Jurnal Elemen, 10(3), 652-665, September 2024
https:/doi.org/10.29408/jel.v10i3.26851

e- ISSN: 2442 - 4226

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Exploring geometry and measurement in the *Perjuangan Subkoss Garuda Sriwijaya* Museum: An ethnomathematics study

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Abstract

The Museum of *Perjuangan Subkoss Garuda Sriwijaya* is a museum that preserves the history of South Sumatra's struglle against the Dutch and Japanese colonialists. This research aims to obtain the results of an ethnomathematics study from the Museum of *Perjuangan Subkoss Garuda Sriwijaya* regarding historical, philosophical, and mathematical aspects and implement it in the *Merdeka* Curriculum in mathematics for elementary schools. This research employs an ethnographic approach with a qualitative descriptive approach, utilizing observation, interviews, documentation, field notes, and data triangulation. The analysis techniques include data reduction, data presentation, verification, and conclusions drawings. The study involved three informants who had direct interaction with the Museum of *Perjuangan Subkoss Garuda Sriwijaya*. The results of this research shows that ethnomathematics studies offer several insights: the historical aspect introduces local history and culture through artifacts that supported the struggle during the physical revolution; the philosophical aspectteaches the values of caring, cooperation, creativity, and diversity within society; and the mathematical concepts reveals the concept of geometry, including area, perimeter, volume of both two-dimensional figures and three-dimensional figures, and length measurement.

Keywords: ethnomathematics; geometry; measurements; the museum of *Perjuangan Subkoss Garuda Sriwijaya*

How to cite: Lisnani, Lestari, N. P., & Suyono, A. (2024). Exploring geometry and measurement in the Perjuangan Subkoss Garuda Sriwijaya Museum: An ethnomathematics study. *Jurnal Elemen, 10*(3), 652-665. https://doi.org/10.29408/jel.v10i3.26851

Received: 30 June 2024 | Revised: 19 August 2024
Accepted: 4 September 2024 | Published: 4 October 2024

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Introduction

Merdeka Curriculum is a government education program that shifts learning methods from traditional classroom settings to outdoor learning. This approach encourages students to collaborate and communicate in completing learning tasks, particularly in mathematics education (Malikah et al., 2022). Mathematics is essential for human life. It is not merely a collection of numbers, symbols, or formulas disconnected from real life. Instead, it should be studied in concrete terms and applied to real life, allowing students to understand and appreciate mathematics in a meaningful way (Agusta, 2020).

One of the key areas of mathematics in elementary school utilizing the Merdeka curriculum is geometry and measurement. The concept of geometry has two parts: two-dimensional and three-dimensional (Crompton & Ferguson, 2024). Kyeremeh et al. (2023) explain that applying mathematics through culture involves adapting and integrating local customs and wisdom into a more engaging and foundational mathematics learning experience. Culture is preserved by integrating it into learning, mainly through the fusion of culture and mathematics, known as ethnomathematics (Lisnani et al., 2022; Sunzuma & Maharaj, 2022). Ethnomathematics refers to the unique mathematical practices of a specific cultural group or society, encompassing their habitual way of thoughts, thoughts, results, or something that has become a habit and is difficult to change or separate six aspects of ethnomathematics, namely counting, measuring, positioning, designing, playing, and explaining (Laurens, 2017; Andika et al., 2020; Laurens et al., 2021). Ethnomathematics explores mathematical aspects within various cultural objects, including traditional houses, traditional clothing, games, fine arts, music, languages, traditional regional crafts, traditional food, local communities, cultural practices, and museums (Fenanlampir et al., 2021; Laurens et al., 2021; Zulfah et al., 2023).

Ethnomathematics integrates cultural learning with mathematics, creating a mutually influential relationship encompassing historical, philosophical, and mathematical aspects (Stevens, 2023). The historical aspect of ethnomathematics studies also criticizes the history of Mathematics, which often overlooks the contribution of non-Western cultures to its development (Lisnani et al., 2020). The philosophical aspect of ethnomathematics studies also examines principles, concepts, and symbols used by cultural groups in mathematical activities and the meanings and functions attached to mathematics (Mairing & Nini, 2023). Ethnomathematics encompasses three aspects: historical, philosophical, and mathematical. The historical aspect of ethnomathematics relates to the history of the development of mathematics in a cultural context. The philosophical aspect of ethnomathematics refers to thoughts and views about mathematics in a cultural context (Zega, 2022).

Museums, as cultural institutions, play a crucial role in preserving and promoting the cultural and historical aspects of our society. They are particularly rich in aspects of ethnomathematics, especially in geometry and measurement topics in elementary school. This is supported by research conducted on several museums, including South Sumatra Balaputera Dewa State Museum, Yogyakarta Palace Railway Museum, and Arca Building Museum or North Sumatra State Museum (Lisnani et al., 2020; Setiana & Ayunungtyas, 2020; Sulasteri et al., 2020; Safriyanti & Yahfizham, 2023; Sagala & Hasanah, 2023). Buildings such as

Museums and traditional houses embody the mathematical concept of geometry. This aligns with the findings of several researchers who have studied museums and discovered the concept of geometry, especially two-dimensional and three-dimensional figures (Lisnani et al., 2020; Safriyanti & Yahfizham, 2023; Sagala & Hasanah, 2023). One museum with historical value that has not been studied by other researchers is the Museum of Perjuangan Subkoss Garuda Sriwijaya.

The museum has historical relics that provide valuable insights into events from the Dutch colonial era. According to Government Regulation Number 66 of 2015, museums are institutions that " protect, develop and communicate to the public." This museum holds significant historical value, particularly regarding the revolutionary struggle between 1945 and 1949 in Lubuklinggau City. Unfortunately, many people underestimate the existence of this museum due to a lack of interest and knowledge of their nation's history. Lubuklinggau city was the only area in South Sumatra that served as the Command Center for the Indonesian National Army during the fight against Dutch aggression. The museum has numerous historical artifacts; among the184 types of historical relics are the C3082 Steam Locomotive carriages, STD Willys Jeeps, Landminj bombs, Kecepek cannons, Limas house buildings, Joglo-figures pavilions, and various monuments (Susetyo & Ravico, 2021).

Methods

This qualitative research employs an ethnographic approach that includes several stages: the preparation stage, the problem formulation stage, and the determination and research objectives stage. The research was conducted at the Museum of Perjuangan Subkoss Garuda Sriwijaya through the following stages: First, determine the research objectives, during which the researcher planned and selected the specific goals of the study. Second, select the research subject, specifically the museum staff, who serve as the key source of information. These informants consist of three individuals who work at the museum. Third, identify the research object, focusing on a historical building or museum collection with mathematical value. Fourth, data will be collected using an ethnographic approach, incorporating observation, interviews, documentation, and field notes. Fifth, data will be analyzed through interviews and documentation related to culture and mathematics. Sixth, identify Mathematical concepts presented in research objects, such as two-dimensional and three-dimensional figures, symmetry, tessellation, etc. Seventh, mathematics learning materials based on ethnomathematics were developed from these research objects, according to the student's development level in the class. Eighth, validate mathematics learning materials with experts and practice practitioners. Ninth, trials of mathematics learning materials should be conducted in schools.

The research subjects were selected using purposive sampling, focusing on individuals familiar with the Museum. This group comprised three informants: museum managers, employees, and tour guides. Data was collected using a comprehensive approach, including interview sheets, observation, documentation, and source triangulation. The interviews, conducted with the three informants, covered the historical, philosophical, and mathematical

aspects of the Museum with a set of 23 questions. Direct observations were made to gather information on the Museum's mathematical features, involving the examination of objects and buildings within the Museum using a set of 7 questions. The observations were focused on the entrance gate, monuments, pavilions, interior rooms, and exhibits such as locomotive trains and jeeps.Documentation was carried out through photographs taken during research at the Museum. The data analysis for this study was conducted using the Miles and Huberman model, which involves data reduction, data display, and verifications/conclusions (Miles & Huberman, 2014).

Data reduction involved selecting relevant information from the interviews with informants and discarding data from unclear documentation. Data display was carried out by organizing and presenting the results of informants, observations, and documentation in tables and images. This presentation was based on the analyzed data. The initial verification process was provisional and subject to change as further relevant evidence was identified through the triangulation process, ensuring the robustness of the data collection.

Results

Ethnomathematics study results from the museum of *Perjuangan Subkoss Garuda Sriwijaya*, Lubuklinggau City

The Museum of Perjuangan Subkoss Garuda Sriwijaya was inaugurated in 1988 by the Governor of South Sumatra, Mr. H. Sainan Sagiman. The museum was established to preserve the values and heroism of the freedom fighters from the physical revolution of 1947-1949 in Lubuklinggau City. The museum houses a variety of historical heritage objects, including bears, firearms, dioramas of the fight, and war vehicles. Spear is a traditional weapon used by freedom fighters. Firearms of various types and models are used by freedom fighters, such as pistols, rifles, and cannons. The collection also features red and white flags, spears, pistols, Kecepek cannons, the C3082 steam locomotive train, and photos of revolutionary heroes. The museum also features battle dioramas and weapons, including pistols, machetes, keris, Kecepek cannons, Landminj bombs, and photos depicting the struggle of the Lubuklinggau people. According to current regulations, the legal basis for the museum is provided by PP No. 66 of 2015 concerning museums; meanwhile, the transfer and inclusion of the C3082 Steam Locomotive as a museum historical asset.

The results of the mathematical study, based on three informants are described as follows: First, the architecture of the Museum of Perjuangan Subkoss Garuda Sriwijaya, which resembles a South Sumatran traditional house, specifically the Limas House, holds cultural and historical significance. The front hall, designed in the form of a Joglo House with a roof shaped like a pyramid, also carries cultural and historical meanings. Second, all the historical objects in the Museum are characterized by measurable dimensions of length, width, and breadth. The size of the locomotives is also readily observable.Third, the building is designed hexagonal, symbolizing support for the Garuda bird and the fighters of the independence revolution.

Fourth, the Museum serves as a learning medium and resource by directly demonstrating mathematical concepts to visitors or students. Educators can utilize the Museum to teach history, arts, culture, and mathematics. Additionally, museums are increasingly being used as tools for educational tourism, helping to introduce mathematical concepts, particularly three-dimensional figures, to children. Fifth, introducing mathematical concepts through Museums to elementary school children, particularly geometric material from historical objects, can enhance students' understanding and retention of historical and mathematical concepts. These include the figures of buildings, monuments, halls, and historical heritage objects such as locomotives, trains, Jeeps Willys, Kecepek cannons, and Landminj bombs.

The observational study revealed that various parts of the Museum of Perjuangan Subkoss Garuda Sriwijaya feature mathematical concepts, particularly geometric ones. The initial observation focused on the Museum's gate(see Figure 1). Many geometric concepts were found in both two-dimensional figures and three-dimensional figures. The gate exhibits spatial figures, two-dimensional figures, and symmetry between figures.

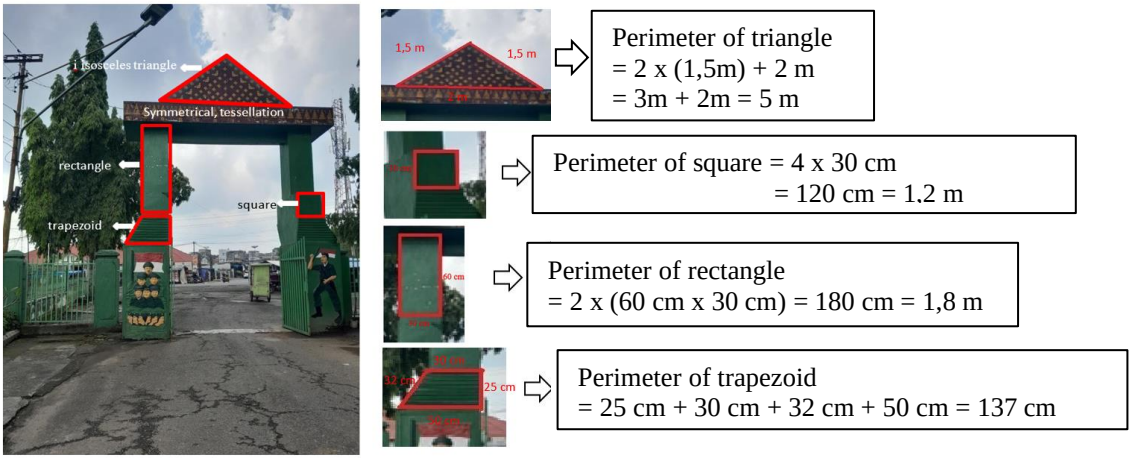


Figure 1. Gate of the Museum of *Perjuangan Subkoss Garuda Sriwijaya*

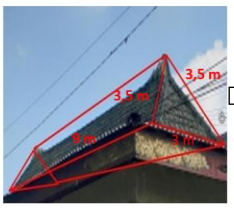
Figure 1 illustrates several mathematical aspects and geometric concepts, including an isosceles triangle at the top of the roof, a rectangle at the center pillar, and a trapezoid and a rectangle at the support pillars. The traditional South Sumatran carvings at the top of the gate create a tessellation pattern, composed of triangles and regular patterns. This indicates that the museum's gate with the ethnomathematics principles, as it incorporates various aspects of two-dimensional figures, including isosceles, triangles, rectangles, squares, trapezoids, three-dimensional figures, symmetry, and tessellation.

Second, the Monument *Perjuangan Subkoss Garuda Sriwijaya* in Lubuklinggau City is situated at the center of the museum's front area, as shown in Figure 2.

Figure 2. The Monument of *Perjuangan Subkoss Garuda Sriwijaya*

Figure 2 shows that the monument features symmetrical figures at its center, with an isosceles trapezoidal model. The top is rectangular, supported by a beam that holds the Garuda bird and three statues of revolutionary fighters. The ethnomathematics elements present in this monument building include symmetrical figures, blocks, and rectangles. This monument also incorporates a geometric concept, in the form of hexagonal prism that supports the eagle above it.

Third, the pavilion section which is next to the museum (see Figure 3) combines a typical South Sumatran pyramid house and a Joglo house from Java. Figure 3 illustrates that the roof of the pavilion, modeled after a traditional building model of the *Limas* houses, forms a triangular prism at its center.

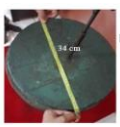


Perimeter of base = 2a + b = 2 (3.5 m) + 3 m
= 7 m + 3m = 10 m
Perimeter of side = 2p+ 2l = 2 (9 m) + 2 (3m)
= 18 m + 6m = 24 m
Perimeter of a triangular prism
= 2 x perimeter of base + 3 perimeter of sides
= 2 x 10 m + 3 x 24 m = 20 m + 72 m = 92 m.

Figure 3. Hall roof of the Museum of *Perjuangan Subkoss Garuda Sriwijaya*

Fourth, the interior of the museum houses many historical relics from the colonial era, many of which embody geometric For examples rectangular figures are evident in the storage cases for historical objects, while the cannons and deactivated bombs resemble cylindrical forms. Additionally, the frames covering these objects are also rectangular. The interior of the museum consists of *Landminj* bombs and *Kecepek* cannons, while *Landminj* bombs are based on the geometric concept of a tube. The mathematical concepts in the space of the tube, can be explored by measuring the diameter and height of the tube, as shown in figure 4, to calculate its volume. The *Kecepek* cannons also exhibit tube figures but is longer than the *Landminj* bombs. *Landminj* is a heavy weapon used to destroy bridges, cliffs, large trees, cliffs, and other obstacles that hindered the mobility of Dutch soldiers attempting to enter the Lubuklinggau area. These *Landminj* bombs can be classified such land, tree, and cliff mines.

The mathematical concept of the keeper cannon lies in its long tube figure, which allows the calculation of the volume and circumference of the cannon's circle, as illustrated in Figure 5. This weapon, known as *Kecepek* cannons, was made by our ancestors centuries ago and traditionally used for hunting tigers, deer, pigs, and other wild animals with barrel up to 1,000–2,000 meters. The mathematical concept in this cannon include symmetry of figures and the introduction of tube figures to students. In addition, one can measure the tube's volume using mathematical formulas.



The mathematical concept of *landminj* bombs:
Radius (r) = ½ x d = ½ x 34 cm = 17 cm
Perimeter = 2 x 3.14 x 17 cm = 106.76 cm

Figure 4. *Landminj* bombs and the mathematical concept

The mathematical concept of *kecepek* cannon:
Radius (r) = ½ x d = ½ x 5 cm = 2.5 cm
Perimeter = 2 x 3.14 x 2.5 cm = 15.7 cm

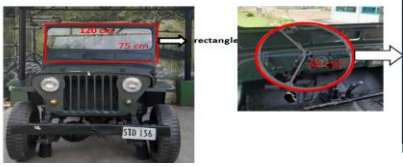
Figure 5. *Kecepek* cannons and the mathematical concept

Fifth, the C3082 Locomotive, a historical object that attracts visitors, is a train inherited from the Dutch era and was the first to travel from Palembang to Lubuklinggau (see Figure 6). The locomotive features geometric figures, such as circles for the wheels and rectangles for the body. However, due to the restriction on accessing the train, the researchers were only able to measure the locomotive wheels, rather than the entire body.

The measurement of locomative wheels
Radius (r) = ½ x d = ½ x 60 cm = 30 cm
Perimeter = 2 x 3.14 x 30 cm = 180.4 cm

Figure 6. the C3082 locomotive and the mathematical concept

Sixth, the *Willys STD* 150 Jeep, a vehicle from a struggle-era, is still well-maintained today and serves as a popular photo spot for museum visitors (seeFigure 7). Jeep Willys STD 156 was an American car produced around 1941 by the Ford Motor Company and Willys-Overland at the request of the United States Army, and it was used as a combat vehicle during the Second World War. This car has a rich history, having been used by the Military Governor of South Sumatra. This car could navigate forest, explore the Barisan hills, and cross rivers because travelling on the highway between Tanjung Karang, Palembang, and Lubuk Linggau was impossible due to Dutch control. Known as Tarzan and Jungle Jane, this vehicle embodies mathematical concepts such as circles, squares, and rectangles.



The measurement of the windshield of the Willys STD 150
= 2 (120 cm + 75 cm) = 2 x 195 cm = 390 cm
The measurement of the steering of of the Willys STD 150
Radius (r) = ½ x d = ½ x 50 cm = 25 cm

Figure 7. The Willys STD 150 jeep and the mathematical concept

Ethnomathematics study on mathematics learning at the elementary school level

The results of this ethnomathematics study present findings that can be implemented in elementary-level mathematics within the Merdeka Curriculum. Moreover, these findings align with the themes in P5 at the elementary school level, specifically Bhinneka Tunggal Ika and Local Wisdom. The findings from the ethnomathematics studies, as observed in the objects can be implemented directly in elementary school learning, as described in Table 1.

Table 1. Results of ethnomathematics study and learning implementation

Observed object	Mathematical Aspect	Documentation	Implementation of Learning in Elementary Schools
Museum Gate	Two-dimensional figures		a. Concept of the two-dimensional figures such as triangles, rectangles, and quadrilaterals b. Measure the perimeter of a rectangle based on data obtained directly in the field
	Three-dimensional figure		Students recognize geometric figures in the tread beams supporting the roof are triangular, and the two support pillars are cuboids
	Symmetry		Students recognize the symmetry of the spatial figures found on the pole gate support with the right and left poles symmetrical
Museum monument	Tessellation		The carved form provides learning about tessellation in engraving patterns.
	Three-dimensional figures		Students can recognize the figures of the blocks found in monuments
Steam locomotive C3082	Two-dimensional figures		The concept of a circle on a locomotive wheel to measure the radius, diameter, circumference, and area of a circle
Willys STD 156 jeep	Two-dimensional figures		Concept of rectangles on jeep windshield, measuring width, length, area, and perimeter, rectangle.
			The mathematics concept of a circle on the jeep steering wheel was the radius, diameter, circumference, and area of the circle.
Landminj Bombs	Three-dimensional figures	 *Landminj* bombs	Mention the figures of a space in *Landminj* bombs the form of a tube, measure the height, diameter, radius, the circumference, and the volume of the tube.
Kecepek cannons is squeaky	Three-dimensional figures		Measuring tube height, tube volume

Merdeka Curriculum requires students to absorb and explore knowledge through literacy studies and concrete observations. This research applied the concept of ethnomathematics at the Museum of *Perjuangan Subkoss Garuda Sriwijaya*, making it a valuable recourse for studying the geometry present in historical objects in the museum or the architecture of the museum's distinctive buildings. Students can learn about geometry through cultural contexts

and understand how mathematical concepts like symmetry and geometry can be applied in architectural designs.

Mathematics is a general science and can be found in various aspects of culture, including art, music, architecture, language, and regional specialties. It enables individuals to engage with and understand different cultures through deeper and more critical methods. For instance, students can explore geometric patterns found in batik, carvings, or weaving from various Indonesian ethnic groups. Students can also investigate number systems, measurements, or calculations used by traditional communities in their daily lives.

Discussion

Ethnomathematics studies mathematics within a society's culture, history, and environment. Museums serve as valuable sources for learning mathematics through ethnomathematics. The museum offers collections such as historical objects, art, architecture, etc. that can be used as a resource for learning Mathematics. Museums can also provide students with engaging, interactive, and contextual learning experiences (Lisnani et al., 2020; Rahmatillah et al., 2022; Chaudhary et al., 2023). Several studies on ethnomathematics relevant to this research include the Yogyakarta Palace Carriage Museum, which houses various types of golden carriages used by the kings of Yogyakarta. These carriages feature a variety of figures, sizes, colors, and ornaments. Students can explore Geometry concepts, such as plane figures, space figures, symmetry, transformations, and tessellations from these carriages (Setiana et al., 2021).

The exploration of ethnomathematics at the Yogyakarta Palace Railway Museum, focusing on the development of mathematics learning through simple concepts of geometry such as the concepts of area, volume, symmetry, and tiling or tiling of historical objects in the Museum, provides practical insights for educators and policymakers. This parallels research on the Balaputera Dewa South Sumatra State Museum, which displays various aspects of South Sumatran culture, such as traditional houses, traditional clothing, weapons, musical instruments, and others. Students can also explore mathematical concepts, such as numbers, measurements, patterns, probability, and statistics from these objects (Lisnani et al., 2020). The Balaputera Dewa South Sumatra State Museum explained in the introduction of two-dimensional figures that culture can be utilized in mathematics learning, one of which is through the local cultural context (Mairing et al., 2024; Lisnani et al., 2022)

The Fatahillah Museum in Jakarta, with its historical architecture, is a silent witness to the struggle of the Indonesian people. It serves as a platform for students to actively engage in learning about mathematical concepts, such as area, volume, angle, line, linear, and probability. Gedung Arca Museum or North Sumatra State Museum, studied by Safriyanti & Yahfizham (2023), effectively integrates Mathematics and culture. By observing the figures of the building and the museum collections, students can simultaneously understand the concept of culture and local wisdom and learn Mathematics through the concept of Geometry, including an introduction to two-dimensional figures, square footage, and width. Findings about plane figures, space figures, and measurements of the area and volume of two-dimensional figures and three-dimensional figures are not only in museums. Those figures are also present in the

historical heritage site of the higher Tomb in Barus, Central Tapanuli (Sinaga & Yahfizham, 2023), the traditional house of South Nias known as "Omo Hada" (Zega, 2022), the ethnomathematics Ulos clothes (Purba et al., 2022; Jawa et al., 2024), and the Sultan Mahmud Badaruddin Jayowikramo Grand Mosque in South Sumatra (Lisnani & Gustira, 2023). Findings from ethnomathematics regarding museums are often identified with two-dimensional figures such as the Kartini Museum (Rahmatillah et al., 2022).

However, findings related to historical and philosophical aspects are rarely reflected in other research, as most studies focus on the cultural and mathematical aspects. Ethnomathematics can introduce local wisdom to students, helping them understand and appreciate local wisdom (Wirawan, 2023; Hutauruk, 2020). It aligns with the P5 theme at the elementary level listed in the Merdeka Curriculum. Based on a mathematical aspect, the Museum of Perjuangan Subkoss Garuda Sriwijaya can be an educational resource for understanding geometry, particularly in spatial structure. The historical heritage objects within the museums can be valuable sources of mathematical information. Children can recognize various spatial figures, grasp the concepts of symmetry and tessellation, and measure these objects directly.

This research aligns with the research of Setiana et al. (2021), which demonstrates that the ethnomathematics elements of the Yogyakarta Palace Railway Museum can be integrated into Mathematics education. It includes concepts such as the area of two-dimensional figures, volume of figures, symmetry, and tessellation/tiling. According to Adilaturrahmah and Suparni (2022), incorporating ethnomathematics into mathematics learning through culture can create a more engaging learning environment for students. This approach helps students avoid viewing Mathematics as daunting and challenging.

Additionally, students gain insights into the mathematical elements present in their surrounding culture. Another ethnomathematics study by Kholisa (2021) demonstrated that geometric concepts are embedded in the Joglo Pati House. It includes lines, angles, two-dimensional figures (square, rectangle, trapezoid, triangle), Pythagorean theorem, spatial figures), congruence, and geometry transformations (translation, reflection, rotation). The geometric concepts found in the Joglo Pati House can facilitate their understanding of geometry. Similarly, Joglo Semar Tinandhu also features geometry concepts related to two-dimensional and three-dimensional figures (Nurkhafifah et al., 2021). Kurino and Rahman (2022) explored the Panjalin traditional house as a resource for teaching basic geometry concepts in primary schools. In addition to buildings, geometric concepts are also present in dance and motifs of cloth (Suherman & Vidákovich, 2022; Eydemir et al., 2023; Mairing & Nini, 2023; Wiri et al., 2023; Arici et al., 2023)

Ethnomathematics is a field of study that illustrates the relationship between culture and mathematics, particularly in mathematics education. It connects mathematics with students' everyday experiences, integrating local arts and culture to enhance students' understanding. Ethnomathematics approaches are important for teaching and learning geometry (Sunzuma & Maharaj, 2020; Sunzuma & Maharaj, 2019). Ethnomathematics elements in mathematics education influence students' character development by fostering an appreciation for their culture and local wisdom (Marhaeni et al., 2023; Nuryadi et al., 2023). The students can learn

mathematics by engaging with the outside world and interacting with local culture, which is the object of ethnomathematics. Ethnomathematics objects include cultural objects that contain mathematical concepts in a particular society.

Conclusion

The first point explains that ethnomathematics studies at the Museum of Perjuangan Subkoss Garuda Sriwijaya reveal that it embodies historical, philosophical, and mathematical aspects. Historically, this museum holds extensive records of the struggle during the Dutch and Japanese colonial periods. Philosophically, the existence of this museum also provides lessons about the values of caring, cooperation, creativity, and diversity of the people of South Sumatra. In the mathematical aspect, this museum is a valuable source of mathematics education, particularly in understanding the architectural forms of buildings, monuments, the C3082 steam locomotive, the Willys STD 156 Jeep, Kecepek cannons, and Landminj bombs. The mathematical concepts that can be developed start by introducing geometry, exploring symmetry, and further measuring the area and volume of these two-dimensional and three-dimensional figures.

Second, this study explores the implementation of ethnomathematics studies at the Museum of Perjuangan Subkoss Garuda Sriwijaya. It involves several steps, including identifying museum objects that contain mathematical aspects, preparing learning plans based on the Merdeka Curriculum, carrying out direct learning in the museum and tourism literacy, and evaluating students' ability to understand mathematical and cultural concepts at the Museum of Perjuangan Subkoss Garuda Sriwijaya. The results of this research are valuable for educators in developing teaching materials that incorporate cultural context, particularly through the use of a museum. In the future, the results of this research can be utilized in teaching mathematics regarding geometry and measurement. Moreover, teachers and students need to participate in preserving various cultural objects, including the museum, which serves as a repository for historical relics and a treasure of knowledge for the community.

Acknowledgment

The researcher would like to thank the three informans as the subjects of the research.

Conflicts of Interest

The authors declare no conflict of interest regarding the publication of this manuscript. In addition, the authors have completed the ethical issues, including plagiarism, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies.

Author Contributions

Lisnani: Writing-editing, reviewing, formal analysis, and visualization; **Natalia Putri Lestari:** Create the idea, writing, getting the data, and methodology; **Agus Suyono:** Review & editing, supervision, project administration.

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