan literasi matematis pada materi aritmatika sosial berdasarkan gender. *EQUALS: Jurnal Ilmiah Pendidikan Matematika*, *4*(2), 123–132.

Junarti, & Zainudin, M. (2022). Strategi efektif untuk meningkatkan kemampuan literasi matematika. *JPE (Jurnal Pendidikan Edutama)*, *9*(2), 107–124.

Kadaritna, N., Rosidin, U., & Widyastuti. (2020). Mathematical literacy abilities: Study on elementary and junior high school students in Lampung Tengah regency in term of gender. *Jurnal Pendidikan Progresif*, *10*(2), 162–172. https://doi.org/10.23960/jpp.v10.i2.202002

Karjiyati, V., Supriatna, I., Agusdianita, N., & Yuliantini, N. (2022). Peningkatan kemampuan literasi matematika mahasiswa melalui penerapan model RME pada perkuliahan konsep dasar geometri dan pengukuran. *Jurnal PGSD: Jurnal Pendidikan Guru Sekolah Dasar*, *15*(1), 49–56.

Kurniawati, R. P., Gunawan, I., & Marlina, D. (2020). Mathematic literation abilities based on problem solving abilities in first class 4 of elementary school. *Advances in Social Science, Education and Humanities Research*, *487*, 186–192. https://doi.org/10.2991/assehr.k.201112.033

Lestari, D. I., Waluya, S. B., & Mulyono. (2020). Mathematical Literacy Ability And Self-Efficacy Students In Search Solve Create And Share (SSCS) Learning With Contextual Approaches. *Unnes Journal of Mathematics Education Research*, *9*(2), 156–162. https://journal.unnes.ac.id/sju/index.php/ujmer/article/view/33111

Lestari, I. S., Zaenuri, & Mulyono. (2022). Literasi matematika ditinjau dari self efficacy dengan menggunakan problem solving learning model dengan strategi scaffolding. *Jurnal Inovasi Sekolah Dasar*, *9*(1), 27–35.

Marlina, E. (2021). Pengaruh model pembelajaran circle learning berbasis

video terhadap kemampuan literasi matematis siswa sekolah dasar. *Journal of Elementary Education*, *04*(06), 934–942.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *Annals of Internal Medicine*, *151*(4), 264–269.

Mufidah, & Karso. (2021). Sundanese ethnomatemics learning in improving mathematical litearcy ability of elementary school students. *The 2nd International Conference on Elementary Education*, *2*(1), 933–940.

Mujiani, D. S. (2016). Pengaruh Media Pembelajaran Dan Kecerdasan Logis Matematis Terhadap Hasil Belajar Matematika Siswa. *Jurnal Pendidikan Dasar*, *7*(2), 199–209.

Muyassaroh, I., & Dewi, P. (2021). Etnomatematika: Strategi melahirkan generasi literat matematika melalui budaya lokal Yogyakarta. *Jurnal Dikoda*, *2*(1), 1–12.

Nasrun, Sa'dijah, C., As'ari, A. R., & Susanto, H. (2021). Investigation of Students' Skills in Generating Different Representations to Solve Word Problems: A Case Study in an Elementary School in Indonesia. *İlköğretim Online - Elementary Education Online*, *20*(1), 582–591. https://doi.org/10.17051/ilkonline.2021.01.49

Novita, R., Herman, T., Suryadi, D., Dasari, D., & Putra, M. (2022). How Pre-Service Elementary Teachers Deal with Mathematical Literacy Problems ? A Case Study. *Advances in Social Science, Education and Humanities Research*, *627*, 135–143.

Novitasari, M. (2022). Pengembangan lembar kerja peserta didik: Membudayakan kemampuan literasi numerasi siswa sekolah dasar. In *Pembelajaran Kolaboratif Matematika Berbasis Lesson Study di SMP: Mewujudkan Siswa Mandiri dan Bermartabat, Sutama*.

Nurdianti, R., Prihantoro, C. R., & Nuryadin, I. (2021). Kemampuan literasi matematika siswa SD melalui metode team quiz berbantuan media konkret ditinjau dari kemampuan awal matematika. *Jurnal Ilmiah Pendidikan Profesi Guru*, *4*(3), 457–466.

Nurhasanah, Rahman, & Nugraha, T. (2020). Implementation outcomes of literacy movement through the habituation, development, and

learning stages for Indonesian elementary school students. *The 3rd International Conference on Elementary Education*, *3*, 81–89.

Oktiningrum, W., & Wardhani, D. A. P. (2020). Developing Hot Mathematics Task with Indonesian Heritage as Context to Assess Mathematical Literacy of Students in Primary School. *International Journal for Educational and Vocational Studies*, *1*(8), 69–73. https://doi.org/10.29103/ijevs.v2i1.1997

Perdana, R., & Suswandari, M. (2021). Literasi Numerasi Dalam Pembelajaran Tematik Siswa Kelas Atas Sekolah Dasar. *Absis: Mathematics Education Journal*, *3*(1), 9–15.

Pradana, L. N., Sholikhah, O. H., Maharani, S., & Kholid, M. N. (2020). Virtual mathematics kits (VMK): Connecting digital media to mathematical literacy. *International Journal of Emerging Technologies in Learning*, *15*(3), 234–241. https://doi.org/10.3991/ijet.v15i03.11674

Pradipta, I., Sariyasa, & Lasmawan, I. (2020). Pengembangan instrumen kemampuan berpikir kreatif dan literasi matematika pada materi geometri peserta didik kelas IV sekolah dasar. *Jurnal Penelitian Dan Evaluasi Pendidikan*, *10*(1), 21–30.

Purnasari, P. D., & Sadewo, Y. D. (2021). Strategi Pembelajaran Pendidikan Dasar di Perbatasan pada Era Digital. *Jurnal Basicedu*, *5*(5), 3089–3100.

Puspita, L. A., Cahyani, I., & Rahman. (2021). The effect of multiliteracy learning on mathematical literacy skills of elementary school students. *The 2nd International Conference on Elementary Education*, *2*(1), 506–516.

Putra, M. J. A., Agmadya, T., & Syahrilfuddin, S. (2021). Mathematical literacy skills of fifth grade elementary school students: A case study in Pekanbaru. *Journal of Teaching and Learning in Elementary Education (Jtlee)*, *4*(1), 39–50. https://doi.org/10.33578/jtlee.v4i1.7842

Putri, G. M., Sugiarti, T., & Alfarisi, R. (2022). Analisis literasi matematis berdasarkan kemampuan matematika siswa kelas VI SDN 2 Kedunggebang Banyuwangi. *Jurnal Ilmu Pendidikan Sekolah Dasar*, *9*(1), 173–192.

Qoriawati, R., Sulistyawati, I., & Yustitia, V. (2021). Literasi matematika siswa sekolah dasar ditinjau dari gaya kognitif field independent. *UNION: Jurnal Pendidikan Matematika*, *9*(2), 215–225.

Rahmawati, I. (2022). Mathematical Literacy Skills of Elementary Teacher Education Students through " Mathematics in Life " Approach. *The 4th International Conference on Elementary Education*, 305–314.

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.

Riyatuljannah, T., & Fatonah, S. (2021). Analisis kemampuan literasi matematika siswa pada penyelesaian soal berorientasi konten quantity. *EDU-MAT: Jurnal Pendidikan Matematika*, *9*(1), 59–68. https://doi.org/10.20527/edumat.v9i1.10089

Rosadi, A., Dwijanto, D., Hidayah, I., Subali, B., & Suminar, T. (2022). Implementasi pembelajaran discovery learning-PMRI berbantuan microsoft mathematic: Literasi matematika siswa ditinjau dari gaya kognitif. *Jurnal Inovasi Pembelajaran Di Sekolah*, *3*(1), 12–19.

Sadewo, Y. D., & Purnasari, P. D. (2021). Pengembangan Video Pembelajaran Matematika Berorientasi Kebudayaan Lokal Pada Sekolah Dasar. *Sebatik*, *25*(2), 590–597. https://doi.org/10.46984/sebatik.v25i2.1649

Sari, K. (2022). Penggunaan rakit terbang berbasis STEM untuk mengembangkan kemampuan literasi matematika sekolah dasar. *Jurnal Didaktika Pendidikan Dasar*, *6*(1), 327–346. https://doi.org/10.26811/didaktika.v6i1.705

Shodiq, L. J., & Rokhmawati, A. (2021). Development cognitive neuroscience based learning to use lesson study for learning community to increase mathematical literacy. *Journal of Physics: Conference Series*. https://doi.org/10.1088/1742-6596/1839/1/012022

Simarmata, Y., Wedyawati, N., & Hutagaol, A. S. R. (2020). Analisis literasi matematika pada penyelesaian soal cerita siswa kelas V sekolah dasar. *J-PiMat*, *2*(1), 100–105.

Syawahid, M. (2022). Pengembangan

lembar kerja siswa ditinjau dari kemampuan number sense dan literasi matematika siswa. *Jurnal Pemikiran Dan Penelitian Pendidikan Matematika (JP3M)*, *5*(1), 11–28.

Widada, W., Herawaty, D., & Lubis, A. N. M. T. (2018). Realistic mathematics learning based on the ethnomathematics in Bengkulu to improve students' cognitive level. *Journal of Physics: Conference Series*, 1–8. https://doi.org/10.1088/1742-6596/1088/1/012028

Witha, T. S., Karjiyati, V., & Tarmizi, P. (2020). Pengaruh Model RME Berbasis Etnomatematika Terhadap Kemampuan Literasi Matematika Siswa Kelas IV SD Gugus 17 Kota Bengkulu. *JURIDIKDAS: Jurnal Riset Pendidikan Dasar*, *3*(2), 136–143. https://doi.org/10.33369/juridikdas.3.2.136-143

Wulandari, R. D., & Pujiastuti, H. (2021). Analysis of mathematics literature problems in mathematics textbook class V elementary school. *JURNAL JPSD (Jurnal Pendidikan Sekolah Dasar)*, *8*(2), 75–59.