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An Ethnomathematical Exploration of Dowry Calculations Based on Social Stratification and the Distribution of Mandar Customary Inheritance for Mathematics Learning

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Abstract
This study examines the mathematical concept behind the distribution of dowry and inheritance in the BatuLaya village community, Polewali Mandar, West Sulawesi. This study explores the representation of mathematical ideas in cultural traditions passed down between generations, using a qualitative approach framed by ethnomathematicsData were collected through observation, semi-structured interviews, and archival analysis, which included traditional elders, families, and community representatives who were filtered using sampling techniques with certain considerations. Data analysis activities are guided by the interactive model of Miles, Huberman, and Saldaña, which includes data condensation, information presentation, and drawing conclusions. Research findings prove that the determination of dowry in Mandar society is greatly influenced by the social stratification system, which is divided into the lower stratum (tau ata), middle stratum (tau maradika), and noble stratum (tau malaqbi/tau maradia). Each social group has a variety of different traditional assets and equipment, including the Chinese Peputi and Flower Kappu. However, the distribution of inheritance is not determined by social class, but rather based on family agreement, customary values, parental decisions, and religious principles. The study found that the Mandar cultural heritage reflects several mathematical concepts, including proportional reasoning, measurement, multiplication, unit conversion, division, and fractions. These concepts are closely connected to the community's traditional practices, making them suitable for use in contextual mathematics learning. Learning mathematics through local cultural practices helps students relate abstract ideas to familiar experiences and encourages greater appreciation of their own cultural heritage.

Keywords: Ethnomathematics, Mandar culture, Dowry calculation, Inheritance distribution, Mathematics learning

1. Introduction

Mathematics plays an important role in everyday life and forms the foundation of scientific and technological development. A good understanding of mathematics enables people to make informed decisions, solve problems effectively, and better understand the complex structures within society (Rahmaini & Ogylva Chandra, 2024). For this reason, mathematics should be taught in ways that relate to students' daily lives. When classroom learning focuses mainly on

formulas and calculations, many students begin to see mathematics as an abstract subject that has little to do with their own experiences. As a result, they often think of mathematics as nothing more than numbers, formulas, and calculations, without realizing how often it is used in everyday life (Oktavia & Hidayati, 2022). These perceptions often discourage students from engaging with mathematics, making them less interested and less active during lessons.

Ethnomathematics helps explain how mathematics is reflected in the cultural practices of a community. It shows that many mathematical ideas are closely connected to traditions that have been maintained and passed from one generation to the next (Rosa & Orey, 2023). This approach allows students to learn mathematics through their own cultural background, making the subject easier to relate to their everyday lives.

(D'Ambrosio, 2020) explains ethnomathematics as the study of mathematical ideas that arise from the daily lives of different cultural groups. This view suggests that mathematics is not limited to formal education but is also part of everyday cultural practices. Previous studies have examined mathematical ideas in activities such as trading, traditional building, games, and community traditions (Iffah et al., 2025; Kabuye Batiibwe, 2024). In the same way, the cultural practices of the Mandar community provide a meaningful context for exploring mathematical ideas found in customary activities.

Research on ethnomathematics has shown that many cultural practices reflect mathematical ideas that can enrich mathematics learning. For example, (Pradana et al., 2022) identified geometric concepts in traditional buildings, while identified geometric concepts in traditional buildings, whereas (Suherman & Vidákovich, 2025) found that learning through ethnomathematics improved students' understanding of mathematics while helping them appreciate their cultural heritage. More recently, (Hartoyo et al., 2025; Iffah et al., 2025) reported that bringing cultural contexts into mathematics classrooms made learning more meaningful, strengthened mathematical literacy, and encouraged students to engage with their local traditions. Even so, studies that explore ethnomathematics in the context of Mandar culture are still few.

The Mandar people, who live in West Sulawesi, Indonesia, have maintained their customary traditions for generations. In Mandar society, customary law continues to guide social relationships, kinship, and the way rights and responsibilities are shared among family members. The practices of determining dowries and distributing inheritance are important components of this customary system and continue to be implemented today (Maryam et al., 2021). These customary practices also represent indigenous cultural knowledge that has the potential to reveal mathematical concepts embedded in everyday cultural activities and can therefore serve as contextual resources for mathematics learning (Kabuye Batiibwe, 2024).

Although various investigations have explored Mandar culture from social and customary law perspectives (Maryam et al., 2021), prior ethnomathematical inquiries have predominantly centered on mathematical ideas embedded in tangible cultural artifacts, such as traditional architecture, handicrafts, ornaments, and indigenous games (Pradana et al., 2022; Wibawa et al., 2025). Accordingly, scholarship addressing the mathematical attributes within Mandar

customary social mechanisms particularly dowry estimations across social hierarchies and estate distribution is still limited. Viewed from an ethnomathematical perspective, cultural practices routinely encompass mathematical principles that can be examined and implemented as contextual pedagogical resources (D'Ambrosio, 2020; Rosa & Orey, 2023). The customary practices of determining dowry and distributing inheritance also include mathematical ideas, such as ratios, comparison, multiplication, unit conversion, division, and fractions. Even so, these practices have rarely been discussed in ethnomathematics research and are seldom used as examples in mathematics teaching.

The ways dowry is determined and inheritance is distributed in the Mandar community reflect mathematical ideas related to ratio, fractions, multiplication, division, and unit conversion. Although these practices are still part of everyday life, few ethnomathematics studies have examined them, and they are rarely used in school mathematics.

2. Methods

This study used a qualitative ethnomathematical approach to examine the mathematical concepts found in Mandar customary practices, focusing on dowry determination and inheritance distribution. Ethnomathematics was selected because it offers a way to understand how mathematical ideas are expressed in cultural practices and everyday life (Sulistiyo, 2023). A qualitative approach was appropriate for this study because it allowed the researchers to explore these traditions in depth and understand the cultural meanings and mathematical reasoning behind them.

This research was conducted in Batulaya Village, Tinambung District, Polewali Mandar Regency, West Sulawesi, Indonesia. Batulaya was chosen because the Mandar community still follows customary practices related to dowry determination based on social stratification and inheritance distribution. As these traditions remain part of everyday community life, they offer valuable opportunities to examine the mathematical ideas reflected in local cultural practices (Rosa & Orey, 2023).

Purposive sampling was used to recruit participants who were familiar with the Mandar customary practices examined in this study (Sulistiyo, 2023). Three people took part in the research. They included a traditional leader with extensive experience in Mandar customary law, a family member who had been involved in the customary process of determining dowry, and a family member who had experienced the distribution of inheritance under Mandar customary practices. The participants were two men and one woman, all over the age of 30.

The inclusion criteria required participants to (1) possess direct experience with Mandar customary practices related to dowry or inheritance, (2) have sufficient knowledge of customary procedures, and (3) be willing to participate voluntarily in the research.

Tabel 1
Characteristics of Participants

Participant	Role	Gender	Age	Selection Criteria
P1	Traditional leader	Male		Extensive experience in Mandar customary law and social traditions
P2	Family member (dowry)	Famale	30	Direct experience in customary dowry determination
P3	Family member (inheritance)	Male		Direct experience in customary inheritance distribution

Data were collected between the research period through participant observation, semi-structured interviews, and documentation. Using multiple techniques enabled the researcher to obtain comprehensive information and strengthen the credibility of the findings through data triangulation (Bingham, 2023). Observation was conducted to understand the implementation of customary practices, social interactions, and cultural contexts related to dowry determination and inheritance distribution. Field observations were documented through field notes describing customary procedures and social activities relevant to the study.

Semi-structured interviews were conducted individually with each participant. Each interview lasted approximately 3–9 minutes and was conducted using a combination of Indonesian and Mandar languages, depending on the participants' preferences. All interviews were audio-recorded with participants' permission and subsequently transcribed verbatim to facilitate data analysis. The interview guide focused on customary procedures, social stratification, dowry calculation, inheritance distribution, and participants' interpretations of these practices.

Documentation was used as supporting evidence to complement observational and interview data. Documentation consisted of photographs, customary records whenever available, and field notes collected during the study of Mandar cultural practices. Data analysis followed the interactive model proposed by Miles, Huberman, and Saldaña (2014), which included data reduction, data display, conclusion drawing, and verification (Miles et al., 2014).

Interview transcripts, observation notes, and supporting documents were read several times to build a clear understanding of the data. During data reduction, information related to dowry determination, inheritance distribution, social stratification, and mathematical concepts was identified and organized. Descriptive codes were then developed from the data to capture the main ideas relevant to the study.

Codes representing similar ideas were brought together and organized into broader categories. These categories helped identify the main mathematical concepts reflected in Mandar customary practices. The findings were presented through descriptive explanations supported by tables, making it easier to compare information from different participants. Throughout the

analysis, the conclusions were checked against evidence from interviews, observations, and documentation to ensure that the findings remained consistent and well supported.

Tabel 2
Coding and Theme Development

Data Source	Initial Codes	Category	Theme
Traditional leader interview	Social stratification, dowry value, customary rules	Dowry determination	Mathematical concepts in dowry calculation
Family interview (dowry)	Comparison, ratio, unit conversion	Dowry calculation	Mathematical concepts in dowry calculation
Family interview (inheritance)	Equal distribution, division, fractions	Inheritance distribution	Mathematical concepts in inheritance distribution
Observation and documentation	Customary practices, cultural evidence	Data verification	Validation of research themes

To enhance the credibility of the findings, the study applied source triangulation, technique triangulation, prolonged engagement, and peer discussion (Bingham, 2023). Information obtained from the traditional leader was compared with accounts from family participants to identify similarities and differences. Evidence from interviews, observations, and supporting documents was also examined to confirm the consistency of the findings. Throughout the study, the researcher revisited the data to ensure that the interpretations remained consistent with the evidence collected.

Before the interviews, the researcher explained the purpose of the study and how the research would be carried out. All participants gave their consent and agreed to be interviewed voluntarily. Participants were also informed that the interviews would be audio recorded, and permission was obtained prior to recording. Participation was entirely voluntary, and participants were free to withdraw from the study at any stage. The collected data were used exclusively for academic purposes.

3. Result and Discussion

3.1. Dowry Calculation Based on Social Stratification in the Mandar Community

Based on interviews with traditional leaders and community members, the determination of dowry in the Mandar community is still influenced by social stratification. The Mandar community recognizes three social strata, namely Tau Ata, Tau Maradeka, and Tau Malaqbiq, each of which has a standard dowry value of 60, 80, and 120 rials, along with complete traditional items such as Sitto, Chinese Peputi, and Flower Kappu, the amount of which is determined by social status and agreement between both families.

Figure 1.
Mandar Traditional Dowry (Sitto, Chinese Peputi, and Flower Kappu)

The findings indicate that social stratification continues to play an important role in Mandar traditional marriage practices. The social status of a family influences the amount of dowry and the number of customary gifts involved in the marriage process. These differences reflect the cultural values attached to social hierarchy and show how traditional practices continue to be maintained across generations.

Viewed from an ethnomathematical perspective, the process of determining dowry contains mathematical ideas related to comparison and proportional reasoning. This is reflected in the dowry values of 60, 80, and 120 rials, which can be expressed as the ratio 3:4:6. The practice shows that mathematical reasoning is already present in the way the Mandar community determines customary obligations. Moreover, the conversion of rials into rupiah demonstrates the use of multiplication and unit conversion within this cultural practice (Razak et al., 2024).

These findings are consistent with the view of ethnomathematics that mathematical ideas are closely connected to cultural activities and social practices. The Mandar dowry system, therefore, offers a meaningful context for mathematics learning, especially in introducing concepts of ratio, comparison, multiplication, and unit conversion.

The findings also support previous ethnomathematics studies showing that cultural practices can provide meaningful contexts for learning mathematics. Everyday cultural activities often involve mathematical thinking that may not be directly recognized, but can help students relate mathematical concepts to real-life situations. Integrating local cultural practices into mathematics learning can support students' understanding of concepts while encouraging appreciation of their cultural heritage (Wibawa et al., 2025).

Table 1
Distribution of Dowry Values According to Societal Hierarchy and Its Ethnomathematical Interpretation

The interviews with customary leaders and community members show that dowry determination in Mandar society is closely connected to social stratification. Each social group has a different dowry value and a specific number of traditional items, including

Peputi Cina, Kappu Bunga, and Sitto. These differences represent the cultural values of each social group while also showing the mathematical ideas contained in the practice. The findings can be used as a context for mathematics learning. Table 1 describes the dowry practices across social strata, the related mathematical concepts, and examples of learning activities developed from the ethnomathematical analysis.

Sosial Stratification	Dowry Characteristics	Mathematical Concept	Example Learning Task and Solution
Tau Ata' (Lower Social Stratum)	Dowry Amount: 60 rials (Rp. 240.000) Peputi Cina : 1-2 units Kappu Bunga : 6 units Sitto : 4 units	Ratio and Comparison	**Problem:** The dowry amounts for Tau Ata', Tau Maradeka, and Tau Malaqbiq are 60, 80, and 120 rials. Simplify the ratio. **Solution:** Step 1: Write the ratio = $60:80:120$. Step 2: Find the GCD = 20. Step 3: Divide each value by 20. Step 4: $60 \div 20 = 3, 80 \div 20 = 4, 120 \div 20 = 6$. **Simplified ratio = $\mathbf{3:4:6}$.**
TauMaradeka (Middle Social Stratum)	Dowry Amount: 80 rials (Rp. 320.000) Peputi Cina : 2 units Kappu Bunga : 8 units Sitto : 4 units	Proportional Reasoning	**Problem:** If the dowry amount for Tau Maradeka is $Rp18{,}000{,}000$ and the ratio of Tau Maradeka to Tau Malaqbiq is $4:6$, determine the dowry amount for Tau Malaqbiq. **Solution:** Step 1: Ratio $= 4:6$. Step 2: Value of one part $= Rp18{,}000{,}000 \div 4 = Rp4{,}500{,}000$. Step 3: Tau Malaqbiq $= 6 \times Rp4{,}500{,}000$. Step 4: Result $= Rp27{,}000{,}000$. **Therefore, the dowry amount for Tau Malaqbiq is $\boldsymbol{Rp27{,}000{,}000}$.**

Tau Malaqbi' (Noble Stratum)	Dowry Amount: 120 rials (Rp. 480.000) Peputi Cina : 3 units Kappu Bunga : 12 units Sitto : 4 units	Multiplication and Unit Conversion	**Problem:** If 1 rial equals $Rp4{,}000$, determine the value of 120 rial in rupiah. **Solution:** Step 1: Write the conversion rate $(1\,rial = Rp4{,}000)$. Step 2: Multiply $120 \times Rp4{,}000$. Step 3: $120 \times 4{,}000 = 480{,}000$. **Therefore, $\mathbf{120\,rial = Rp480{,}000}$.**

Source: Researchers' analysis of field data obtained through interviews (2026).

Table 1 shows that the dowry values applied across the three Mandar social strata follow a proportional pattern. The values of 60, 80, and 120 rials can be written as the ratio 60:80:120 and simplified to 3:4:6 by dividing each value by 20. This pattern shows that the differences in dowry values are not determined randomly but are based on a customary system that has been preserved within the Mandar community.

From an ethnomathematical perspective, the ratio found in the dowry system reflects the presence of mathematical reasoning within Mandar cultural practices. The relationship 3:4:6 was not created through formal mathematical learning but developed through the community's customary way of determining obligations according to social stratification. Each social group has its own cultural meaning and responsibilities, making the dowry calculation a representation of both numerical relationships and social values. This finding is consistent with (d'Ambrosio, 1985) view that mathematics is closely related to cultural practices, where mathematical knowledge grows through activities and interactions within a community.

The finding is also related to Bishop's (1988) perspective that mathematical ideas can be found in everyday cultural activities. Bishop explains that mathematical thinking emerges through activities such as counting, measuring, designing, locating, playing, and explaining (Bishop, 1988). In this study, proportional reasoning appears in the process of determining dowry values based on social strata, showing that mathematical thinking is part of cultural decision-making and community life.

In addition, this finding supports (Rosa & Orey, 2023), view of culturally situated mathematical knowledge, which explains that mathematical concepts gain meaning through the cultural contexts where they are practiced. In the Mandar community, ratio and proportion are not only related to numerical calculations but are also connected to customary values and social relationships. Thus, the dowry system represents cultural knowledge that carries mathematical ideas and continues to be transmitted across generations.

For mathematics education, the proportional relationship found in this study can be used as a meaningful context for teaching ratios and proportions in junior high school. Teachers

can use the dowry values presented in Table 1 to encourage students to simplify ratios, interpret proportional relationships, and discuss the cultural meaning behind these calculations. Through this approach, students can understand mathematical concepts while relating them to practices that exist in their own community (Suherman & Vidákovich, 2025).

Tabel 2
Mathematical Concepts Identified in Mandar Cultural Practices

Ethnomathematics in Mandar society is revealed through a series of cultural practices including determining dowries, converting units, allocating ceremonial objects, and distributing inheritances which encompass various mathematical concepts as summarized in Table 2. This study found variations in the amount of dowry between social classes, the conversion of Rial to Rupiah, differences in measurements based on societal stratification, as well as the allocation of property inherited to heirs.

Cultural Practice	Findings	Mathematical Concepts	Example Learning Task
Dowry Calculation	There are variations in the amount of dowry between social classes	Ratio and Comparison	Simplify the ratio 60: 80: 120.
Rial Conversion	Convert Rial to Rupiah currency	Multiplication and Unit Conversion	Convert 80 rial into rupiah.
Peputi Cina and Kappu Bunga Determination	Differences in measurements based on social stratification	Comparison	Compare the number of Kappu Bunga among strata.
Inheritance Distribution	Allocation of assets inherited to heirs	Division and Fractions	Divide 12 hectares equally among three heirs.

Source: Findings derived from an ethnomathematical examination of empirical evidence (2026)

As illustrated in Table 2, a range of mathematical principles are inherently integrated into the cultural practices of the Mandar people. As mapped in the literature Ethnomathematics To Mandar (Amiruddin, 2023), various mathematical principles are inherently integrated in the customs of the Mandar tribe, such as ratios in determining dowries, multiplication and conversion of rials to rupiah, and division of inheritance based on fractions, which confirms the validity of the ethnomathematics study, that mathematical thinking is an inseparable part of daily cultural activities.

The integration of mathematics in Mandar culture proves that this science is not just an academic discipline, but rather a community's applied knowledge reflected through architecture, crafts, and social practices as authentic learning resources, while

strengthening the role of ethnomathematics in bridging school theory with students' cultural environment (Cai et al., 2024; Utami et al., 2024).

3.2. Inheritance Distribution Practices in the Mandar Community

Interview data shows that inheritance distribution in Mandar society is not influenced by social stratification. Traditional leaders explained that inheritance allocation is based on family deliberations, parental decisions, cultural norms, and religious principles. Although social status influences the amount of dowry in Mandar society, it does not determine a person's right to receive inheritance.

The informants stated that inherited property is generally shared equally among children. However, the way property is distributed may vary according to each family's situation and agreement. In several cases, the family house is entrusted to the youngest child, particularly when the child has lived with and cared for the parents. Unmarried daughters may also continue to live in the family home based on the agreement of family members. These practices were also observed during fieldwork, indicating that inheritance distribution in the Mandar community is shaped by family considerations and mutual agreement rather than social status differences.

Tabel 3.
Inheritance Distribution Practies and Their Ethnomathematical Representation

Inheritance Practice	Finding	Mathematical Concept	Example Learning Task and Solution
Equal distribution among children	Inherited property is usually shared equally among children.	Fractions	**Problem:** A family owns 12 hectares of land and divides it equally among three children. **Solution:** 12 ÷ 3 = 4 hectares for each child. Each child receives 1/3 of the total inheritance.
Family house allocated to the youngest child	Special customary provision	Division	**Problem:** The remaining inheritance worth Rp90,000,000 is divided equally among three children. **Solution:** Rp90,000,000 ÷ 3 = Rp30,000,000 for each child.
Distribution through family agreement	Allocation determined by consensus	Proportional Reasoning	**Problem:** Property worth Rp120,000,000 is divided according to the ratio 3:2:1. **Solution:** The total ratio is 6. Child 1 receives 3/6 × Rp120,000,000 = Rp60,000,000. Child 2 receives 2/6 × Rp120,000,000 = Rp40,000,000.

	Child 3 receives 1/6 × Rp120,000,000 = Rp20,000,000.

Source: Researchers' analysis of field data (2026).

The interview data were supported by statements from traditional leaders. One informant explained:

"Inheritance is not related to whether someone belongs to Tau Malaqbiq, Tau Maradeka, or Tau Ata'. The distribution is decided through family discussions. Parents usually talk with their children about the allocation to maintain harmony. In some families, the youngest child receives the family house because he or she stays with the parents and takes care of them until old age."

Another informant stated:

"The family house is usually given to the youngest child, especially when he or she has lived with and cared for the parents. The remaining property is distributed based on family agreement so that conflicts among siblings can be avoided."

These statements show that inheritance distribution in the Mandar community is based more on family relationships and mutual agreement than on social status. Unlike dowry determination, which is influenced by social stratification, inheritance practices are guided by family discussions and customary considerations. The process of sharing inherited property also involves mathematical ideas, as family members divide the total assets into equal parts. In this way, the concepts of division and fractions are naturally found in the community's inheritance practices.

This finding is in line with (D'Ambrosio, 2020), view that mathematics is closely connected with cultural practices. Mathematical ideas can develop through activities that occur in everyday life and within social interactions. In the Mandar community, mathematical reasoning can be seen when families discuss the distribution of property, determine fair shares, and consider the needs of family members.

The findings are also related to (Rosa & Orey, 2023), idea of culturally situated mathematical knowledge, which explains that mathematical concepts are understood through the cultural contexts in which they are used. In the Mandar inheritance system, fractions and division are not only calculations but also part of the way families organize a fair distribution of property while maintaining family relationships.

The findings indicate that inheritance practices in the Mandar community place greater importance on kinship and family agreement than on social hierarchy. Although social

status plays a role in determining dowry values, it does not influence inheritance distribution. Instead, family discussions, customary values, and religious considerations become the main factors in deciding how property is shared.

Similar practices can also be found in other Indonesian customary communities, where family agreement and kinship relationships are important in managing inheritance. This shows that customary inheritance practices are not only related to the distribution of property but also serve to maintain family unity and harmony (Bingham, 2023; Maryam et al., 2021).

Although social stratification does not determine inheritance allocation, the practice reveals several mathematical concepts embedded in customary decision-making processes. The division of property among heirs reflects the concepts of division and fractions because a whole asset is allocated into several portions. The equal distribution of property among children represents the practical application of fractional thinking and proportional allocation.

To illustrate the mathematical concepts identified in the inheritance practice, a hypothetical example can be considered. If a family owns land with a total area of 12 hectares and the property is distributed equally among three children, each child receives 4 hectares or one-third of the total inheritance. Likewise, when inheritance is divided among four heirs, each heir receives one-fourth of the property. These examples illustrate the application of fractions, division, and proportional reasoning in inheritance practices.

Through ethnomathematics, inheritance practices concretely present the application of fractions, division, and proportional reasoning in learning, linking abstract concepts to students' social situations. This integration of cultural context has been proven effective in transforming ratio material into more meaningful ones (Aini et al., 2025), contributing significantly to solving profit-sharing problems (Marwan et al., 2024), and overcoming the limitations of conventional theoretical methods (Kambani, 2025).

From an educational perspective, the inheritance scenarios presented in Table 3 provide authentic contexts for teaching fractions and division in junior high school mathematics. Teachers can use inheritance practices as examples in mathematics learning by asking students to calculate each heir’s share, compare different forms of distribution, and explain the mathematical ideas involved. Through these activities, students can understand mathematical concepts in relation to their own cultural experiences and develop a deeper appreciation of local traditions.

The findings further support the ethnomathematical perspective that mathematics exists within everyday cultural activities and social interactions. Mathematical ideas are not limited to formal classroom settings but are also embedded in the ways communities organize resources, make decisions, and maintain social relationships. The inheritance practices of the Mandar community demonstrate that mathematical concepts can be identified within customary traditions and family-based decision-making processes.

Therefore, inheritance distribution practices can serve as meaningful contextual examples for teaching fractions and division in mathematics education while simultaneously preserving local cultural values.

3.3. Implications for Mathematics Learning

The findings of this study demonstrate that Mandar cultural practices contain rich mathematical concepts that can be integrated into mathematics learning. Dowry calculations provide meaningful examples of ratio, comparison, multiplication, and unit conversion, while inheritance distribution illustrates the concepts of division and fractions. These concepts correspond directly to topics taught at the junior high school level.

Integrating cultural contexts into mathematics instruction may help students understand abstract mathematical concepts through familiar experiences. Learning activities based on local culture can also strengthen students' appreciation of their cultural heritage while enhancing conceptual understanding. Therefore, the ethnomathematical practices identified in this study have significant potential to be developed into contextual learning resources for mathematics education, particularly in teaching ratios, comparisons, division, and fractions. This finding is consistent with studies showing that culturally contextualized mathematics learning can improve students' engagement and conceptual understanding while strengthening their connection to local cultural knowledge (Razak et al., 2024; Wulandari et al., 2024).

Previous studies have reported that ethnomathematics-based learning contributes positively to students' conceptual understanding, mathematical reasoning, learning motivation, and cultural identity (Suherman & Vidákovich, 2025).When mathematical ideas are presented through culturally familiar contexts, students are more likely to perceive mathematics as meaningful and relevant to their daily lives. Ethnomathematics offers a way to develop mathematics learning that is connected to students' cultural backgrounds (Rosa & Orey, 2023).

Using ethnomathematics in the classroom can help students understand mathematical concepts while also appreciating the cultural values found in their communities. Previous studies have shown that learning mathematics through cultural contexts can improve students' understanding, help them see the connection between mathematics and daily life, and create more meaningful learning experiences (Siregar & Simbolon, 2025; Wulandari et al., 2024).

The findings of this study can be applied in mathematics learning through contextual activities based on Mandar cultural practices. For example, when learning ratios and proportions, teachers can introduce the dowry values used among the three Mandar social strata: Tau Ata' (60 rial), Tau Maradeka (80 rial), and Tau Malaqbiq (120 rial). Students can then simplify the ratio 60:80:120 into 3:4:6, examine the relationship between the values, and discuss the cultural meaning behind these differences. In this way, students

understand that ratios are not only about numbers but are also related to cultural values and customary practices in the Mandar community.

The inheritance practices found in this study can also be used to teach fractions and division. Teachers can provide a problem about a family that owns 12 hectares of land and distributes it equally among three children. Students can determine that each child receives 4 hectares, or one-third of the total inheritance. Through further discussion, students can compare different ways of distributing property based on family agreements and explain the mathematical ideas involved while learning about fairness, kinship, and decision-making in Mandar customary practices.

These activities show that ethnomathematics is not simply about using cultural examples in mathematics lessons. It helps students understand mathematics through situations that are familiar to them and connected to their own cultural experiences. Instead, cultural practices become meaningful contexts through which students construct mathematical understanding while appreciating the cultural values embedded within their own community. Accordingly, the findings of this study provide practical guidance for teachers in implementing culturally responsive mathematics education by integrating authentic Mandar cultural practices into the teaching of ratios, proportions, division, and fractions.

Tabel 4.
Excamples of classroom implimentation Based on Mandar Ethnomathematics

Inheritance Practice	**Finding**	**Mathematical Concept**	**Example Learning Task and Solution**
Equal distribution among children	Property distributed equally among heirs	Fractions	**Problem:** A family owns 12 hectares of land and distributes it equally among three children. **Solution:** 12 ÷ 3 = 4 hectares per child. Each child receives 1/3 of the inheritance.
Family house allocated to the youngest child	Special customary provision	Division	**Problem:** The remaining inheritance worth Rp90,000,000 is divided equally among three heirs. **Solution:** Rp90,000,000 ÷ 3 = Rp30,000,000 per heir.
Distribution through family agreement	Allocation determined by consensus	Proportional Reasoning	**Problem:** Property worth Rp120,000,000 is distributed according to the ratio 3:2:1. **Solution:** Total ratio = 6. Child 1 = Rp60,000,000; Child 2 = Rp40,000,000; Child 3 = Rp20,000,000.

Source: developed from the findings of this study.

4. Conclusion

It can be concluded that the determination of the dowry in Mandar society is influenced by social stratification (Tau Ata, Tau Maradeka, and Tau Malaqbiq), which differs in the size and completeness of customary dowries such as the Peputi Cina and Kappu Bunga. In contrast, inheritance distribution is not determined by social status but is based on family deliberation, customary values, parental decisions, and religious principles.

An ethnomathematics study proves that Mandar cultural traditions can be a tool for mathematics education. Through comparison and fraction methods derived from dowry rituals and inheritance distribution, students are able to absorb the lessons well while preserving their ancestral heritage.

Further academic studies are highly recommended to support the development of educational tools, learning materials, or curricula based on ethnomathematics values derived from the cultural heritage of the Mandar community.

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