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Trivium Curriculum in Traditional Game Based-Learning Construction

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Abstrak

Penelitian ini bertujuan untuk mengeksplorasi dan mengidentifikasi etnomatematika dalam permainan kuartet Using, serta menerapkan kurikulum trivium berbasis permainan tersebut dalam pembelajaran materi statistika di Sekolah Dasar kelas 3. Eksplorasi dan identifikasi etnomatematika dilakukan dalam kerangka penelitian kualitatif. Pengumpulan data dilakukan dengan wawancara, observasi, dan dokumentasi. Analisis data dilakukan secara kualitatif. Data menunjukkan permainan kuartet Using memuat konsep membilang, himpunan, perbandingan, relasi, fungsi, persegipanjang, sudut siku-siku, hubungan antar garis, kekongruenan, peluang, dan statistika. Selain itu terdapat aktivitas berhitung, bermain, dan menjelaskan dalam permainan kuartet Using. Kurikulum Trivium diterapkan dalam pembelajaran pada Sekolah Dasar kelas 3 dengan responden sebanyak 19 siswa. Pengumpulan data dilakukan dengan observasi dan tes tertulis, sedangkan analisis data dilakukan secara kualitatif dengan menentukan persentase ketercapaian konsep. Implementasi dalam pembelajaran menunjukkan bahwa pencapaian konsep literacy dan technoracy hanya 78,95%, sedangkan konsep matheracy mencapai 94,74%. Artinya implementasi kurikulum trivium dalam pembelajaran belum optimal. Hal ini terjadi karena masih ada siswa yang belum bisa membaca dan menulis dengan baik.

Kata Kunci: Capaian pembelajaran; Etnomatematika; Kurikulum Trivium; Literasi matematika; Menggunakan permainan kuartet.

Abstract

This study aims to explore and identify ethnomathematics in the Using quartet game, as well as apply the game-based trivium curriculum in learning statistics material in grade 3 elementary schools. The exploration and identification of ethnomathematics was carried out within a qualitative research framework. Data were collected through interviews, observation and documentation. Data analysis was done qualitatively. The data shows that the Using quartet game contains the concepts of counting, sets, comparisons, relationships, functions, rectangles, right angles, relationships between lines, congruence, opportunities, and statistics. In addition, there are counting, playing, and explaining activities in the Using quartet game. Trivium curriculum was applied in learning at grade 3 elementary school with 19 students as respondents. Data collection was done by observation and written test, while data analysis was done qualitatively by determining the percentage of concept achievement. Implementation in learning shows that the achievement of literacy and technoracy concepts is only 78.95%, while the concept of matheracy reaches 94.74%. This means that the implementation of the trivium curriculum in learning is not optimal. This happens because there are still students who cannot read and write well.

Keywords: Learning outcomes; Ethnomathematics; Trivium curriculum; Mathematical literacy; Using quartet game.

I. INTRODUCTION

Mathematical literacy learning provides opportunities for students to engage with real-life problems in different contexts to consolidate and broaden their basic mathematical skills (NCTM, 2003; Wardani, Prabawanto, & Jupri, 2024). Mathematical literacy is an individual's capacity to formulate, use, and interpret mathematics in various contexts, including mathematical reasoning and using mathematical concepts, procedures, facts, and tools to describe, explain, and predict phenomena (OECD, 2019; Puspita, Herman, & Dahlan, 2023). This understanding shows that it takes effort and practice to achieve mathematical literacy.

Mathematical literacy can be pursued in various ways, including starting mathematics learning by exploring students' informal knowledge absorbed from the surrounding life because mathematics grows from skills or cultural activities in their environment (Bishop, 1997; Wahyuni, Suwarno, & Afdhila, 2024). Culture is formed because of a group of people who carry out similar tendencies in an activity. D'Ambrosio refers to culture as individuals from a nation, community, or group who share knowledge (such as language, various systems of life, myths and spiritual activities, and culinary specialties), and whose behavior is made according to and follows an agreed value system (D'Ambrosio, 2001a; Nofriyandi, Abdurrahman, & Andrian, 2023).

Culture contains a variety of knowledge that is often not realized by people who are in that community. One of the knowledge commonly used in culture is mathematics. Mathematics and culture often show connectedness and make school mathematics closely related to the society in which mathematics is taught (Madusise & Mwakapenda, 2014; Prabawati & Muslim, 2022). Conversely, awareness of using mathematics in a socio-cultural environment outside of school can be a driving force for the emergence of the concept of mathematical literacy as a cultural identity (Danoebroto et al., 2020).

The existence of mathematics in culture is rarely realized except for things that contain calculations (Faqih, Nurdiawan, & Setiawan, 2021). Bishop identified six types of everyday math activities that are embedded across cultures, namely: counting, locating, measuring, designing, playing, and explaining (Bishop, 1997). These mathematical activities can be identified through the process of exploring various cultures that exist around humans. Unfortunately, in general, mathematics is still seen as learning that is far from cultural influences and is a science that is not built based on culture (Rosa & Gavarrete, 2016; Diniyati et al., 2022). This conflict is an interesting condition to be studied more deeply.

Learning mathematics that includes culture has been studied by D'Ambrosio in the ethnomathematics trivium curriculum. Ethnomathematics can be understood as mathematics practiced within a cultural group identified based on common goals and traditions within that group (D'Ambrosio, 2001a). Ethnomathematics represents the way various cultural communities in mathematizing their reality by studying how mathematical ideas and practices are processed and used in daily activities (Rosa & Shirley, 2016; Musliana et

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al., 2024). This shows that every culture contains mathematical concepts that are practiced consciously or not by cultural actors.

In addition, D'Ambrosio stated that ethnomathematics is an approach to learning mathematics that can be applied practically, which is built from students' previous knowledge, background, roles in their environment regarding content and methods, as well as experiences from the past and present from the immediate environment (D'Ambrosio, 2001b). It is hoped that this approach to learning mathematics can make mathematics more humane and easy to understand, compared to if it is only conveyed symbolically without understanding the meaning. This is supported by previous studies which state that culture-based mathematics is a prominent component of pedagogical practice because it contains real-life practices with cultural implications embedded in mathematical concepts (Elpidang & Herrera, 2016; Nurhasanah & Puspitasari, 2022). Cultural-based mathematics learning is an interesting, fun, and innovative learning alternative because it allows contextual meaning to occur based on students' experiences as members of a cultural community so it is hoped that it can support the literacy movement (Surat, 2018; Oktaviana, Effendi, & Rosyadi, 2023).

The application of ethnomathematics in learning is strengthened by the trivium curriculum (D'Ambrosio, 2001a; Rosa & Orey, 2016) which is based on three concepts, namely literacy, matheracy, and technoracy. Literacy is a student's capacity to process information in their daily life (Qolbi & Afriansyah, 2024); matheracy is the capacity of students to interpret and analyze signs and codes to propose models and find solutions to everyday problems (Botha & Van Putten, 2018); while technoracy is the capacity of students to use and combine different instruments to help solve problems (Rosa & Orey, 2015).

The concept of matheracy is compatible with mathematical literacy. Support from literacy and technoracy is appropriate to direct students in strengthening their problem-solving abilities. For this reason, the trivium curriculum can be applied in mathematics learning after ethnomathematics has been identified from a culture. Among the forms of culture that are close to children are traditional games.

Traditional games are one of the cultures that are still commonly practiced in various countries, including Indonesia. It is a game that is historically by regional conditions and culture (Akbari et al., 2009; Meilina, Mariana, & Rahmawati, 2023), based on certain cultural backgrounds that have various forms and variations, tends to utilize tools or objects in the surrounding environment without having to buy them so that requires imagination and high creativity in doing so (Gultom et al., 2022).

Indonesia has a variety of traditional games that grow and develop according to the conditions of the people in each region. The variety of traditional games causes the game to have similarities with different names and rules from one region to another. One of the traditional games developed in Banyuwangi, Indonesia, is the

Using Quartet. Using is the name for tribes in Banyuwangi. Quartets are a kind of game consisting of several picture cards, which contain information in the form of writing explaining the pictures (Setiyorini & Abdullah, 2013). The quartet is a game of making 4 cards as a pair, in each card sheet the composition consists of a picture and a main theme written in the top center, while below the theme are listed 4 members of the theme group with the rules for the top writing arrangement and in bold (or given another color) is the name of the image shown (Karsono et al., 2014).

Figure 1. A set of Using quartets (documentation).

Using quartet is a card game with pictures about Banyuwangi culture made by the *Sengker Kuwung Belambangan* (SKB) Team. The *Using* quartet can be played from children to adults. This set of cards contains eight series of images and each series consists of four cards. The eight series are: "*Kota Kerajaan* (The Royal City of) *Belambangan*, *tujuan wisata* (tourist destinations), *gedung bersejarah* (historical buildings), *upacara adat* (traditional ceremonies), *kesenian* (art), *sayuran* (vegetables), *makanan* (food), and *binatang* (animals)", as shown in Figure 1. The *Using* quartet game starts with shuffling the cards, then they are distributed to the players. The players must complete each series they have by asking their opponent. The winner of this game is the player who collects the most series of cards. Antariksawan Yusuf, as a member of the SKB team, stated that the purpose of making the *Using* quartet was to introduce children to the cultural and natural heritage in Banyuwangi, as well as a way to promote Banyuwangi to the wider community in a different way (TIM SKB, 2015).

In general, the *Using* quartet is played with rectangular cards. The existence of eight series in a set of *Using* quartets with each series containing four cards indicates the existence of the concept of multiples or multiplication. However, an in-depth study and identification have never been carried out regarding ethnomathematics in the *Using* quartet game. For this reason, it is necessary to carry out an ethnomathematics exploration of the game, so that the *Using* quartet can be used as a medium for learning mathematics within the framework of the trivium curriculum.

The use of traditional games in learning mathematics needs to be an innovation if it is applied and used appropriately, systematically, and practically (Kancanadana et al., 2021). Traditional games can function as a tool in various subjects according to their characteristics to generate student motivation and interest in achieving learning goals (López et al., 2022), used to visualize abstract topics, increase student motivation in learning, generate critical thinking skills, increase information and collaborative activities, as well as creating an experiental learning environment and improving

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student achievement (Trajkovik et al., 2018).

In previous research, it was found that the integration of traditional games in elementary schools can provide increased interest, child involvement, interaction with teachers and classmates (Trajkovik et al., 2018), learning achievement (Trajkovik et al., 2018; Widiana et al., 2018), as well as beneficial for children to deal with various situations related to numbers (Nasrullah & Zulkardi, 2011). Based on the descriptions of the various theories above, this research was conducted to identify ethnomathematics in the *Using* quartet game and construct learning based on the trivium curriculum to achieve mathematical literacy. This research is concidered important to add references to contextual objects based on culture that make mathematics seem more real. It is also important to add references to the implementation of the trivium curriculum based on culture that is already known by students.

II. METHOD

This research was conducted in two stages, namely ethnomathematics identification in the *Using* quartet game and the construction of mathematics learning to understand students on the concept of pictograms by applying the trivium curriculum. Identification of ethnomathematics the *Using* quartet game and the construction of learning mathematics is done with a qualitative approach.

There were 3 informants in this ethnomathematics research, i.e., members of the *Sengker Kuwung Belambangan* (SKB) team, founders of the *Sekolah Adat* (Traditional School) *Kampoeng Batara* (SAKB), and participants studying at SAKB. Data collection was carried out using in-depth interviews, participatory observation, and cultural documentation. Data analysis was carried out according to qualitative analysis.

Respondents in learning construction consisted of 19 grade 3 students from one of the elementary schools in Banyuwangi. Data was collected by learning observation and test methods. Data analysis was carried out qualitatively based on indicators of learning implementation and student achievement as shown in Table 1.

Table 1.
Data Analysis Indicators

Components	Indicator
Implementation of learning	• Learning includes the concept of literacy
	• Learning includes the concept of matheracy
	• Learning includes the concept of technoracy
Student achievement	• 80% of students can play the *Using* quartet game according to the instructions in the readings and explanations given (literacy and technoracy)
	• 80% of students can arrange a pictogram of the results of the *Using* quartet game in their group (matheracy)

The percentage of student achievement is determined based on the standard of mastery class used in the previous curriculum in Indonesia.

III. RESULT AND DISCUSSION

The ethnomathematics identification of the *Using* quartet game was carried out at the SAKB in Oktober 2024. The first informant was a member of the SKB team, a community that has an interest in the development of Banyuwangi literature and culture. SKB's activities include conducting training and writing competitions, publishing *Using* language books, and developing *Using* quartet games. The *Using* quartet game was developed around 2015 with the aim that children can get know their area (Banyuwangi) in a fun way so that they have pride in their area. The second and third informants provided explanations and practice of playing the *Using* quartet, especially at the SAKB.

The *Using* quartet is a game adapted from the quartet that is commonly used. *Using* is the name of an indigenous tribe living in Banyuwangi (Tim, 2020) The *Using* quartet was developed in 8 series as shown in Figures 2 and 3.

Figure 2. Card series: (a) *"Belambangan* Government City*"*, (b) "Tourist Destinations", (c) "Historical Buildings", and (d) "Ceremonies" (documentation).

Figure 2 shows the cards of the "*Kota Kerajaan* (Government City) *Belambangan*", "*Tujuan Wisata* (Tourist Destinations)", "*Gedung Bersejarah* (Historical Buildings)", and "*Upacara Adat* (Ceremonies)". The *Belambangan* Government City series contains cards with pictures of "*Bayu*, *Kutha Lateng*, *Macan Putih*, and *Ulu Pangpang*". The tourist destinations series contains cards with pictures of "*Boom*", "*desa adat* (traditional village) *Kemiren*", "*gunung* (mount) *Ijen*", and "*pulau merah* (red island)". The historical buildings series contains cards with pictures of "*gudang* (warehouses) *boom*", "*gedung pengadilan* (courthouses)", "*Inggrisan*", and "*pabrik gula* (sugar factory) *Sukowidi*". The ceremonies series contains cards with

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pictures of "*barong ider bumi*, *kebo-keboan*, *petik laut*, and *seblang*".

Figure 3. Card series: (a) *"Kesenian* (Arts)*",* (b) *"Sayuran* (Vegetables)*"*, (c) *"Makanan* (Food)", and (d) *"Binatang* (Animal)" (documentation).

Figure 3 shows the "*Kesenian* (Arts)", "*Sayuran* (Vegetables)", "*Makanan* (Food)", and "*Binatang* (Animal)" series. The arts series contains cards with pictures of "*angklung*, *Gandrung*, *Janger*, and *Kundaran*". The vegetables series contains cards with pictures of "*belencong*, *bobohan*, *kelentang*, and *kelor*". The food series contains cards with pictures of "*rujak cemplung*, *rujak soto*, *sego cawuk*, and *sego tempong*". The animal series contains cards with pictures of "*banteng*" (bulls), "*kijang*" (antelopes), "*penyu*" (turtles), and "*tamban*".

The game can be played by two to four players. Players can determine the order of the game by using a *hompimpa* or *sut*. *Hompimpa* is the movement of turning the player's palms back and forth accompanied by the sentence "*hompimpa alai hom gambreng*" which if stopped is expected to have one or more surfaces of the same hand, while *sut* is the determination of the player by sticking out the thumb or forefinger or little finger accompanied by the phrase "*sut jreng*" the winner is determined as the tumb wins over the index finger, or the index finger wins over the little finger, or the little finger wins over the thumb (Supahmi et al., 2022).

Before playing, all players check the completeness of the cards according to the series. Then the cards are shuffled and dealt so that each player gets four cards. The rest of the cards are placed in the middle of the game area. The first player asks for one card from another player (regardless of the order of the players) and must state the name of the player being addressed and the name of the series of cards requested. The intended player must give the requested card if he has the card. If the intended player does not have the card in question, then the player who asks must take one card from the remaining deck of cards. The game is continued by the second player with similar rules, and so on. Each player must try to collect each series of cards. A player who can collect four cards in a series is said to have one complete series. The player who gets the most complete series is the winner in this game.

The determination of players is carried out by *hompimpa* and/or *sut* method indicating the concept of probability in the

Using quartet game. Checking each card before playing shows that there is a concept of counting. The *Using* quartet contains eight series of cards, with each series consisting of four cards. This shows the existence of a set concept based on card series and the concept of function between the card series and the members of the series.

Using quartet cards have identical rectangular shapes with side lengths of 8 cm and 6,5 cm as shown in Figure 4. This means that each card has a congruent rectangular shape so that there are four right angles on each card, namely $\angle A, \angle B, \angle C,$ and $\angle D$. If the sides of the cards are seen as a line, then there is a parallel relationship between $\overleftrightarrow{AB}$ and $\overleftrightarrow{DC}$, and $\overleftrightarrow{AD}$ and $\overleftrightarrow{BC}$. In addition, there are also perpendicular intersecting relationships between $\overleftrightarrow{AB}$ and $\overleftrightarrow{AD}$, and $\overleftrightarrow{DC}$ and $\overleftrightarrow{BC}$.

Figure 4. Rectangle shape a Using quartet card (documentation).

Games played by two to four players show the concept of a set. All cards are shuffled before being dealt. Each player is dealt four cards at the start of the game and the rest of the cards are placed in the middle of the playing area. This shows the concept of probability for players to get cards at the beginning of the game. The set of cards and the remaining cards also show the concept of a set. Players can apply the concept of counting to find out how many cards they receive or have during the game.

The rules of the game that guide players to ask another player for a card by saying his name and the series name of the requested card show the existence of a relationship concept. The process that the player goes through in getting the card he wants and the opportunity for the player to get the most series of cards shows that there is a concept of probability. Players are said to win the game if they can collect the most series of cards during the game. Many series of cards that can be collected by each player in a game can be in the form of data in statistical concepts. The data can be represented in various statistical ways such as tables, pictograms, line charts, bar charts, or pie charts. Players can also use the acquisition of multiple series of cards in one or more games as a concept for comparison with other players. From the mathematical concepts that have been identified in the *Using* quartet game, it can be seen that there are mathematical activities including counting, playing, and explaining.

The ethnomathematics of *Using* quartet is the basis for the construction of mathematics learning based on the trivium curriculum. Construction begins with the preparation of lesson plans and student worksheets as a compliment. The material chosen to be developed is a pictogram for grade 3 students (phase B). This material was developed based on one of the

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achievements of mathematics learning phase B elements of data analysis and probability, namely, students can sort, compare, present, analyze and interpret data in the form of pictograms (BSKAP, 2024).

Learning constructions are outlined in student worksheets which contain readings about the *Using* quartet game and its rules, instructions for students to play, and worksheets containing tables so students can make pictograms. The trivium curriculum is developed as follows:

1. Literacy

Students are given readings about the *Using* quartet game. The reading contains the history of the development of the *Using* quartet, the contents of the *Using* quartet, and the rules of the game. Students read accompanied by the teacher interspersed with oral questions. At this stage, observations were made to determine students' reading literacy.

Figure 5. (a) Literacy: activities to read and understand the contents of the reading with the direction of the teacher; (b) Technoracy: Using quartet playing activities (documentation).

2. Technoracy

Students play the *Using* quartet according to the rules in the reading accompanied by the teacher. At this stage, observations are made to determine the ability of students to play the Using quartet according to the rules that have been read.

3. Matheracy

Students are asked to collect card series data that their group mates have collected, then write down the results in a pictogram. At this stage, the pictogram made by students becomes the basis for determining matheracy.

Figure 6. Matheracy: making pictograms (documentation).

The first activity is reading and understanding the contents of the reading (literacy) as shown in Figure 5 (a) followed by playing the *Using* quartet, as shown in Figure 5 (b). The teacher divides students into five groups, each of which contains 4 people (one group contains 3 people). The observation results showed that 4 out of 19 students did not understand the rules of the game that had been read. The four students were divided into 3 groups so that only 2 groups can play without problems. However, this condition can be overcome with explanations from friends in the group, resulting in learning with the concept of peer tutors.

The results of the game are used as material for making pictograms. Previously the teacher explained so that students described the results of the game in their group in the table provided, without telling it as a pictogram. The following is an example of a pictogram made by students.

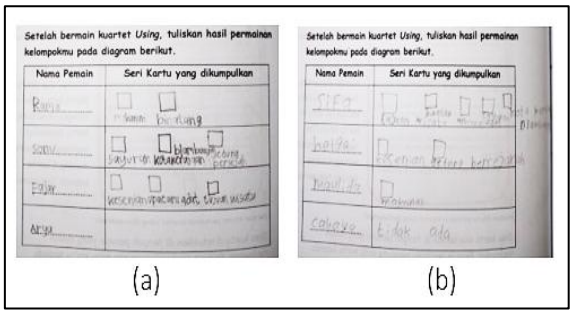

Figure 7. Examples of pictograms made by students (documentation).

Based on the pictograms that have been made, students are asked to answer questions that are part of the interpretation of the data. Figure 8 (a) is an interpretation of the data from the pictogram in Figure 7 (a), while Figure 8 (b) is an interpretation of the data from the diagram in Figure 7 (b).

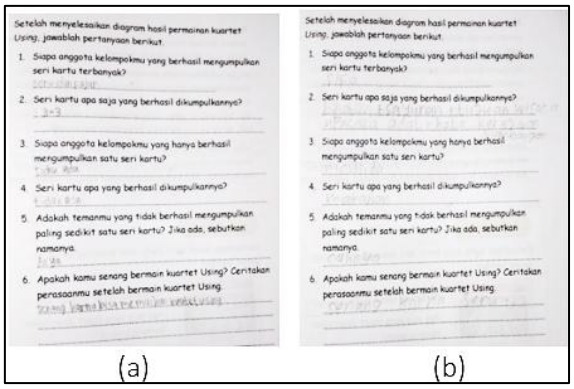

Figure 8. Interpretation of data by students (documentation).

Figure 8 shows six questions that must be answered by students, five of which are interpretations of data from pictograms that have been made before, and one question related to self-reflection. The five questions are (1) which member of the group collects the most series of cards; (2) card series that has been collected; (3) which group members can only collect one series of cards; (4) series of cards that have been collected; and (5) the name of a friend who failed to collect any series of cards.

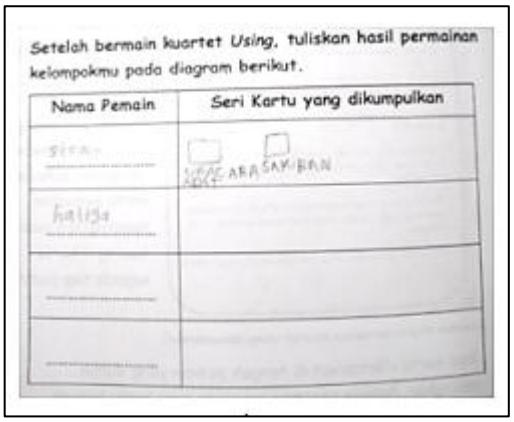

Figure 9. Pictograms that are not equipped by students (documentation).

Pictograms and data interpretation similar to Figure 8 can be done by 18 students, although there are answers that are not quite right. The results of the students' work showed that 18 out of 19 students could make pictograms and interpret the data from the diagrams. There was one student who could not make a complete pictogram and did not interpret the data, as shown in Figure 9. Based on confirmation from the teacher, it is known that these students are not fluent in reading and writing. This becomes an obstacle in the learning process.

The results of ethnomathematics identification in the *Using* quartet game show that there is a concept of probability in the process of determining the order of players, the distribution of cards, and the final result of the game. Probability is a measure of the certainty of an event occurring (Marsigit et al., 2011). This happens because in these processes there is uncertainty about the results obtained.

The concept of counting can be identified in the process of checking cards before and/or during the game. The concept of counting is the determination of many objects or activities by mentioning a row of number names starting with one by

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pointing to a different object or activity when mentioning the name of each number (Khabibah et al., 2014). While the concept of comparison is found in the final results obtained between players.

A set is a collection of objects that are clearly defined and can be differentiated (Budiarto et al., 2020). The concept of the set can be identified in the grouping of players and cards. The concepts of relations and functions can be found in-game rules and card series. The concept of relationship is obtained from the set of cards that are owned between players because of the relationship (Dris & Tasari, 2011). The function concept occurs because is a one-to-one correspondence rule between the series of cards and the set of all cards (Budiarto et al., 2020).

The form *Using* quartet cards, we can identify the concepts of rectangles, angles (right angles), lines and relationships between lines (parallel and intersect), and congruence. The *Using* quartet card is rectangular in shape because it shows a flat figure that has two pairs of the opposite of equal length and four right angles (Hobri et al., 2018), and has right angles with a magnitude of 90^0 (Susanah & Hartono, 2009). The line is one of the undefined terms in mathematics. Parallel lines can be understood as two or more lines that are in the same plane and do not intersect, and intersecting lines can be understood as two lines that have exactly one common point (Susanah & Hartono, 2009). Congruence occurs when two or more figures have a corresponding side ratio equal to one (Rosyidi et al., 2013). Game results can be data that is part of a statistical concept. This happened because of the activities of collecting, organizing, presenting, and interpreting data (Rosyidi et al., 2013).

The *Using* quartet game contains counting activities based on the concept of counting, playing, and explaining. This is following Bishop's previous explanation. Counting is a relatively simple activity shown from a cultural perspective through various forms of representation to communicate counting results (Bishop, 1997); playing is an activity that involves strategies, opportunities, and other aspects (Gilsdorf, 2012); while explaining is an activity that focuses on abstraction and formalization to answer questions such as "how much", "where", "what", "how", and "why" (Bishop, 1997).

The implementation that has been done with the Using quartet game shows that the trivium curriculum can be applied in learning that includes ethnomathematics. Learning can be structured and carried out with the contents of the concept of literacy, matheracy, and technoracy which do not pay attention to order. The trivium curriculum supports the development of school activities based on ethnomathematics and modeling (Rosa & Orey, 2015). The integration of pedagogy with an ethnomathematics-based ethnomodelling approach can be used to meet the specific needs of various students and provide learning outcomes that help students become active in learning activities (Chukwuebuka & Rosa, 2022).

The application of the trivium curriculum in this study resulted in the achievement of literacy and technoracy of 78,95%, while achievement of matheracy

was 94,74%. These results indicate that the concept of literacy and technoracy has not been maximally achieved. There is a need for further evaluation and study related to this condition.

IV. CONCLUSION

The *Using* quartet game is one of the traditional games developed in Banyuwangi, Indonesia around 2015 by the *Sengker Kuwung Belambangan* team. Playing it, is part of the culture so it contains ethnomathematics. Mathematical concepts that can be identified from the *Using* quartet game include: counting, sets, comparisons, relations, functions, rectangles, angles (right angle), lines and relationships between lines (parallel and intersect), congruence, probability, and statistics. The *Using* quartet game also contains mathematical activities including counting, playing, and explaining. Based on the identified mathematical concepts and activities, learning can be developed by applying the trivium curriculum which includes the concepts of literacy, matheracy, dan technoracy. Implementation of learning is selected on the material pictogram (statistics) which is taught in class 3 (phase B). The results of the implementation show that learning can be done in the order of the concepts of literacy, technoracy, matheracy. The learning achievements were not maximal in the concepts of literacy and technoracy because only 15 out of 19 students (78,95%) could understand the reading and apply it in the *Using* quartet game. The learning achievement in the concept of matheracy has reached 94,74% because there is one student who is not fluent in reading and writing. This research can be developed for other materials that are in accordance with the Using quartet ethnomathematics that has been identified, or other cultural ethnomathematics. The results of this study are expected to contribute positively to improving students' mathematical understanding and abilities through cultural contexts within the framework of the trivium curriculum. This has not been widely done considering the increasing use of AI and contextual-based learning that has begun to be abandoned.

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