
Ethnomatematics in Mathematics Learning in Primary Schools: A Systematic Literature Review

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Abstract. The culture that develops in society can be used as material for mathematics learning in elementary schools. This scientific paper was written using the Systematic Literature Review (SLR) methodology. SLR is a method for identifying, reviewing, and summarizing multiple studies on a specific topic. The reviewed articles include a total of 210 articles on ethnomathematics in elementary school mathematics education, collected from the Perpustakaan database, Publish or Perish, Google Scholar, and Scopus over the past 10 years. For the SLR, 4 articles were used. The results of the literature review indicate that ethnomathematics is a discipline that can be applied in mathematics education in elementary schools. This is evidenced by research showing that ethnic mathematics can improve students' skills in the learning process, especially for children in elementary schools. Many cultural variations can be represented in ethnomathematics, such as traditional games, building structures, cuisine, and traditional activities found in villages. By integrating ethnomathematics into mathematics education in elementary schools, it is hoped that students can develop a deeper understanding of mathematics, strengthen their cultural identity, and appreciate cultural diversity.

Keywords. Ethnomatetics; Mathematics; Primary Schools

INTRODUCTION

Indonesia is a multicultural country whose people typically do things influenced by their culture. Culture encompasses many aspects, one of which is ethnomathematics. This is the study of the relationship between culture and mathematical concepts. It also reveals everyday mathematical practices. These mathematical practices can be seen in Cipatujah, West Java, Indonesia. There are several ethnic groups that apply ethnomathematics in their daily lives, such as using traditional mathematical concepts to determine the best time to go fishing at sea and in constructing houses. This exploration will describe the extent of ethnomathematics' role in Cipatujah and identify any issues found based on the exploration results. Ethnomathematics plays an important role in our daily lives, with a case study focusing on elementary school students and the community of Cipatujah. The method applied in this research is exploratory. The results show that the people of Cipatujah have been applying ethnomathematics in their lives for years and believe that ethnomathematics is an integral part of their lives. However, elementary school teachers in the area have not yet adopted an ethnomathematics approach in their mathematics teaching. The conclusion of this research is that ethnomathematics serves as the root of cultural life in West Java (Dianne Amor Kusuma, 2016).

Ethnomathematics is not a new concept in mathematics education (Rosa & Clark, 2011). Ethnomathematics was recently developed and popularized by D. Ambrosio and Milton Rosa in Brazil. This is because mathematics education in schools was initially lacking in cultural context, meaning that mathematics did not emphasize cultural aspects as they appear in the social dynamics of traditional and modern societies (D'Ambrosio & Rosa, 2017). Ethnomathematics has grown significantly, and when studying mathematics, one often encounters research on ethnomathematics. This is based on the fact that culture can be linked to mathematics learning from different perspectives, so that students feel a cultural connection to local culture, which is an inseparable integration with national culture in Indonesia.

The preservation of culture in mathematics learning involves recognizing cultural values and traditions as important resources in education. Culture has a rich intellectual heritage, including in the field of mathematics. The use of culture in mathematics education allows students to understand mathematical concepts in a more real and meaningful context. For example, the use of traditional stories or games in solving mathematical problems can help students relate mathematical concepts to their daily lives (Barton, 2008). Culture has mathematical traditions involving patterns, symmetry, and complex geometry. Utilizing these elements in mathematics education can help students develop stronger abstraction and mathematical reasoning skills (Zaslavsky, 1996). Integrating culture into mathematics education can increase students' interest and motivation toward the subject. When students see the relevance between mathematics and their own culture, they tend to be more interested and enthusiastic about learning (Gay, 2010). Through the preservation of culture in mathematics education, young people can appreciate and maintain their cultural identity. This helps prevent the erosion of traditional culture by globalization and modernization, while enriching their understanding of mathematics (Banks, 2006). The integration of culture in mathematics education can also encourage interdisciplinary learning. Students can learn mathematics not only as a separate subject but also within the context of art, literature, music, and other cultural aspects. This helps expand their understanding of mathematics and enhance connections between other subjects (D'Ambrosio, 2001). By integrating cultural preservation into mathematics education, education can become more inclusive, relevant, and enriching for students' learning experiences. Additionally, this helps preserve cultural diversity and safeguard valuable intellectual heritage (UNESCO, 2003).

Selection in mathematics learning is related to ethnomathematical conditions that have a rich and unique history of traditional mathematics. They have developed their own mathematical knowledge in line with cultural developments and daily life. For example, they have a tradition of counting using their fingers and toes, a nature-based measurement system, and mathematical patterns in carving and weaving. Understanding and applying these concepts can make a valuable contribution to contextual mathematics learning (D'Ambrosio, 2001; Barton, 2008). Integrating ethnomathematics into mathematics education allows students to understand mathematics within the context of their own culture. This maintains the relevance of the learning material and enhances students' interest and motivation in studying mathematics (Rosa & Orey, 2011). Through the introduction of ethnomathematics in mathematics education, education can play a role in preserving cultural identity and

promoting appreciation for cultural diversity. This helps students understand and respect mathematical heritage rooted in culture, thereby encouraging its preservation and conservation (Ascher, 1991). Through the integration of ethnomathematics in mathematics education, education can become more inclusive, relevant, and enrich students' learning experiences. This also helps in maintaining cultural diversity and preserving valuable mathematical heritage (Zaslavsky, 1996).

The implementation of the Merdeka Curriculum in the Pancasila learning profile can enrich mathematics learning by integrating local wisdom from ethnomathematics. Ethnomathematics has a rich tradition of carving and weaving arts that utilize symmetry and complex patterns. Teachers can teach concepts of symmetry and patterns through examples from traditional arts. For example, students can study symmetry in traditional carving art or identify mathematical patterns in woven mats or songket (D'Ambrosio, 2001; Bishop, 1988). Ethnomathematics also has traditional measurement systems that differ from the metric system commonly used today. Teachers can introduce students to traditional measurement systems, such as the use of units like *gajah*, *hasta*, or *depa*. Students can compare and convert between traditional and metric measurement systems, thereby expanding their understanding of measurement (Gerdes, 1996). Culture has traditional methods for solving mathematical problems. Teachers can teach students to understand and apply these methods in solving mathematical problems. For example, the use of the finger system in arithmetic operations or the use of visual representations in solving mathematical problems (Powell & Frankenstein, 1997). The implementation of the Merdeka Curriculum in the Pancasila learning profile by incorporating local wisdom from ethnomathematics into mathematics learning not only enriches students' understanding of mathematics but also strengthens their appreciation of local culture and traditional wisdom. This aligns with the Merdeka Curriculum's objective of providing education based on Pancasila values and respecting cultural diversity in Indonesia (Kemdikbudristek, 2021).

The application of ethnomathematics in mathematics education has the potential to achieve a number of successes, including helping students develop an appreciation for cultural diversity. This allows students to understand and appreciate the contributions of mathematics from their own culture, as well as other cultures in the context of ethnomathematics (D'Ambrosio, 2001). This can help promote a deeper understanding of cultural diversity among students (Knijnik, 2002). The integration of ethnomathematics in mathematics education can also increase students' motivation and interest in learning. When students see mathematics as something related to their own culture and identity, they tend to be more enthusiastic about learning and developing mathematical skills (Rosa & Orey, 2011). This can have a positive impact on student participation and academic achievement. Ethnomathematics enables the development of cross-disciplinary skills, where students can learn about the connections between mathematics and other fields such as art, culture, and history (Gerdes, 1994). This can help students integrate knowledge and skills from various disciplines and view mathematics in a broader context. Additionally, the application of ethnomathematics in mathematics education aids in the preservation and development of cultural heritage. Through understanding and using mathematical concepts rooted in their own culture, students can help preserve and pass on mathematical heritage to future generations (Zaslavsky, 1996). Although

ethnomathematics has the potential for success in mathematics education, it is important to consider the challenges and obstacles that may arise, such as limited curriculum, teachers' knowledge and understanding of ethnomathematics, and the availability of resources to support effective implementation (Rosa & Orey, 2010). With adequate support, the application of ethnomathematics can provide significant benefits for students' mathematics learning.

Love for local culture is a national concern and must be instilled in students, especially at the elementary school level. Local culture is a reflection of Indonesia's national culture that must be preserved, including in the Riau region. Unfortunately, some local cultures are not well preserved and are often neglected, and are even recognized by other countries as their unique cultures. This is very dangerous because culture is a heritage from our ancestors that must be preserved by the surrounding community (Suyanto, 2010). If future generations do not understand and appreciate their culture, then the continuity of that culture is threatened with extinction. In the context of mathematics education, ethnomathematics serves as an approach that connects mathematics with local culture. Examples can be found in the architecture of temples, grand mosques, and historical monuments in Yogyakarta, which reflect mathematical elements in the form of symmetry, patterns, and geometry (D'Ambrosio, 2001; Rosa & Orey, 2011). Through the ethnomathematics approach, mathematics teachers contribute to cultural preservation as a form of appreciation for Indonesia's cultural heritage (Utami, 2020).

The application of ethnomathematics in mathematics education in elementary schools requires several things to be developed. First, teachers need to receive adequate training on ethnomathematics concepts and strategies for integrating them into the curriculum (Fitriani, 2021). This training should include the development of relevant teaching strategies, the provision of appropriate resources, and assessment approaches that can measure students' understanding in a cultural context. Second, supportive learning resources need to be developed, such as textbooks, digital media, culture-based math games, and other teaching materials that reflect local cultural elements (Sembiring, 2015). Third, collaboration with local communities, cultural figures, and parents is crucial in collecting and documenting traditional knowledge that can be utilized in learning. This collaboration can also enhance the relevance of the material and enrich students' learning experiences. Finally, ongoing evaluation and research are needed to measure the effectiveness of ethnomathematics in improving students' motivation, mathematical understanding, and cultural identity formation (Rosa & Orey, 2016). Thus, mathematics learning in elementary schools will become more contextual, relevant, and meaningful for students in their daily lives, which are rich in cultural values.

The purpose of the Systematic Literature Review (SLR) in ethnomathematics in elementary school mathematics education is to collect and synthesize existing knowledge about the application of ethnomathematics in the context of elementary education. By conducting a systematic review of relevant literature, a comprehensive understanding of studies and research conducted in this field will be obtained (Kitchenham & Charters, 2007). SLR can provide a strong foundation for further development in the application of ethnomathematics in mathematics education, both in terms of curriculum, pedagogy, and evaluation (Boaler, 1998; Rosa & Orey, 2011). The findings from this literature review

can serve as a foundation for developing contextual and culturally-based learning approaches, making them more relevant and meaningful for elementary school students (Nasir, 2002; Barton, 2008). By conducting a Systematic Literature Review, it is hoped that understanding of the application of ethnomathematics in mathematics education in elementary schools can be expanded, and a strong foundation can be provided for the development of better educational practices and policies (Rosa & Orey, 2013).

The purpose of this study is to examine and analyze publication trends related to the application of ethnomathematics in culture-based mathematics learning in elementary schools. This learning approach is expected to help students understand mathematical concepts contextually through the culture that develops in their region. Thus, local culture is not only viewed as part of history but also as a source of relevant and interesting mathematics learning for students. Based on this, this study poses several questions: (1) What are the publication trends related to ethnomathematics analysis in mathematics education based on the year of publication? (2) What are the publication trends in Google Scholar-indexed journals? (3) What are the trends in Scopus-indexed journals? (4) Which branch of mathematics is most commonly used in ethnomathematics research?

METHOD

This scientific paper was written using the Systematic Literature Review (SLR) methodology. SLR is a method for identifying, reviewing, and summarizing several studies on the topic being discussed. Systematic literature review is a formal method for combining data from primary studies related to research questions (Kofod-petersen, 2018). The research procedure includes data collection, analysis, and conclusion (Juandi & Tamur, 2020). The topic to be discussed is Ethnomathematics in Mathematics Education at Elementary Schools.

The inclusion criteria used in this study are: (1) the study evaluates mathematics education; (2) the study analyzes ethnomathematics in mathematics education from 2015 to 2023; (3) the research method must use a qualitative approach; (4) the study covers the elementary education level; (5) the study is indexed in Scopus and Sinta; (6) The study includes teaching materials used in the research. Articles that do not meet the inclusion criteria are excluded from the analysis process.

To make the discussion of this study comprehensive, the researcher collected journal articles from Publish or Perish, Scopus, Google Scholar, and the Perpustakaan software. The search used article databases with the keyword "Ethnomathematics" in mathematics education in elementary schools. Only articles published from 2015 to 2023 were collected. From these papers, the researcher selected 210 articles that were highly relevant to the keywords used. The next step was to group the articles related to ethnomathematics in elementary school mathematics learning.

HASIL DAN PEMBAHASAN

Ethnomathematics is an interesting and hot topic of discussion in elementary school mathematics classes. The integration of cultural studies with mathematical concepts constitutes a unique form of education, aimed at helping students better understand their own culture and preserve local culture as a reflection of national culture,

especially in today's globalized era, which tends to erode local cultural values. Thus, ethnomathematics not only helps students understand mathematical concepts in a contextual manner but also fosters pride and love for the nation's cultural heritage.

Ethnomathematics studies various ways people solve practical mathematical problems and algorithms based on their own perspectives. This study highlights various forms of mathematical implications embedded in cultural activities. Conversely, culture-based mathematics education is one way to make mathematics learning meaningful and contextual, closely tied to the culture of the community and then implemented harmoniously with the community, much like engaging and enjoyable learning. If this is done from an early age, it will shape students' character. Researchers suggest that ethnomathematics be incorporated into the curriculum and play a role relatively similar to formal mathematics, namely: (1) as a substitute for school mathematics; (2) as regulations for school mathematics; (3) as a milestone in the history of school mathematics; (4) motivation for school mathematics and (5) school mathematics as local content and a plan for student character development (Mega Teguh Budiarto, Rudianto Artiono, and Rini Setianingsih, 2019). The concept of ethnomathematics in mathematics education has received attention and is likely to be applied in mathematics education (Brandt and Chernoff, 2015; Fajriyah, 2018).

This is supported by the fact that ethnomathematics research is widespread in many countries, including Indonesia. This is important because culture can be passed on to the next generation through culture-based learning. As a result, students will grow up to have good character and love for their country language ethnomathematics learning develops creative thinking in elementary school students in the fields of mathematics, geometry, and algebra. Ethnomathematics learning in Sundanese through Sundanese cultural boards and eng-click games can optimize creative thinking skills in mathematics, geometry, and elementary school algebra. The results achieved in the original didactic design using the Sundanese Ethnomathematics teaching design to complement geometric thinking, creative thinking, and algebraic thinking, and almost all of them are related to prediction. This revision of the didactic plan was conducted in accordance with the initial didactic plan, which was less than optimal.

In the updated didactic project study, the forced ethnomathematics study was also continued, and the indicators for mathematical geometric thinking, creative thinking, and algebraic thinking were modified. In the didactic design using the latest ethnomathematics learning, the results achieved in improving students' geometric, creative, and algebraic mathematical thinking abilities align with predictions (S. Supriadi, 2019). Examples of ethnomathematics concepts include traditional games such as marbles (Pratiwi and Pujiastuti, 2020). These games allow students to learn mathematical concepts taught in school. This increases students' interest in learning mathematics. The same applies to historical buildings and traditional village culture (Arisetyawan et al., 2014; Lusiana et al., 2019). Luciana's research found a relationship between mosque construction and the mathematical concepts taught. Some of these findings can be translated into ethnomathematics research that can be applied to mathematics learning. This is evidenced by research showing that ethnic mathematics can improve students' skills. Ethnomathematics can represent many cultural varieties, such as traditional games, building forms, and traditional village activities.

In studying Jamaican culture, we found that games are a relevant cultural marker in Jamaica. We compiled and analyzed traditional games, producing a catalog from which we selected four games for their potential in developing STEAM learning in schools. Qualitative interpretive research was conducted through case studies and content analysis, using proprietary tools. Results: A variety of artistic, scientific, and mathematical skills are demonstrated during play, such as: musical sensitivity, detection of similarities, rotational ability, shape identification, distance estimation, hypothesis formulation, and the establishment of relationships with criteria. These findings confirm the didactic potential of these games in an intercultural ethnomathematics educational environment. Conclusion: The validity of MPL as a didactic method for developing STEAM learning is concluded from the results. We hope to strengthen and disseminate this method by creating new elaborations and applications of MPL (María José Espigares-Gámez aAlicia Fernández-Oliveras bMaría Luisa Oliveras. 2020).

Teachers can change when funds are available to help schools and communities implement appropriate and effective professional development, to build partnerships between schools and communities, to revise teaching approaches and curricula, and to value the cultural heritage of families and Aboriginal communities. A larger study involved four schools in the Smarter Stronger Learning Community in a small rural town, the entire town community, and interactions between schools. Interviews with school principals, teachers, Aboriginal students, and their communities highlighted increased interaction between Aboriginal communities and schools, growing warmth and welcome in both directions, and the impact of this approach on curriculum, teaching, and learning. This article presents the impact at one of the schools involved in the mathematics project. These findings illustrate how the project facilitated changes in teachers' perceptions, skills, and practices in implementing the curriculum, resulting in a place-based mathematics education responsive to culture (Kay Owens, 2015). Ethnomodeling has proven to be a methodological approach to bridge ethnomathematics and mathematics teaching and can ultimately be used as mathematics learning content in traditional schools. However, the argument that the ethnomathematics approach can be applied to all school mathematics content is not proven. Ethnomathematics explicitly distinguishes the concept of "culture" from the "forms of culture" – the ideas, activities, and objects of a particular group. The cultural diversity that exists today makes it unlikely that ethnomathematics can be found in all cultures, as not all cultures contain mathematical values. Many "cultural" forms are not yet clear in ethnomathematics studies (Agus, et al., 2023).

Through this study, we found that students' ability to explain their local cultural traditions scientifically is still at a low level downstream. The local cultural traditions they possess have been passed down from generation to generation and have even become annual and national traditions. However, they have not had a significant downstream impact on the improvement of ethnoscientific literacy. Students' direct involvement in cultural traditions or merely being spectators does not significantly influence this literacy. In general, gender does not affect students' ethnoscientific literacy, although male students are more directly involved in traditional culture. The difficulty students face in connecting the knowledge they learn at school with what they observe or experience in their cultural traditions is strongly suspected to be caused by the

suboptimal utilization of local cultural traditions in the context of science education. However, the atmosphere of cultural tradition events themselves has an impact on strengthening students' ethnomathematics literacy skills (Z Zulirfan et al., 2022).

According to Muhamad Syahidul Qirom and Dadang Juandi (2023), the application of traditional games in mathematics education is most commonly studied in Asia, particularly in Indonesia; the subjects of such research are most often elementary school students; geometry is the mathematics subject most frequently taught through traditional games; cognitive skills are further explored based on the influence of traditional game applications; qualitative approaches are more widely used as research approaches; and in 2018, more research was conducted on the application of traditional games in mathematics learning.

This gives hope that local cultural traditions can be optimized to improve students' ethnomathematics literacy. Recognizing that students' weak ability to explain their local cultural traditions scientifically is more due to the lack of emphasis on the context of these traditions teaching science, educators should be able to optimize the context of these traditions in science teaching. For that, teachers should explore local cultural traditions to integrate scientific aspects with local aspects of cultural traditions. And then, science educators can teach science by prioritizing the use of the context of local cultural traditions. Science teaching that does not connect the science learned in school with the context of students' lives makes science meaningless. Students' lives make science meaningless for students.

Studies Based on Year of Publication

Details of the initial dissemination studies from 2015 to 2023 are presented in Figure 1. Figure 1 shows that research on ethnomathematics in learning each year, in 2015 there was 1 article; in 2016 there were 3 articles; in 2017 there were 8 articles; in 2018 there were 5 articles; in 2019 there were 16 articles; in 2020 there were 29 articles; in 2021 there were 34 articles; in 2022 there were 61 articles; and in 2023 there were 53 articles. Research on ethnomathematics in learning has increased and also decreased in the last ten years, namely from 2015 to 2017. In addition, research on ethnomathematics in learning increased from 2019 to 2022 and decreased from 2017 to 2018 but decreased again in 2022 to 2023. Studies on analyzing ethnomathematics in learning with a qualitative approach were most published in 2022 and 2023.

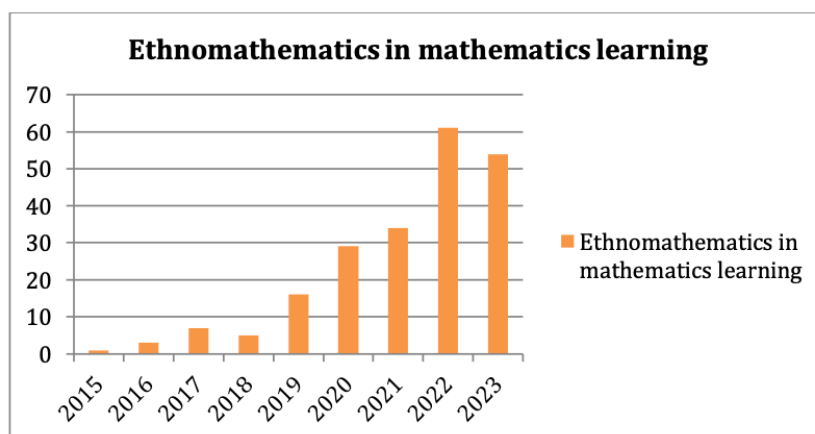


Figure 1. Studies by Year of Publication

Studies Based on Google Scholar Journal Indexing

The following details of the results of the analysis of primary studies related to ethnomathematics analysis in mathematics learning with a qualitative approach based on Google Scholar journal indexing are presented in Figure 2. Ethnomathematics in learning mathematics shows that in 2015 there were 0 journals; in 2016 there were 3 journals; in 2017 there were 7 journals; in 2018 there were 4 journals; in 2019 there were 14 journals; in 2020 there were 28 journals; in 2021 there were 34 journals; in 2022 there were 60 journals; and in 2023 there were 53 journals. Ethnomathematics in mathematics learning shows that in 2015 there were 0 articles, in 2015 - 2017 there was an increase and in 2018 there was a decrease of 4 articles. From 2019-2020 there was an increase of 136 articles and a decrease in 2023 to 53 articles in google scholar indexed journals.

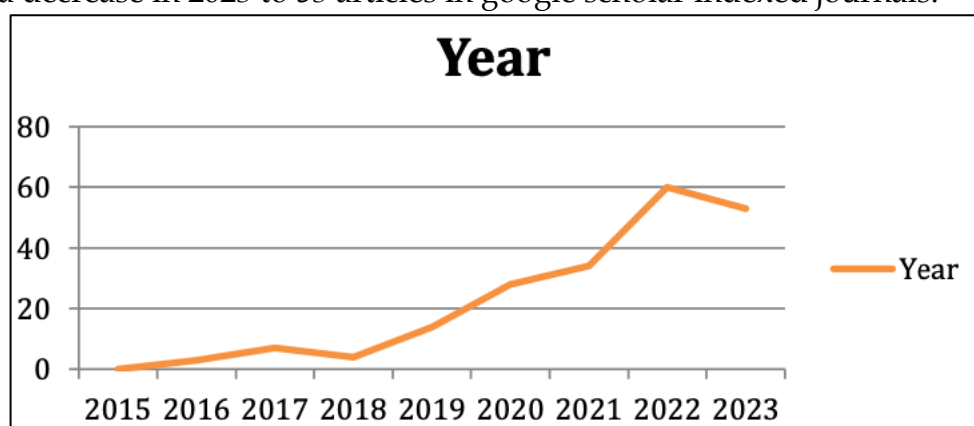


Figure 2. Study Based on Google Scholar Indexing

Study Based on Scopus Journal Indexing

The following details of the results of the analysis of primary studies related to ethnomathematics analysis in mathematics learning with a qualitative approach based on scopus journal indexing are presented in Figure 3.

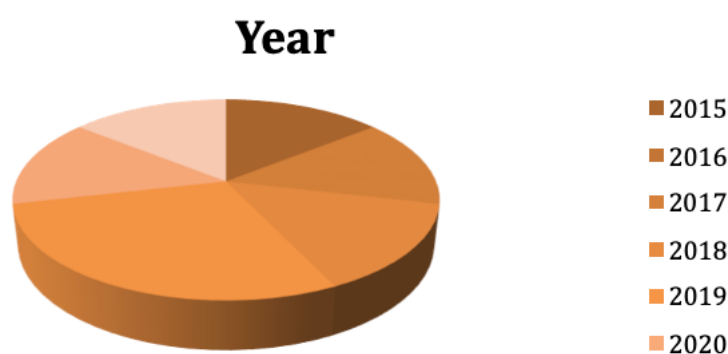


Figure 3. Study Based on Scopus Journal Indexing

Ethnomathematics in learning mathematics shows that in 2015 there were 1 journal; in 2016 there were 0 journals; in 2017 there were 1 journal; in 2018 there were 1 journal; in 2019 there were 2 journals; in 2020 there were 1 journal; in 2021 there were 0 journals; in 2022 there were 1 journal; and in 2023 there were 0 journals. Ethnomathematics in mathematics learning shows that in 2015, 2021, and 2023 there were 0 articles, in 2015, 2017, and 2018 there were 1 article each. there was an increase in 2019

of 2 articles in scopus indexed journals.

Learning mathematics with an ethnomathematics approach is still rarely applied in schools in Indonesia, especially in junior secondary education. Students in junior high school face a transition from concrete learning experiences that have been passed in basic education to abstract learning in high school. Students face abstract math problems at the last stage, which require good representation, because adequate representation is the basis of understanding to build the right plan to solve the problem. Based on these conditions, the utilization of ethnomathematics in the learning process plays an important role in producing adequate mathematical representations. The method used in this research is a literature review that can provide theoretical information or input regarding ethnomathematics-based mathematical representations in solving mathematical problems. The problems presented with the ethnomathematics approach are intended so that students can associate the cultural life around them with the mathematical problems they receive at school. Therefore, this study analyzes ethnomathematics-based mathematical representations and their correlation with problem solving skills (Rona Happy Mumpuni; Marsigit. 2022).

This mathematical practice can be seen in Cipatuja, West Java, Indonesia. It has several ethnic groups that embrace ethnomathematics, for example they apply traditional mathematical concepts in the way they define the time of going to the sea to fish and how they build houses. According to D'Ambrosio (2001), ethnomathematics is the study of how certain cultures understand and use mathematical concepts in their daily activities. This research illustrates the deep role of ethnomathematics in Cipatuja and reveals the problems found according to the research results. The purpose of this research is to show that ethnomathematics plays an important role in our daily lives, which is why case studies like this are so important for school children and Cipatuja residents (Powell & Frankenstein, 1997). The method used in this study is a qualitative investigation that fits the ethnographic approach (Creswell, 2014). The results show that the Cipatuja community has embraced ethnomathematics for many years in their lives and believe that ethnomathematics is part of their lives, but the elementary school teachers there have not applied the ethnomathematics approach in the process of learning mathematics (Gerdes, 1996; Bishop, 1988).

Students in the treatment and control groups had significantly different decision-making skills in math problems and motivation for high performance. Students who had completed the REACT course, modeled having better skills and greater motivation than those who learned traditionally. This finding shows the importance of this. The use of the REACT model based on the Malay-Riau cultural context improves students' mathematical problem solving ability and motivation to improve performance (Zulkarnain, et al. 2021).

Table 1. Literature Review Articles

No	Article Title	Method	Result	Conclusion	Code
1	<i>Ethnomathematics in mathematics, social and physical education</i>	Quasi-experimental, posttest only control group design, 37 experimental	Sundanese ethnomathematics learning with enklematika games effectively develops	1. Sundanese ethnomathematics learning with math games can be applied to learning units of	M1 (Quasi Experiment), B1 (Sundanese Culture), C1 (Mathematical

No	Article Title	Method	Result	Conclusion	Code
	<i>D'Ambrosio, U. (2001). Ethnomathematics: Link between Traditions and Modernity.</i>	class students, 38 control class students, elementary mathematics teacher interview	elementary school students' mathematical, social, and physical abilities.	length. 2. Can be used for other materials with matrices to improve math skills	Games, Length Units)
2	<i>An ethnomathematics study of the days on the Javanese Calendar for learning mathematics in elementary school</i> <i>Gerdes, P. (1996). On culture, geometric thinking, and mathematics education.</i>	Qualitative following the ethnomathematics study framework, data from the Yogyakarta indigenous community	Ethnomathematical values of remainder and modulus related to days in the Javanese Calendar, connecting culture and mathematics	The days in the Javanese calendar contain mathematical values that are close to students' thinking, suitable for elementary school mathematics learning to make it more meaningful.	M2 (Qualitative), B2 (Javanese Culture), C2 (Modulus, Calendar)
3	<i>Elementary School Students Reflection: Didactical Design Analysis on Integer and Fraction Operations on Mathematical Concepts with Sundanese Ethnomathematics Learning</i> <i>Nasution, S., & Hadi, S. (2022). Sundanese Ethnomathematics in Elementary School Mathematics Learning.</i>	Quantitative, Rasch Winstep Model, survey of 56 students in grades 2–6	Optimal didactic design with Endog-Endogan game, teacher prediction according to student response	Sundanese ethnomathematics learning using the Endog-Endogan game is effective for learning integer and fractional operations.	M3 (Quantitative, Rasch), B1 (Sundanese Culture), C3 (Integer and Fraction Operations)
4	<i>Ethnomatematics exploration on the Leuit Lenggang of the Baduy tribe in Banten Province Indonesia</i>	Qualitative, descriptive method	The Leuit Lenggang of the Baduy people contains geometric content in the form of flat shapes	Ethnomathematics from Leuit Lenggang can be a source and media for elementary school mathematics learning.	M2 (Qualitative), B3 (Baduy Culture), C4 (Geometry, Flat Shapes)

No	Article Title	Method	Result	Conclusion	Code
	<i>Setiawan, A., & Rahman, F. (2021). Javanese Calendar and Its Application in Mathematics Education.</i>				

Indonesia is a multicultural country where people usually do what they like according to their culture. Culture includes many aspects, one of which is ethnomathematics. It is the study of the relationship between culture and mathematical concepts. It also reveals the daily practice of mathematics especially in elementary school.

CONCLUSION

The results of the literature review show that ethnomathematics is a discipline that can be applied in learning mathematics in elementary schools. This is evidenced by research that shows that ethnic mathematics can improve students' skills in the learning process especially for children in elementary school. Many cultural variations can be represented in ethnomathematics, such as traditional games, building forms, culinary, and traditional activities in the village especially. By integrating Ethnomathematics in mathematics learning in elementary school, it is expected that students can develop a deeper understanding of mathematics, strengthen their cultural identity, and appreciate cultural diversity.

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