SLR Indonesia Traditional Game and Math

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Knitting Tradition and Mathematics: Systematizing the Literature on Indonesian Traditional Games and Mathematical Dimensions

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ABSTRACT

The phenomenon that students often face is difficulty in learning math, which results in low math scores obtained by students. Recently, many ideas have emerged to help students overcome math learning difficulties through the traditional game approach in various studies. The research aims to investigate the use of traditional Indonesian games in the context of math learning. The method of this research is a Systematic Literature Review, data was collected through a Google schooler database search by using certain keywords. References were sourced from 17 articles that have been published in English, traditional games must be from Indonesia, specific to mathematics subjects, and are quantitative, qualitative, or mixed research, journal standards and year of publication are also taken into consideration in selecting references. The results of this study are (1) Indonesian traditional games in mathematics learning are generally motivated by difficulties in learning mathematics and cultural preservation efforts; (2) Indonesian traditional games and mathematics are widely used in Sumatra and Java; (3) The application of traditional games is mostly done at the elementary level; (4) The application of traditional games is widely used in learning Geometry and Numbers; (5) The application of Indonesian traditional games and mathematics supports students' affective, cognitive, motor and skill abilities; (6) Qualitative research methods are the most widely utilized research design in research on the application of traditional games in mathematics learning. This study concludes that integrating math learning in traditional Indonesian games benefits students and the preservation of Indonesian culture.

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1. INTRODUCTION

Mathematics learning plays a crucial role in education because it not only forms an important basis for understanding scientific and technical concepts, but also enriches critical skills such as problem-solving, analysis, and logical thinking (Kurniawati & Ekayanti, 2020). However, many students face difficulties in understanding and mastering mathematics. This difficulty can be caused by various factors, namely a lack of understanding of concepts, a lack of interest in learning, and learning approaches that are not to the characteristics of children (Amaliyah et al., 2020). Students have difficulty in understanding concepts which results in decreased motivation to learn. This will lead to a lack of development of their mathematical abilities (Hima et al., 2019). Thus, teachers should increase student learning motivation by student characteristics.

One of the characteristics of children is play (Anggita et al., 2023), thus the need for students to play is something that cannot be ignored in the learning process. Play is not only about fun, but also an important tool for students' social, emotional, and cognitive development (Utami et al., 2022). In the context of mathematics learning, play provides opportunities for students to apply the concepts they learn in real and interesting situations. Through play, students can develop critical thinking, problem-solving, and cooperation skills, all of which are important aspects of mathematics learning. In addition, play also helps to reduce stress and increase students' motivation towards learning, as they feel more engaged and excited to explore and understand mathematical concepts in a fun and interactive way (Kobari et al., 2022).

Games are closely related to the world of children, both modern games and traditional Indonesian games that are diverse. Traditional games are generally often played by children in certain areas. By applying traditional games to learning, math will become easier and more interesting to follow because it is in the real environment of students. On the other hand, traditional Indonesian games are not even recognized by students due to their habit of playing modern games. The negative impact of children's preference for games using gadgets includes the tendency for children to become insensitive to the environment or people around them. In addition, sensory and motor activities that are usually developed during play are also decreased, while the brain, eyes, and fingers work harder due to screen exposure. Knowledge of basic concepts is no longer gained through direct experience, but rather from digital content, which often results in instant happiness. The social interaction once experienced when playing with friends is often replaced with the urge to always win, leading to tension and disappointment if you lose the game (Wulansari & Dwiyanti, 2021b). Traditional Indonesian games contain mathematical concepts as well as cultural values and character building. Thus, learning mathematics using traditional Indonesian games is also an effort to preserve the nation's culture for the next generation (Setiawan, 2020).

Indonesian traditional games are not only a valuable cultural heritage but also a rich source to enrich learning in various fields, including mathematics. Along with technological advancement and globalization, traditional games are often forgotten or marginalized in daily life, especially among children (Rizal et al., 2020). However, in an educational context, Indonesian traditional games offer great potential to help students understand mathematical concepts in a concrete and fun way (Wulansari & Dwiyanti, 2021).

Traditional games such as congklak, dakon, or gatrik, can teach students basic math concepts such as addition, subtraction, multiplication, and division (Choiriyyah et al., 2022). In addition, traditional games often involve problem-solving, strategy, and critical thinking skills, which are

important aspects of mathematics learning (Rahayu, 2023). The use of traditional games in learning contexts also evokes a sense of love and pride in Indonesia's cultural heritage (Gultom et al., 2023). Through play experiences, students not only learn about math but also appreciate the beauty and uniqueness of their own culture, forming a strong identity and a deep love for their heritage. By integrating traditional games into the mathematics curriculum, educators not only enrich students' learning experiences but also help maintain and strengthen Indonesia's cultural diversity.

This article aims to investigate the results of research highlighting the use of Indonesian traditional games in the context of mathematics learning. This research will explore the various studies that have been conducted to evaluate the effectiveness of using traditional games in the context of mathematics learning. We will present a summary of key findings from the relevant literature, highlighting how traditional games can be used as effective tools to improve students' understanding of mathematical concepts, critical thinking skills, and problem-solving abilities. As such, this article not only provides an in-depth insight into the potential of Indonesian traditional games in the context of mathematics learning but also provides a foundation for the development of innovative and culturally-based learning strategies in the classroom.

Important information from previous studies was explored using several questions. The first question is what are the reasons why researchers need to implement traditional game-based mathematics learning? This will provide information about the reasons, objectives, and benefits that will be obtained by integrating mathematics learning with traditional Indonesian games. The question is where are the studies related to traditional Indonesian games and math learning conducted? With this information, the distribution of places for implementing traditional game-based mathematics learning in various regions can be known, as well as motivating some regions to develop regional game-based mathematics learning. The third question is at what grade level or group can math learning and traditional games be implemented? The questions above are to explore research on traditional game-based mathematics learning so that the information obtained can be useful as a basis for future research. The fourth question is what mathematics learning materials are delivered in traditional games? This question provides information on what teaching materials can be delivered through traditional Indonesian games. The fifth question is what is the effect of the application of traditional Indonesian games in mathematics learning? This question provides information about the aspects of students that are affected by traditional Indonesian games in mathematics learning. The sixth question is what type of research is widely used in exploring mathematics learning in traditional Indonesian games? This question will provide information on the type of research that is suitable for exploring the application of traditional Indonesian games in mathematics. The questions above are to explore research on traditional game-based mathematics learning so that the information obtained can be useful as a basis for future research.

2. METHODS

This study used a systematic approach in conducting a literature review, by applying the Systematic Literature Review (SLR) method refined by PRISMA (Preferred Reporting Items for Systematic Reviews

and Meta-Analyses) in 2020. This approach allows for a thorough and structured investigation of traditional games and math learning through data collection and analysis.

Collection of data

Eligibility Criteria

The data collection stage of the Systematic Literature Review (SLR) method involves identifying and assessing the eligibility of studies to be included in the analysis. Strictly defined eligibility criteria aim to ensure that only relevant and high-quality sources are included in the review. The criteria in this research are articles published in the range of 2020-2024 with Scopus indexed and national journals Sinta 1 and 2 and using English, so that it is easily accessible to many people and readers around the world can understand these articles. The subject of the article is mathematics learning and traditional Indonesian games.

Identification

Data searches were conducted using the Publish or Paris application from Google Schooler data sources which have many article references using the keywords Indonesia Traditional Game and Mathematic. A total of 500 articles were obtained with this search. These articles were then exported in RIZ format and filtered using auxiliary software.

Screening

In this study, the screening process was carried out in two stages. In the first stage, the screening was focused on removing articles that did not have a relationship with traditional Indonesian games and Mathematics by paying attention to the title and abstract of the article. This screening successfully excluded 455 articles and retained 45 articles. In the second screening of 45 articles, 18 articles were excluded with the focus on articles that did not explain the effect of traditional games on learning mathematics, articles not indexed by Scopus or accredited national journals, research before 2020, and some journals that could not be accessed.

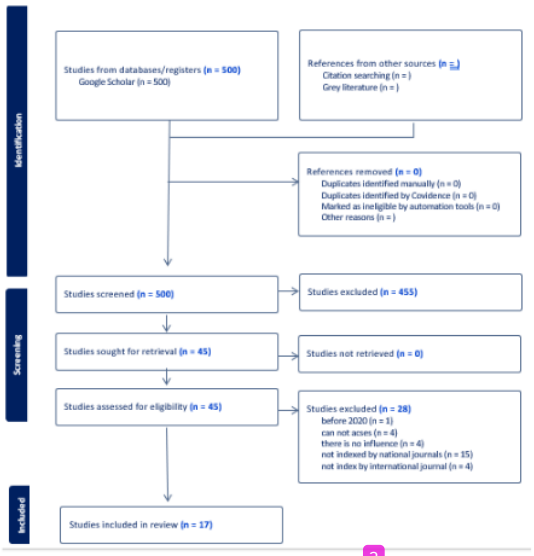


Figure 1 Screening Process Flow

Data Analysis

The seventeen articles will be reviewed using the specified framework. Six dimensions are of concern in research on traditional Indonesian games and mathematics learning, namely: reasons for implementation, place, math topics, users, influences that include character building, and research methods used.

Background Dimension

This dimension explains the reasons for the implementation of mathematics learning and traditional games, namely the things behind the implementation of mathematics learning and traditional games. The researcher limited this dimension into categories: math learning difficulties, cultural preservation, the link between math learning and cultural preservation, and character building.

Region Dimensions

The regional dimension does not explain the origin of traditional Indonesian games used in mathematics learning but explains where traditional Indonesian games in mathematics learning are carried out. The regional dimension is categorized based on 6 major islands in Indonesia, namely: Sumatra, Kalimantan, Java, Sulawesi, Maluku-Papua, Bali, and Nusa Tenggara.

User Dimension

The user dimension of Indonesian traditional games in Mathematics learning is divided into categories: Early Childhood Education, Elementary, Junior High, High School, and Community Environment.

Topic Dimension

Dimensions of Topic presents the application of mathematical materials in traditional Indonesian games in an interesting and relevant context. Understanding the application of math in traditional games can help students develop a deeper understanding of mathematical concepts in a practical and fun way.

Influence Dimension

This dimension will explain the effect of learning mathematics by using Indonesian traditional games categorized as cognitive, psychomotor, skills, and affective which are more emphasized on the formation of student character.

Research Method Dimension

This dimension provides information on the types of research that are widely used in learning mathematics and traditional Indonesian games. This dimension categorizes quantitative, qualitative, mixed methods, classroom action research, and experimental research.

Table 1. Categorization Framework

Dimensions	Category
Background	Math Learning Difficulties Preserving Culture Mathematics and Culture Linkages Character Building Lack of Playtime
Region	Sumantra Kalimantan Jawa Sulawesi

	Maluku-Papua Bali- Nusa Tenggara
Subject	Pre-School Education Primary School Secondary School High School Community Environment
Math Topics	Adapted to the emerging mathematical topics of each study.
Influence	Cognitive Psychomotor Affective Skills
Research Methods	Quantitative Qualitative Mixed Methods Classroom Action Research Development

3. FINDINGS AND DISCUSSION

To answer the research questions, seventeen papers were analyzed following a thorough screening process. The review findings are shown below.

RQ 1: What is the background of the research?

As seen in diagram 1, the background of the research on Indonesian traditional games and mathematics learning includes the difficulty of learning mathematics and the relationship between mathematics and culture. In addition, cultural preservation efforts, student character building, and children's lack of play time are also the background of the research conducted.

RQ 2: Where the research was conducted?

Diagram 2 presents the finding that in the last five years, research on Indonesian traditional games and mathematics learning has mostly been conducted on the islands of Sumatra and Java. No research on similar topics has been found on the islands of Kalimantan, Sulawesi, Maluku, Papua, Bali, and Nusatenggara.

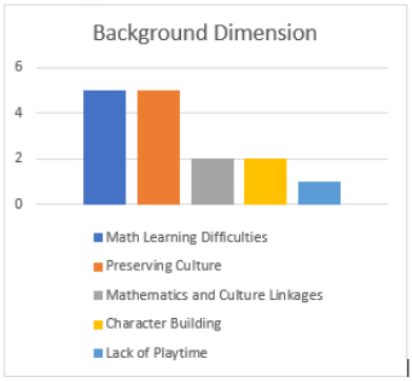


Diagram 1

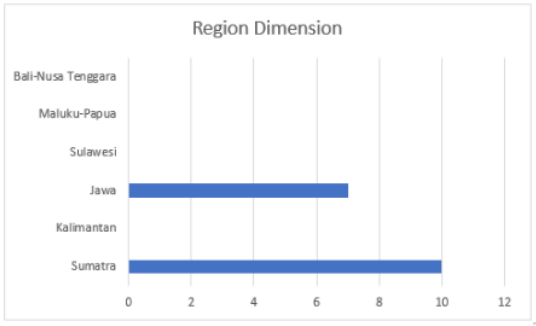


Diagram 2

RQ 3: Who are the research subjects?

The research subject can also explain where many traditional Indonesian games and math learning are applied. Based on Diagram 3, elementary school is the level that most often applies Indonesian traditional games in mathematics learning. Besides formal education, Indonesian traditional games and math learning are also often prescribed in social life in certain communities or play activities together in the community.

RQ 4: What are the most researched math topics in traditional Indonesian games and math learning?

Of the seventeen articles reviewed, Diagram 4 shows that geometry and numbers are the most frequently taught topics using traditional Indonesian games, followed by measurement, fractions, algebra, statistics, sets, probability, lines, and angles. This is almost the same as the findings of the Qirom & Dadang Juandi (2023)

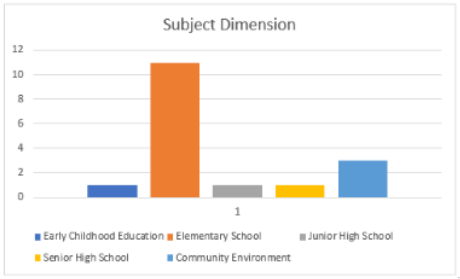


Diagram 3

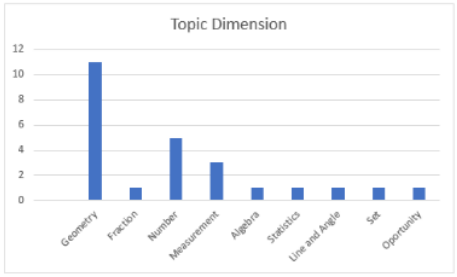


Diagram 4

RQ 5: What are the effects of traditional Indonesian games on math learning? This research focuses on four influences of the implementation of traditional math games in math learning. Based on Diagram 5, the affective aspect has a significant impact on students. Some studies emphasize more on character building, but in the emphasis on other aspects, the affective impact on students' character building still follows.

RQ 6: What types of research are often used?

Diagram 6 explains that qualitative research methods are widely used as research methods for the application of traditional math games in mathematics learning, followed by mixed methods, experiments, quantitative, and class action research.

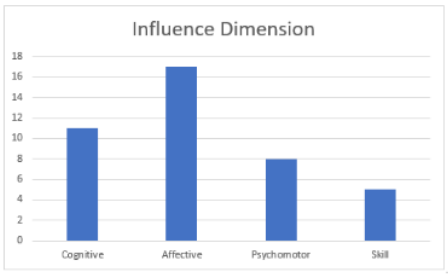


Diagram 5

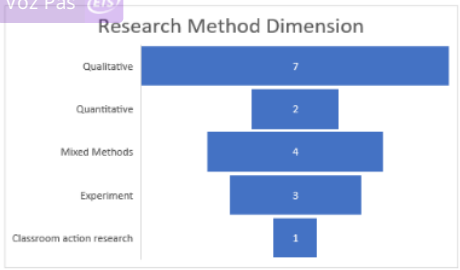


Diagram 6

The article "Knitting Tradition and Mathematics: Systematic Literature on Indonesian Traditional Games and Mathematical Dimensions" presents an interesting study of the relationship between traditional cultural heritage, especially Indonesian games, and mathematical concepts. In this era of globalization, sustainability and a deep understanding of traditional games are becoming

increasingly important to preserve. In this context, the article outlines how traditional games not only provide entertainment, but are also a vehicle for understanding fundamental mathematical concepts, and according to (Taufek et al., 2022) traditional games make learning mathematics meaningful. By reconnecting with this tradition, we can dig deeper into the cultural richness that can be used as a learning medium with realistic learning styles (Eldiana et al., 2023). In addition, culture can also be associated with relevant mathematical knowledge.

Two reasons that are often behind the integration of traditional Indonesian games and mathematics learning are the difficulty of learning mathematics and cultural preservation efforts. Mathematics is a subject that is often considered difficult by many students, therefore many efforts are made to make it more interesting and close to students, one of which is by integrating it into traditional games (Herman Saputra et al., 2022; Al Mukhtadibillah et al., 2020; Nur'Aeni et al., 2020). According to (Zunarni et al., 2022) mathematics is a science that studies abstract structures and the patterns of relationships that exist in them. This abstract structure needs to be understood with a concrete activity. Traditional games provide a more real and fun context for learning mathematical concepts, thus making them easier for students to understand and remember (Prabavathy & Sivaranjani, 2023). Traditional games are not only used as a vehicle for play but also integrated into learning as an effort to preserve the nation's culture which has begun to be forgotten by children due to the flow of modernization that has occurred recently (Roza et al., 2020; Kamid, Rohati, et al., 2022; Asrial et al., 2020). By integrating math into traditional games, children can learn about math concepts while staying connected to their cultural values and ancestral traditions (Agita et al., 2023). While this approach offers many benefits, there are still some challenges that need to be overcome. One of them is finding a balance between fun and effective learning. Too much focus on the game aspect can detract from the actual learning of Mathematics (Jääskä & Aaltonen, 2022). Therefore, it is important to design activities that blend these two elements in a balanced way.

Integrating math learning with traditional games has become an increasingly popular trend on Sumatra Island and Java Island. Many schools and educational communities on both islands have adopted this approach as a way to make math learning more interesting and relevant for students. On the island of Sumatra, integrating math learning with traditional games has become an increasingly popular trend. Many schools and educational communities on both islands have adopted this approach to make math learning more interesting and relevant for students (Cesaria et al., 2022; Kamid, Rohati, et al., 2021). Likewise, Java Island also applies many traditional Indonesian games in mathematics learning (Wulansari & Dwiyanti, 2021; Nugraha et al., 2020). By using traditional games as learning tools, students not only learn math concepts more easily but also appreciate and preserve the nation's cultural heritage. This not only helps improve math comprehension but also fosters a sense of pride in local culture among the younger generation.

Integrating math learning with traditional games has also become a popular approach in many primary schools, (Kamid, Sofnidar, et al., 2021; Yantoro et al., 2021). Teachers realize that using traditional games in mathematics learning not only makes the lessons more interesting but also helps students understand mathematical concepts better. This is in line with (Kamid, Rohati, et al., 2022b) which states that innovation is needed in mathematics teaching methods in elementary schools by utilizing Indonesian cultural heritage, such as traditional games, as a learning tool. Through traditional games such as cranklek, congklak, gundu, petak umpet, and so on, students can directly

experience the application of mathematical concepts such as addition, subtraction, geometry, and other concepts.

One of the reasons for integrating mathematics with traditional games is intended to overcome the difficulty of learning mathematics among students, which can certainly be expected to affect students' cognitive abilities. However, surprisingly, this approach has had a broader impact on students' affective aspects, particularly in their character building. Through traditional games, students learn math concepts in a more fun and interactive way (Wulansari & Dwiyanti, 2021), but also develop social skills such as teamwork, communication, sportsmanship, honesty (Zuhri et al., 2023), discipline (Kamid, Sabil, et al., 2022), creativity, responsibility, and patience. In addition, they also learn to appreciate local culture and traditions, which in turn forms a sense of pride in their cultural identity. Thus, integrating mathematics with traditional games not only improves students' academic understanding but also helps shape strong and positive characters for future generations (Prayitno et al., 2022) in line with (Rohayati et al., 2022) who stated that to advance technological education, it is important to integrate cultural elements in the learning process at school. This aims to allow students to maintain their character and cultural values while keeping up with the changing times.

Qualitative research has been conducted to explore the influence of traditional games in mathematics learning and the meaning of Indonesian traditional games from a mathematical perspective (Zulviansyach et al., 2023; Supahmi et al., 2022). Through this approach, researchers can investigate how mathematical concepts are reflected in traditional games such as congklak, dakon, or ketapel. They also explore the deeper meanings of these games, including their social, cultural, and historical values. Through qualitative analysis, the researchers were able to understand how the use of traditional games in mathematics learning not only improves the understanding of mathematical concepts but also helps students internalize cultural values and develop social skills that are important in their character building. In addition to qualitative research, mixed research, and experimental research were conducted to explore the effect of traditional games in mathematics learning.

4. CONCLUSION

In this study, a systematic literature review method was used to explore a lot of information from reliable studies that have been conducted to contribute to mathematics teachers or classroom teachers in learning. The results of this study are (1) Indonesian traditional games in mathematics learning are generally motivated by the difficulty of learning mathematics as well as cultural preservation efforts; (2) The application of Indonesian traditional games and mathematics is mostly done in Sumatra and Java; (3) The application of traditional games is mostly done at the elementary level; (4) The application of traditional games is widely used in learning Geometry and Number materials; (5) The application of Indonesian traditional games and mathematics supports students' affective, cognitive, motor and skill abilities; (6) Qualitative research methods are the most frequently used research design in research on the application of traditional games in mathematics learning. The results of this study not only encourage teachers to apply in learning but also become the basis and provide recommendations for future studies.

This study offers several important recommendations. First, conduct more in-depth research to analyze in more detail the effectiveness of using traditional games in mathematics learning. Second, conduct case studies in other regions in Indonesia besides Sumatra and Java to see the extent to which

the application of traditional games in mathematics learning can have a similar or different impact. Third, expand research on the application of traditional games in mathematics learning at different educational levels, such as junior high school or even higher education levels. Fourth, develop more traditional game-based learning materials and methods, especially for math subjects other than geometry and numbers. Fifth, conduct more in-depth research on the affective impact of using traditional games in learning mathematics, such as increasing students' motivation, interest, and confidence.

REFERENCES

Agita, G. M., Sugiarto, Ali, M. A., Mohamed, A. M. D., Pratama, A. B., Mukaromah, S. B., Candra, A. R. D., Marfu'ah, D., & Kurniawati. (2023). The Relationship between Gadget Addiction, Student's Knowledge, and Participation Level in Traditional Games. *Journal of Hunan University Natural Sciences*, *50*(2). https://doi.org/10.55463/issn.1674-2974.50.2.19

Al Mukhtadibillah, A., Isnawati, F., & Sofyan, A. (2020). The Congklak Game Method to Improve The Calculating Ability of Class III Students at SDN Segaralangu 01. *International Journal of Science and Applied Science: Conference Series P-ISSN*, *4*(1), 2549–4635. https://doi.org/10.20961/ijsascs.v4i1.72965

Amaliyah, A., Rini, C. P., Hartantri, S. D., & Yuliani, S. (2020). Analisis Kesulitan Belajar Matematika Siswa Kelas V Sd Negeri Taman Cibodas Kecamatan Periuk Kota Tangerang. In *Indonesian Journal of Elementary Education* (Vol. 2, Issue 1). http://jurnal.umt.ac.id/index.php/IJOEE

Anggita, G. M., Sugiarto, Ali, M. A., Mohamed, A. M. D., Pratama, A. B., Mukarromah, S. B., Candra, A. R. D., & Kurniawati, D. M. (2023). The Relationship between Gadget Addiction, Student's Knowledge, and Participation Level in Traditional Games. *Journal of Hunan University Natural Sciences*, *50*(2), 181–189. https://doi.org/10.55463/issn.1674-2974.50.2.19

Asrial, A., Syahrial, S., Maison, M., Kurniawan, D. A., & Perdana, R. (2020). A study of Traditional Games "Engklek" in Mathematics for Elementary School. *Jurnal Ilmu Pendidikan*, *26*(1), 15. https://doi.org/10.17977/um048v26i1p15-21

Cesaria, A., Fitri, D. Y., & Rahmat, W. (2022). Ethnomathematic exploration based on realistic mathematics education (rme) in the traditional game "lore." *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *11*(2). https://doi.org/10.24127/ajpm.v11i2.4958

Choiriyyah, N. A., Fitriah, I., & Bilqish, T. (2022). Pembelajaaran Konsep Dasar Perkalian Melalui Media Dakon Pada Peserta Didik Kelas III. *Sustainability*, *9*(2), 227–238. https://doi.org/10.3390/su12104306

Eldiana, N. F., Kusumaningrum, S. R., & Dewi, R. S. I. (2023). Ethnomathematics: Mathematics In Batik Turonggo Yakso From Trenggalek. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *12*(1), 1515. https://doi.org/10.24127/ajpm.v12i1.6240

Gultom, M., Wompere, R. N. N., Muhajirin, N., & Sinaga, A. S. (2023). Pembelajaran Bahasa Inggris Melalui Media Permainan Tradisional Bagi Anak-Anak Di Kampung Yahim, Kabupaten Jayapura. *Sarwahita*, *20*, 245–259. https://doi.org/10.21009/sarwahita.20k.2

Herman Saputra, A., Irianto, E., & Setiawan, B. (2022). GESAMSU (Gedrik Saruk Memang Seru) Based Environmental: Effectiveness of Games on Mathematics Communication Ability of Elementary School Students. *Jurnal Pendidikan*, *14*(2), 2359–2368. https://doi.org/10.35445/alishlah.v14i1.1745

Hima, L. R., Nusantara, T., Hidayanto, E., & Rahardjo, S. (2019). Changing in mathematical identity of elementary school students through group learning activities. *International Electronic Journal of Elementary Education*, *11*(5), 461–469. https://doi.org/10.26822/iejee.2019553342

Jääskä, E., & Aaltonen, K. (2022). Teachers' experiences of using game-based learning methods in project management higher education. *Project Leadership and Society*, *3*. https://doi.org/10.1016/j.plas.2022.100041

Kamid, K., Rohati, R., Hobri, H., Triani, E., Rohana, S., & Pratama, W. A. (2022a). Process Skill and Student's Interest for Mathematics Learning: Playing a Traditional Games. *International Journal of Instruction*, *15*(3), 967–988. https://doi.org/10.29333/iji.2022.15352a

Kamid, K., Rohati, R., Hobri, H., Triani, E., Rohana, S., & Pratama, W. A. (2022b). Process Skill and Student's Interest for Mathematics Learning: Playing a Traditional Games. *International Journal of Instruction*, *15*(3), 967–988. https://doi.org/10.29333/iji.2022.15352a

Kamid, K., Rohati, R., Rahmalisa, Y., Anggo, M., Septi, S. E., Azzahra, M. Z., & Nawahdani, A. M. (2021). Engklek Game" in mathematics: How difference and relationship student attitude towards science process skills? *Cypriot Journal of Educational Sciences*, *16*(6), 3109–3123. https://doi.org/10.18844/cjes.v16i6.6500

Kamid, K., Sabil, H., Syafmen, W., & Rohana, S. (2022). The Use of Traditional Gundu Games in Improving Student Discipline in Mathematics. *AL-ISHLAH: Jurnal Pendidikan*, *14*(3), 3087–3100. https://doi.org/10.35445/alishlah.v14i3.860

Kamid, K., Sofnidar, S., Septi, S. E., & Citra, Y. D. (2021). The contribution of the traditional game of congklak to mathematics learning: How is the relationship and influence of interest, cooperative character and student responses. *Premiere Educandum : Jurnal Pendidikan Dasar Dan Pembelajaran*, *11*(2), 280. https://doi.org/10.25273/pe.v11i2.9995

Kobari, S. R., Shayeb, S. J., & Dawood, I. K. (2022). The Effect of Using Games in Teaching on Students' Achievement and Motivation. In D. Burgos (Ed.), *Radical Solutions in Palestinian Higher Education* (pp. 29–38). Sringer.

Nugraha, T., Maulana, M., & Mutiasih, P. (2020). Sundanese Ethnomathematics Context in Primary School Learning. *Mimbar Sekolah Dasar*, *7*(1), 93–105. https://doi.org/10.17509/mimbar-sd.v7i1.22452

Nur'Aeni, E., Oktaviani, L., & Apriani, I. F. (2020). Didactical design of square circumference based on Petak Umpet traditional game in Elementary School. *Journal of Physics: Conference Series*, *1581*(1). https://doi.org/10.1088/1742-6596/1581/1/012051

Prabavathy, M., & Sivaranjani, M. R. (2023). Utilizing Traditional Game-Pallanguzhi as a tool to Enhance the Basic Arithmetic Skill of Children with Mathematical Difficulties. In *Journal for Re Attach Therapy and Developmental Diversities* (Vol. 6, Issue 10s2). https://jrtdd.com

Prayitno, H. J., Markhamah, Nasucha, Y., Huda, M., Ratih, K., Ubaidullah, Rohmadi, M., Boeriswati, E., & Thambu, N. (2022). Prophetic educational values in the Indonesian language textbook: pillars of positive politeness and character education. *Heliyon*, *8*(8). https://doi.org/10.1016/j.heliyon.2022.e10016

Rahayu, E. (2023). Peran Permainan Tradisional dalam Pendidikan Anak Usia Dini. *Journal on Education*, *05*(04), 17721–17737.

Rizal, R., Rusdiana, D., Setiawan, W., & Siahaan, P. (2020). Students' Perception of Learning Management System Supported Smartphone: Satisfaction Analysis in Online Physics Learning. *JURNAL PENDIDIKAN IPA INDONESIA*, *9*(4), 600–6010.

Rohayati, R., Kusumaningrum, S. R., Sukma, R., & Dewi, I. (2022). Ethnomathematics: Exploration In Kebyok Anting-Anting Dance Floor Patterns For Learning The Concept Of Geometry. *JOURNAL OF INNOVATIVE MATHEMATICS LEARNING*, *5*(4), 174–182. https://doi.org/10.22460/jiml.v5i4.p174-182

Roza, Y., Siregar, S. N., & Solfitri, T. (2020). Ethnomathematics: Design mathematics learning at secondary schools by using the traditional game of Melayu Riau. *Journal of Physics: Conference Series*, *1470*(1). https://doi.org/10.1088/1742-6596/1470/1/012051

Setiawan Yohana. (2020). Pengembangan Model Pembelajaran Matematika SD Berbasis Permainan Tradisional Indonesia dan Pendekatan Matematika Realistik . *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, *10*(1), 12–21.

Supahmi, N. P., Mirza Hariastuti, R., & Nurmahmudy, W. (2022). Mathematics in seltok: a Banyuwangi traditional game. *Journal of Science and Education (JSE)*, *2*(2), 53–64.

Taufek, M., Kusumaningrum, S. R., & Dewi, R. S. I. (2022). Improving Mathematics Outcomes Of Fraction Through The Numbered Heads Together (Nht) Learning In Primary School. *SENTRI: Jurnal Riset Ilmiah*, *1*(3), 652–658. https://doi.org/10.55681/sentri.v1i3.267

Utami, A. R., Hasibuan, C. A., Ismayani, W., & Indah, W. (2022). Pengembangan Permainan Puzzle Dalam Mengembangkan Kognitif Anak Usia Dini Di Tk Islamiyah Nu. *Jurnal Tarbiyah Islamiyah*, *10*(10), 10–19.

Wulansari, W., & Dwiyanti, L. (2021a). Building Mathematical Concepts Through Traditional Games to Develop Counting Skills for Early Childhood. *International Journal of Elementary Education*, *5*(4), 574–583.

Wulansari, W., & Dwiyanti, L. (2021b). *International Journal of Elementary Education Building Mathematical Concepts Through Traditional Games to Develop Counting Skills for Early Childhood*. *5*(4), 574–583. https://ejournal.undiksha.ac.id/index.php/IJEE

Yantoro, Y., Kurniawan, D. A., & Silvia, N. (2021). Implementation of the Congklak Traditional Game in Madrasah Ibtidaiyah and Elementary School. *Jurnal Pendidikan Agama Islam*, *18*(2), 407–430. https://doi.org/10.14421/jpai.2021.182-11

Zuhri, Z., Dewi, S. V., Kusuma, J. W., Rafiqoh, S., Mahuda, I., & Hamidah, H. (2023). Implementation of Ethnomathematics Strategy in Indonesian Traditional Games as Mathematics Learning Media. *Journal of Innovation in Educational and Cultural Research*, *4*(2), 294–302. https://doi.org/10.46843/jiecr.v4i2.613

Zulviansyach, Ach. N. Z. I., Risaldi, F. K., Hartini, S., & Hariastuti, R. M. (2023). Slingshot: Between Traditional Games and Learning Mathematics. *Journal of Mathematics Instruction, Social Research and Opinion*, *2*(1), 75–88. https://doi.org/10.58421/misro.v2i1.68

Zunarni, A., Shalikatus Sakina, B., Rizki Kusumaningrum, S., Sukma Indra Dewi, R., SDN Kamulan, U., & Zunarni UPT SDN Kamulan, A. (2022). The Effect of Learning Community in Improving Students' Ability in Solve Math Problems in Class V 1. *Jurnal Ilmiah Mandala Education (JIME)*, *8*(4), 2656–5862. https://doi.org/10.36312/jime.v8i4.4079/http

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Fal ti Art Ex Necesita un artículo aquí.

Mayu Recuerde usar letra mayúscula al inicio de la oración .

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Suj-Ver Act El sujeto y el verbo en esta oración no estan correctamente usados. Lea nuevamente la oración y ponga atención en el sujeto y el verbo.

Fal ti Art Ex Necesita un artículo aquí.

Fal ti Art Ex Necesita usar un artículo antes de esta palabra. Considere usar un artículo.**the**.

Dup Ha tecleado dos veces la misma palabra **articles** en una linea. Necesita eliminar una palabra.

Voz Pas Ha usado voz pasiva en esta oración. Se recomienda cambiar a voz activa.

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Err Pron Pos Quite el apóstrofe para hacer esta palabra plural.

Fal Com Necesita usar una coma después de esta palabra.

Fal Com Necesita usar una coma después de esta palabra.

Co-Est! This Esta parte de la oración contiene un error o esta mal redactada lo que hace dificil de entender lo que usted desea transmitir.

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Voz Pas Ha usado voz pasiva en esta oración. Se recomienda cambiar a voz activa.

PÁGINA 3

Err Pron Pos Utilice un apóstrofe para mostrar que alguien posee algo.

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Ver Mal For Usted ha utilizado una forma de verbo incorrecta. Coloque el verbo junto al sujeto para comprobar que el verbo está correctamente utilizado.

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PÁGINA 9

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PÁGINA 10

PÁGINA 11

PÁGINA 12