E-ISSN 2654-9948
ALGORITMA Journal of Mathematics Education (AJME)
http://journal.uinjkt.ac.id/index.php/algoritma
Vol. 7 No. 2 – 2025, hal. 154-164

EXPLORATION OF GEOMETRY CONCEPTS IN THE STRUCTURE OF CIREBON'S PEDATI GEDE FROM AN ETHNOMATHEMATICS PERSPECTIVE

Erlinda Isulis Marissa[1]* , Benny Anggara[2] , Azi Nugraha[3]

[1]Universitas Sindang Kasih Majalengka, Jl. Kasokandel Timur No. 64, Majalengka, Indonesia
*Email: eimarissa21@gmail.com

Abstract

Currently, many local cultures are being eroded due to modernization. The mathematics learning process has not been closely linked to real-life contexts. This study aims to explore geometric concepts in the structure of Pedati Gede Cirebon from an ethnomathematics perspective. This study uses a qualitative ethnographic approach. Data were obtained through observation, interviews, visual documentation, and precision measurements of the pedati structure. Data analysis uses the Miles and Huberman model with stages of reduction, presentation, and conclusion drawing. The ethnomathematics indicators measured include counting systems, measurement and proportion, spatial orientation, design and pattern, and technology and artifacts. The results of the study show that Pedati Gede Cirebon contains the concepts of circle, 12th-order rotational symmetry, the golden ratio, translation, and similarity. The semi-cylindrical roof reflects a sense of balance and protection. Overall, the cart combines mechanical function, symbolic value, and complex geometric structure. This artifact extends the study of ethnomathematics to three-dimensional objects and has the potential to serve as a contextual learning resource for linking geometry learning to local culture.
Keywords: *Ethnomathematics, Geometry, Pedati Gede Cirebon*

Abstrak

Saat ini budaya lokal banyak yang terkikis akibat modernisasi. Proses pembelajaran matematika selama ini kurang dikaitkan dengan konteks kehidupan nyata. Penelitian ini bertujuan mengeksplorasi konsep geometri pada struktur Pedati Gede Cirebon dalam perspektif etnomatematika. Penelitian ini menggunakan pendekatan kualitatif etnografi. Data diperoleh melalui observasi, wawancara, dokumentasi visual, dan pengukuran presisi pada bagian struktur pedati. Analisis data menggunakan model Miles dan Huberman dengan tahapan reduksi, presentasi, dan penarikan kesimpulan. Indikator etnomatematika yang diukur meliputi *counting system*, *measurement and proportion*, *spatial orientation*, *design and pattern*, dan *technology and artifacts*. Hasil penelitian menunjukkan bahwa Pedati Gede memuat konsep lingkaran, simetri rotasi orde 12, rasio keemasan, translasi, dan kesebangunan. Atap berbentuk setengah silinder mencerminkan keseimbangan dan perlindungan hidup. Secara keseluruhan, pedati memadukan fungsi mekanis, nilai simbolik, dan struktur geometris yang kompleks. Artefak ini memperluas kajian etnomatematika pada objek tiga dimensi serta berpotensi menjadi sumber belajar kontekstual untuk mengaitkan pembelajaran geometri dengan budaya lokal.
Kata kunci: Etnomatematika, Geometri, Pedati Gede Cirebon

How to Cite: Nugraha, A., Anggara, B., Fadilah, E., R., & Marissa, E. I. (2025). Exploration of Geometry Concepts in The Structure of Cirebon's Pedati Gede From an Ethnomathematics Perspective. *ALGORITMA Journal of Mathematics Education, 7* (2), 154-164.

Permalink/DOI: http://dx.doi.org/10.15408/ajme.v7i2.48697

Naskah Diterima: Nov 2025; Naskah Disetujui: Des 2025; Naskah Dipublikasikan: Des 2025

*penulis korespondensi

INTRODUCTION

Indonesia is a country rich in culture. Indonesian culture is a rich and diverse collection of local practices, artifacts, and knowledge, formed through historical interactions between ethnic communities, religions, and geographic environments (Fauzan, 2025). Material heritage such as construction, traditional means of transportation, textiles, and ritual ornaments are not only aesthetic in value, but also contain systematic knowledge structures, including mathematical concepts implicit in their patterns, proportions, and technical construction (Falah et al., 2025; Nafilah et al., 2025; Ramadhan et al., 2025). Studies on cultural resilience emphasize that strengthening cultural education and integrating local wisdom into the curriculum can increase awareness of identity while preserving traditional practices. Research on cultural preservation demonstrates the need for strategies education and documentation to maintain cultural values in an era of rapid change (Sabila et al., 2025).

However, in the context of modernization and globalization, Indonesian local culture faces serious challenges in the form of value erosion and intergenerational disconnection. Social transformation, the development of digital technology, and the influx of global culture have caused a shift in the orientation of young people towards traditional culture (Nedashkivska et al., 2024). This phenomenon has raised concerns about the loss of cultural artifacts and practices that constitute regional identities. A UNESCO report (2023) stated that approximately 40% of intangible cultural heritage in Southeast Asia is at risk of extinction within a single generation if not integrated into formal education and scientific documentation. Research by Nawir et al. (2025) emphasized that strengthening cultural literacy through thematic learning is a key strategy for maintaining cultural relevance amidst the onslaught of globalization. Therefore, revitalizing cultural heritage through educational contexts, including mathematics education, is crucial for fostering a sense of ownership and appreciation for local wisdom.

Meanwhile, mathematics learning in schools is often considered difficult, abstract, and detached from students' real-life contexts. Geometric concepts such as plane figures, solid figures, symmetry, or proportion are often taught symbolically without linking them to concrete phenomena (Lahagu et al., 2025). This results in students' low representational abilities and conceptual understanding (OECD, 2023). The results of the 2022 PISA (PISA) show that Indonesian students still fall below the OECD average in mathematical literacy skills, especially in real-world application contexts. One cause is overly procedural learning and a lack of contextual experiences (Siregar et al., 2024). Research by Solihin & Habibie (2024) and Laowo et al. (2025) shows that using local cultural contexts can improve concept retention and student learning motivation in geometry. Thus, the integration of culture and mathematics is not simply a variation of methods, but an essential pedagogical approach to making mathematics more meaningful.

In this context, the ethnomathematics approach becomes a strategic tool for integrating culture and mathematics learning. D'Ambrosio & Rosa (2017) define ethnomathematics as the study of how cultural groups understand, express, and use mathematical concepts in everyday activities. This approach positions mathematics not as a universal discipline separate from culture, but as a result of social construction influenced by community values, symbols, and needs (Orey & Rosa, 2021). In Indonesia, ethnomathematics has been applied to various contexts such as batik motifs, bamboo weaving, traditional games, and traditional house architecture (Agustian & Sastrawati, 2025; Andriani & Septiani, 2020; Pratiwi & Pujiastuti, 2020; Sari et al., 2023). Their findings indicate that the use of cultural context not only facilitates geometry understanding but also strengthens students' identity and character through learning based on local values.

One of the cultural artifacts that is interesting to study from an ethnomathematics perspective is Pedati Gede Cirebon, a traditional means of transportation that is a symbol of the glory and wisdom of the Cirebon people in the past . Pedati Gede Cirebon is a large cart used to transport agricultural products and building materials, pulled by two large buffaloes, and has a strong wooden construction with large carved wheels. In terms of shape, Pedati Gede Cirebon many interesting geometric elements to study. Mathematically, the Pedati Gede is a concrete representation of the application of the principles of proportion and balance in traditional design, created without the aid of modern technology, but rather through geometric intuition passed down through generations. Beyond its geometric aspects, the Pedati Gede holds deep cultural significance. In Cirebon tradition, the pedati is considered a symbol ofmutual cooperation and the journey of human life. The creation process requires collaboration between carpenters, sculptors, and engravers, each applying the principles of harmony and proportion in their work.

Studies that examine Pedati Gede a typical Cirebon artifact with historical value and symbolic ornamentation, research remains limited. Most previous studies have only addressed the historical, social, and philosophical aspects of Pedati Gede, without exploring its inherent mathematical structure (Wibowo & Listiaty, 2024). However, in terms of form, this artifact contains rich geometric concepts and can be used as a local context-based learning resource. Several cultural and symbolic studies on Pedati Gede Cirebon have identified pre-Islamic elements and symbolic meanings in the ornaments and the history of the artifact, but analyses that focus on its geometric structure, proportions, and potential use as a source for learning mathematics are still rare. Therefore, research that explores the Pedati Gede from a geometric and ethnomathematics perspective has academic, pedagogical, and cultural urgency. Therefore, a mathematical exploration of the Pedati Gede Cirebon is not only relevant but also offers a new contribution to the development of ethnomathematics at the regional level in West Java. Unlike research on batik or woven motifs, which are more two-dimensional, Pedati Gede presents a three-dimensional

structure that allows for a more complex analysis of spatial geometry. This approach also makes a theoretical contribution to ethnomathematics studies because it combines the material dimensions (shape and size) with the symbolic dimensions (meaning and philosophy) of culture.

Based on these theoretical and practical realities, this study aims to identify and describe the geometric concepts inherent in the structure of Pedati Gede Cirebon, and formulate its implications for the development of ethnomathematics-based geometry teaching materials. The research contribution is expected to be in the form of visual and analytical documentation of geometric shapes. Thus, this research offers a new scientific approach: highlighting regional artifacts that are under-represented in ethnomathematics literature and formulating a geometry learning approach based on local cultural richness, while simultaneously responding to the challenges of cultural erosion and abstract mathematics learning.

METHOD

This research uses a qualitative approach with an ethnographic method, aiming to explore geometric concepts contained in cultural artifacts Pedati Gede Cirebon an ethnomathematics perspective. This approach was chosen because it is suitable for understanding the cultural meaning and mathematical practices that exist in society (Creswell & Poth, 2018). The research location was in Pekalangan Village, Pekalipan District, Cirebon City, with subjects consisting of cart craftsmen, local cultural figures, and mathematics teachers. Data were collected through direct observation, in-depth interviews, and visual documentation as well as measurements of Pedati Gede parts such as wheels, body, and roof. The research instruments were observation and interview guides compiled based on cultural and geometric aspects.

Data analysis was conducted using the interactive model of Miles et al. (2014) which includes reduction, presentation, and drawing conclusions. The focus of the analysis was directed at identifying geometric shapes (circles, symmetry, proportion, and spatial shapes) that appeared in the structure of the Pedati Gede . This study used the ethnomathematic indicators of Rosa & Orey (2016), namely: (1) traditional measurement systems (counting system), (2) ornamental patterns and designs (design and pattern), (3) spatial orientation (spatial orientation), (4) measurement and proportion (measurement and proportion), and (5) technology and artifacts (technology and artifacts). Validation of the results was carried out through triangulation of sources and methods between the results of observations, interviews, and interpretations of cultural experts and mathematics education.

RESULTS AND DISCUSSION

Results

History and Cultural Values of Pedati Gede Cirebon

The Pedati Gede is one of the oldest cultural artifacts in the Cirebon region, particularly in Pekalangan Village, Pekalipan District. This Pedati Gede is believed to have existed since the 15th century, during the Cirebon Sultanate, and was used to transport agricultural products, bricks, and wood from rural areas to the harbor or palace. According to local cultural experts, Pedati Gede also serves as a symbol of prosperity, togetherness, and collective strength in Cirebon's agrarian community. Its large, sturdy form reflects the principles of balance and cooperation between humans and nature. Physically, the cart is made of teak wood with two large wheels, a long frame, and a curved roof. Carvings on the sides depict typical Cirebon flora and fauna motifs, symbolizing harmony and balance in life. This artifact is now preserved by the Pekalangan community and serves as a regional cultural icon rich in educational value. The following is a picture of Pedati Gede Cirebon.

Picture 1. Pedati Gede Cirebon

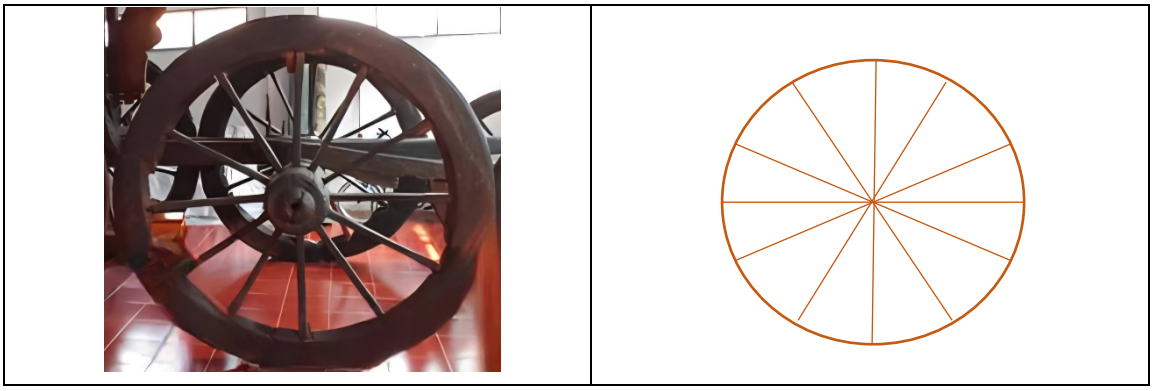
The Geometry Concept of the Pedati Gede Cirebon

Exploration results of cultural artifacts Pedati Gede show that this local cultural heritage not only has aesthetic and historical value, but also contains various geometric concepts that can be interpreted through an ethnomathematical approach. The physical form of the cart, consisting of large wheels, an elongated body, and a curved roof, reflects the application of mathematical principles such as symmetry, proportion, similarity, and spatial balance. Through field observations, precise measurements, and interviews with local craftsmen and cultural figures, it was discovered that the Cirebon people have intuitively applied these geometric concepts in the Pedati Gede making process for generations without using formal calculations.

The Wheel of Pedati Gede

The wheel is a perfect circle with a diameter of ±150 cm and a thickness of ±20 cm. This structure reflects the concepts of circumference ($K = 2\pi r$), area ($L = \pi r^2$), and rotational symmetry. The wheel has twelve wooden spokes that form a central angle of 30°, displaying the concept of central angle division and regular rotation, which is the basis of 12th-order rotational symmetry.

From an ethnomathematics perspective, this structure reflects indicators of spatial orientation and design and pattern, where society creates visual and functional balance to keep the wheel stable while rotating.

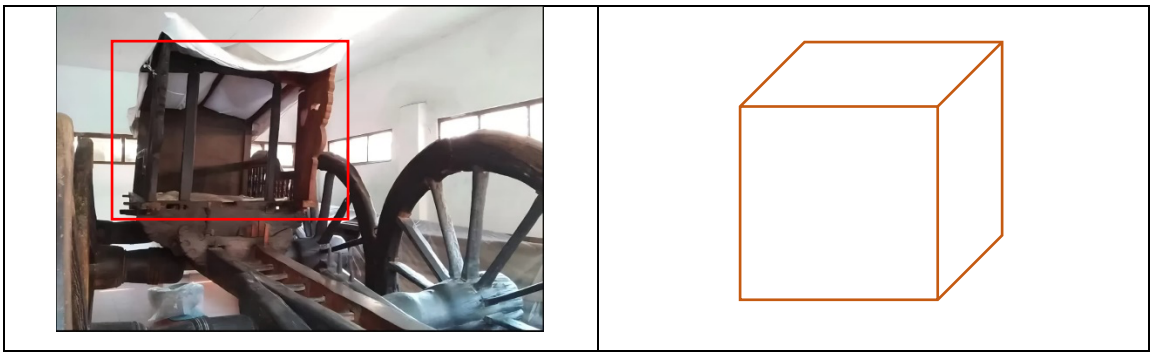


Picture 2. The Wheel of Pedati Gede

Furthermore, based on interviews, Pedati Gede use a tumbak (±60 cm) measurement system to determine wheel diameter without modern measuring instruments. This traditional measurement system demonstrates the application of the counting system and measurement and proportion indicators, namely forms of local mathematical knowledge developed for practical needs. The existence of the tumbak system demonstrates the adaptation of local culture to universal mathematical principles, indicating that tradition-based measurement practices are inseparable from systematic and measurable numerical concepts. Thus, cart wheels are evidence of the integration between traditional technology (the technology and artifacts indicator) and modern geometric concepts that live within the local wisdom of the Cirebon community.

The Body of the Pedati Gede

Body parts Pedati Gede is approximately 3.5 meters long and 1.2 meters wide, forming a block-like structure. The proportion between length and width reaches 3:1, approaching the golden ratio (1.618) which is often found in architectural and natural designs. This demonstrates the application of the measurement and proportion indicator because local people intuitively consider the visual balance and functional stability of the vehicle . In addition, the pattern of wooden planks arranged repeatedly to form a series of symmetrical rectangles, demonstrating the application of the concepts of translation and similarity in transformation geometry.

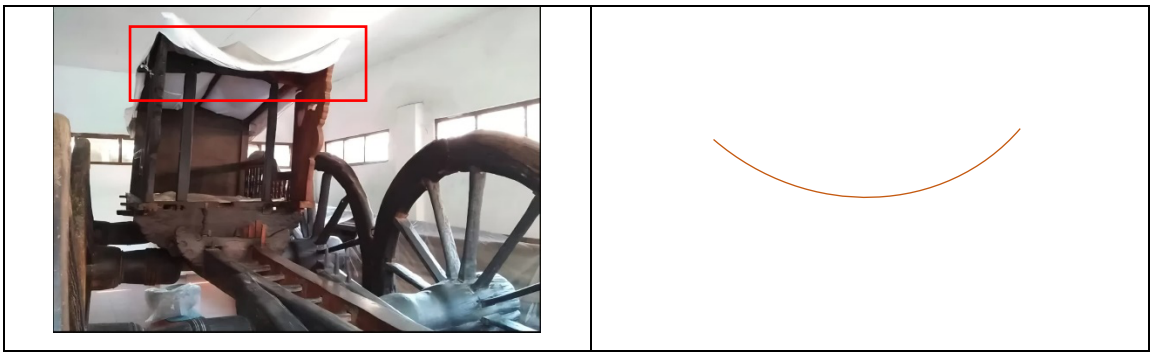


Picture 3. The Body of Pedati Gede

The Pedati Gede body also reflects indicators of design and pattern, where craftsmen use repeating patterns as structural reinforcement and simultaneously as aesthetic elements. In the context of ethnomathematics, this shows that geometric patterns are not only present as visual elements, but also have technological and symbolic functions in the cultural system of the community (Rosa & Orey, 2016). In addition to serving as a supporting framework, the Pedati Gede body represents the intuitive mathematical thinking of the Cirebon people who developed an efficient form to support the load while paying attention to balance, symmetry, and harmonious ratios.

The Roof of the Pedati Gede

The Roof of Pedati Gede the curved shape resembles a half-cylinder made of woven bamboo, reflecting the application of te concept of a circular arc, curved length, and cylindrical surface area in spatial geometry. Visually, the roof has two parallel and symmetrical support points, showing double-fold symmetry, which indicates the application of the spatial orientation indicator. The curved shape not only functions structurally, but also has symbolic meaning: the Cirebon people interpret the curved roof as a symbol of protection and order in the cosmos, which illustrates the principle of harmony in social and spiritual life.



Picture 4. The roof of Pedati Gede

In the context of ethnomathematics, this roof structure meets the technology and artifacts indicator because it reflects local technological innovation in the use of natural materials (bamboo) and mastery of geometric shapes. Furthermore, the bamboo weaving pattern on the roof displays a repeating pattern (design and pattern) that strengthens the structure and simultaneously functions

aesthetically. From a mathematics learning perspective, the semi-cylindrical shape of the roof can be used to teach the concepts of curved surfaces, the lateral area of a cylinder, and symmetry, thus linking traditional cultural practices with modern geometry learning in a contextual and meaningful way.

Discussion

This study found that Pedati Gede Cirebon a cultural artifact imbued with geometric concepts that can be analyzed through an ethnomathematical approach. Its physical structure, consisting of wheels, a body, and a roof, demonstrates the intuitive application of mathematical principles such as symmetry, similarity, rotation, and proportion by the Cirebon people. This finding reinforces the view that mathematical elements are inherently present in cultural practices and traditional society. In a historical context, Pedati Gede not only a symbol of the prosperity of Cirebon's agrarian society during the 15th century Sultanate, but also a representation of empirical knowledge passed down between generations through technological practices and cultural values.

When compared with previous research, these results have both significant correlations and differences. Research by Wulandari & Kusumah (2022) on ethnomathematics in Cirebon mega mendung batikfound the concept of geometric transformation and folding symmetry in batik motifs, but the focus was limited to two-dimensional patterns (flat geometry). Meanwhile, the research Yuningsih et al. (2021) who examinedstructure of traditional Sundanese housesreveals the application of the concept of similarity and proportional ratio, but has not yet discussed the aspect of moving artifacts such as traditional vehicles. Unlike those two studies, this research examines functional three-dimensional artifacts, where geometric concepts are directly applied to their mechanical and aesthetic functions. Thus, this research expands the scope of ethnomathematics from the realm of ornament and architecture to the realm of traditional transportation technology, which has not been widely studied before.

In addition, the findings on the Pedati Gede wheel confirm the existence of the concept of 12th order rotational symmetry and a local measurement system.spear, which is rarely found in other studies. Nuzulah & Wieka's (2025) research on the ethnomathematics of Baduy weaving tools, for example, only touches on the measurement system based on body segments (fathoms and spans), while this study shows the use of fixed distance-based units (spear) for precise measurement of wheel diameter. This enriches the indicatorscounting system And measurement and proportion in ethnomathematics studies in Indonesia.

In the body of the Pedati, the research results show that the length and width proportions approach the golden ratio, demonstrating the aesthetic and structural awareness of the local community, which aligns with the principles of universal design. This finding differs from the results of Jainuddin et al. (2022) who studied Tongkonan Toraja traditional houseand finding

proportions based on spiritual philosophy, rather than numerical ratios. This difference confirms that the Cirebon people had a more empirical and technological mathematical approach, related to transportation functions, rather than purely symbolic ones.

Meanwhile, the half-cylindrical roof of Pedati Gede shows an intuitive understanding of curved structures and double-fold symmetry, in line with the research results of Wiraseptya (2023)on roof of the Minangkabau Gadang housewhich also contains the concepts of symmetry and curved arcs. However, this study further links the curved shape of the roof with mechanical functions (load-bearing and force distribution) as well as philosophical meanings as a symbol of protection and balance in the cosmos, which have not been highlighted in previous research. Overall, the results of this study confirm that geometric concepts such as circles, cuboids, cylinders, symmetry, similarity, rotation, translation, and proportion are not only found in formal educational contexts, but also live in the traditional cultural and technological systems of the Cirebon people. These findings enrich Rosa & Orey's (2016) ethnomathematics indicators, includingcounting system, measurement and proportion, design and pattern, spatial orientation, And technology and artifacts all of which are visible in the structure of Pedati Gede.

The novelty of this research lies in revealing the relationship between the mechanical function of traditional artifacts and modern geometric concepts, as well as the interdisciplinary approach between ethnomathematics, cultural history, and traditional wood technology. Previous research has focused more on the visual and symbolic aspects of culture, while this study combines field observations, precise measurements, and functional mathematical interpretations. Thus, the results of this exploration not only expand the scope of ethnomathematics research in Indonesia but also provide a practical contribution to the development of local wisdom-based mathematics learning, particularly in the topic of spatial geometry and transformation.

CONCLUSION

Based on the research results, it can be concluded that the Cirebon Pedati Gede is a cultural artifact that represents the integration of aesthetic values, mechanical functions, and geometric concepts that are alive in the cultural practices of the local community. Elements such as the wheels, body, and roof of the cart contain the application of the concepts of symmetry, proportion, rotation, translation, and similarity that reflect ethnomathematic indicators such as measurement and proportion, spatial orientation, design and pattern, And technology and artifacts use of the traditional "tumbak" measurement system demonstrates a systematic and measurable local counting system, while also emphasizing the intuitive mathematical intelligence of the Cirebon people. Philosophically, the shape of the Pedati Gede also depicts the harmony between humans, nature, and spirituality. Thus, the Pedati Gede not only holds historical and cultural value but also

holds great potential as a contextual learning resource in local culture-based mathematics education.

ACKNOWLEDGMENTS

The researcher would like to express his gratitude to all parties involved in the preparation of this scientific work, especially to the managers of the Pedati Gede Cirebon cultural heritage.

REFERENCES

Agustian, L., & Sastrawati, E. (2025). Eksplorasi Etnomatematika dalam Arsitektur Rumah Adat Suku Komering untuk Pembelajaran Geometri. *Jurnal Pendidikan Matematika Dan Sains*, *13*(1), 172–182. https://doi.org/10.21831/jpms.v13i1.85335

Andriani, S., & Septiani, I. (2020). Etnomatematika motif ceplokan batik yogyakarta dalam peningkatan pemahaman konsep matematika siswa. *Delta: Jurnal Ilmiah Pendidikan Matematika*, *8*(1), 81–92. https://doi.org/10.31941/delta.v8i1.966

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches (4th ed.)*. SAGE Publications.

D'Ambrosio, U., & Rosa, M. (2017). Ethnomathematics and its pedagogical action in mathematics education. In Ethnomathematics and its diverse approaches for mathematics education. *Cham: Springer International Publishing*, 285–305. https://doi.org/10.1007/978-3-319-59220-6_12

Falah, A. M., Ramli, Z., & Cahyana, A. (2025). The Legacy of Painting Values, Techniques, and Aesthetics through Art Education: A Case Study of Cirebon Glass Painting in the Contemporary Era. *Jurnal Riset Ilmu Pendidikan*, *5*(3), 552–559. https://doi.org/10.56495/jrip.v5i3.1199

Fauzan, A. (2025). The Transformation of Traditional Culture in Responding to the Challenges of Globalization in Local Indonesian Communities. *The Journal of Academic Science*, *2*(3), 1021–1030. https://doi.org/10.59613/42jzr037

Jainuddin, J., Dipalaya, T., & Mangampang, E. T. (2022). Eksplorasi etnomatematika terhadap pola geometri pada rumah adat Tongkonan di Toraja. *Klasikal: Journal of Education, Language Teaching and Science*, *4*(3), 627–640. https://doi.org/10.52208/klasikal.v4i3.328

Lahagu, A. K., Tambunan, H., & Simanjuntak, R. M. (2025). Eksplorasi Baluse Terhadap Konsep Bangun Datar. *Ndrumi: Jurnal Ilmu Pendidikan Dan Humaniora*, *8*(1), 77–101. https://doi.org/10.57094/ndrumi.v8i1.3206

Laowo, N., Tambunan, H., & Simanjuntak, R. M. (2025). Eksplorasi Gowe Nilare Sebagai Media Pembelajaran Berbasis Budaya Pada Materi Lingkaran. *Ndrumi: Jurnal Ilmu Pendidikan Dan Humaniora*, *8*(1), 59–76. https://doi.org/10.57094/ndrumi.v8i1.3205

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook (3rd ed.)*. SAGE Publications.

Nafilah, M. A., Ramdani, D., & Sudarto, S. (2025). Preserving Cultural Narratives Through Aros Woven Fabric Crafts And The Philosophical Meaning Of Their Motifs: A Case Study Of The Baduy Indigenous Community. *JAMASAN: Jurnal Mahasiswa Pendidikan Sejarah*, *1*(2), 127–147. https://doi.org/10.25157/jamasan.v1i2.5454

Nawir, M., Dani, A. R., Azifa, N., & Hasim, N. F. (2025). Gerakan Literasi Budaya Di Masyarakat. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, *10*(2), 223–232. https://doi.org/doi.org/10.23969/jp.v10i02.24229

Nedashkivska, T., Zarichanskyi, O., Pugachov, V., Shostak, V., & Stoliarchuk, N. (2024). Analysis of cultural and identity transformations in the modern world. *Multidisciplinary Reviews*, *7*(10), 2024244–2024244. https://doi.org/10.31893/multirev.2024244

Nuzulah, A., & Wieka, S. (2025). Pembelajaran Matematika Realistik Berbasis Etnomatematika Tenun Suku Baduy pada Materi Pola Bilangan. *Jurnal Pengabdian Masyarakat Dan Riset Pendidikan*, *3*(3), 176–185. https://doi.org/10.31004/jerkin.v3i3.375

OECD. (2023). PISA 2022 Results (Volume I): The State of Learning and Equity in Education. *OECD Publishing*.

Orey, D. C., & Rosa, M. (2021). Ethnomodelling as a glocalization process of mathematical practices through cultural dynamism. *The Mathematics Enthusiast*, *18*(3), 439–468. https://doi.org/10.54870/1551-3440.1533

Pratiwi, J. W., & Pujiastuti, H. (2020). Eksplorasi etnomatematika pada permainan tradisional kelereng. *Jurnal Pendidikan Matematika Raflesia*, *5*(2).

Ramadhan, M. G., Batubara, W. A., Handriani, P., Lestari, W., & Harahap, M. I. (2025). Jejak Arsitektur Rumah Adat Siwaluh Jabu Di Desa Budaya Lingga Kabupaten Karo Sebagai Warisan Budaya Takbenda (Intangible Cultural Heritage). *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, *11*(3), 250–261. https://doi.org/10.36989/didaktik.v11i03.7911

Rosa, M., & Orey, D. (2016). Humanizing Mathematics through Ethnomodelling. *Journal of Humanistic Mathematics*, *6*(2), 3–22. https://doi.org/10.17648/acta.scientiae.6241

Sabila, N., Safitri, D., & Sujarwo, S. (2025). Pelestarian Nilai Budaya Melalui Pendidikan Di Tengah Arus Globalisasi. *Jurnal Intelek Insan Cendikia*, *2*(4), 7641–7651. jicnusantara.com/index.php/jiic/article/view/3235

Sari, S. M., Yulia, P., & Rusliah, N. (2023). Etnomatematika Pada Anyaman Bambu Desa Bunga Tanjung Kabupaten Kerinci. *PYTHAGORAS*, *12*(1), 36–48.

Siregar, B. H., Sitindaon, D., Sinaga, D., Sihotang, H., Manullang, J., Silalahi, L., & Sitorus, T. (2024). Analisis Kesalahan Siswa Pada Soal Literasi Pada Topik Persamaan Linear: Studi Kasus Di Kelas Vii Berdasarkan Teori Polya. *SCIENCE: Jurnal Inovasi Pendidikan Matematika Dan IPA*, *4*(4), 492–503. https://doi.org/10.51878/science.v4i4.3574

Solihin, A., & Habibie, R. K. (2024). Pengaruh Integrasi Budaya Karapan Sapi Berbasis Etnomatematika Terhadap Hasil Belajar Geometri Siswa Sekolah Dasar. *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, *12*(8).

UNESCO. (2023). *2023 Southeast Asia Report - Technology in education*. UNESCO:Global Education Monitoring Report. https://www.unesco.org/gem-report/en/publication/2023-southeast-asia-report-technology-education#:~:text=In education%2C digital technologies have,Meeting of SEAMEO in Thailand.

Wibowo, R., & Listiaty, T. (2024). Potential For Night Culinary Tourism On Jalan Pekalipan Cirebon. *Jurnal Toursci*, *2*(1), 33–49. https://doi.org/10.62885/toursci.v2i1.426

Wiraseptya, T. (2023). Eksplorasi Bentuk Arsitektur dan Tradisi Rumah Gadang Rajo Babandiang di Minangkabau. *Judikatif: Jurnal Desain Komunikasi Kreatif*, *5*(2), 163–168. https://doi.org/10.35134/judikatif.v5i2.162

Wulandari, D. A., & Kusumah, Y. S. (2022). Eksplorasi Konseptual Matematis Pada Batik Trusmi Khas Cirebon Ditinjau Dari Aspek Etnomatematika. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *11*(4), 3556–3564. https://doi.org/10.24127/ajpm.v11i4.6171

Yuningsih, N., Nursuprianah, I., & Manfaat, B. (2021). Eksplorasi Etnomatematika pada Rancang Bangun Rumah Adat Lengkong. *Jurnal Riset Pendidikan Matematika Jakarta*, *3*(1), 1–13.