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Ethnomathematics in the rhythmic patterns of Bebano musical instruments of the Malay community of Riau Islands

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Abstract

Bebano instrument is one of the traditional Malay musical instruments, a type of percussion or hit instrument. Most of the rhythm patterns in Malay music can be played with Bebano, namely *langgam, zapin, inang, joget*, and *jogi* rhythm patterns. This study aimed to determine the form of ethnomathematics in the rhythm patterns of Bebano musical instruments as mathematics learning materials. This study is qualitative research with an ethnographic approach. The research subjects were *Penyengat* Island art activists at Staman Malay Music. Data was collected by observation, interview, and documentation, with the main instrument being the researcher himself. Data analysis techniques included domain analysis, taxonomy, componential, and cultural themes. The study's results found the concept of mathematics contained in the rhythm patterns of Bebano musical instruments. In playing activities, mathematical material is found, namely variablizing and combination. While in the calculation activity, mathematical material is found, namely the form of fractional numbers.

Keywords: ethnomathematics; musical instruments; mathematical activities; mathematical concept

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I. Introduction

Education and culture are inseparable in everyday life because culture is a whole and comprehensive unit that applies in society. In contrast, education is a fundamental need for every individual in society. Both go hand in hand (Scesa et al., 2023).

The cultural heritage of the Indonesian people is a concept embodied in values, beliefs, and customary behavior that progressively gives meaning to overcoming problems in social life. As a concept that can overcome problems, culture has a relationship with other aspects such as education, for example, mathematics education. According to Bishop (1994), mathematics is a form of culture integrated into all aspects of social life. Mathematics can train critical and creative thinking skills to develop a superior culture according to the present demands. In addition, culture can also influence individual behavior in the context of understanding related to the development of education, including mathematics learning. In addition, mathematics is also influenced by

cultural backgrounds because, without realizing it, the mathematical concepts learned at school are often found in daily life activities.

Mathematics is part of culture and daily life. Therefore, mathematics learning in schools today must be linked to the context of students' daily lives with relevant learning models. Culture-based learning is learning that is relevant to everyday life. Dewi et al. (2019) explains that in the process of culture-based learning, four components must be considered, namely the substance and competence of the field of science in the field of study, the learning process and meaningfulness, assessment of the results of the learning process, and the role of culture. Moreover, culture-based learning focuses on achieving integrated understanding rather than just inert understanding.

Ethnomathematics links culture and mathematics (Muhammad et al., 2023). It consists of two words: ethno (ethnic/cultural) and mathematics. In language, ethnomathematics can be interpreted as mathematics in the form of culture. In 1977, a Brazilian mathematician named D'Ambrosio popularized the term ethnomathematics. Ethnomathematics is a study that aims to study the way people in certain cultures articulate, understand, and use concepts and practices that can illustrate something mathematical.

Some research on ethnomathematics was conducted by Kusuma et al. (2023) regarding Ethnomathematics in the Making of *Tepak Sirih Hiasan Gonggong* in Tanjungpinang with the results showing that there are designing and measuring activities in the process of making tepak sirih. The research conducted by Pratiwi and Heni (2020) examines Ethnomathematics in the Marbles Game results of his research, namely the traditional game of marbles has ethnomathematics related to mathematical concepts, including geometry concepts such as circles, balls, triangles, and also the concept of distance. These mathematical concepts can be utilized to introduce and understand geometry and distance concepts through local culture.

Mathematics is a symbolic idea that grows and develops on the skills and activities of a cultural environment. The idea of ethnomathematics will enrich existing mathematical knowledge. Cultural diversity in Indonesia is widespread in several archipelagos. The archipelagos have high aesthetic values and can be seen and measured from the level of art. The objects around can be used as ethnomathematics objects, such as traditional musical instrument patterns, dance patterns, traditional house patterns, and traditional fabric motifs.

Of the various tribes in Indonesia, one tribe is located on the island of Sumatra, namely the Malay tribe. One form of culture with the uniqueness of the Malay community is traditional musical instruments. Traditional musical instruments are evidence and one form of technological achievement that the ancestors have passed down in the form of culture. Traditional musical instruments that can survive until now are one of the characteristics of the nation that should be preserved in its existence and use. One of the manifestations of the cultural products of the Malay people known to this day is a traditional musical instrument that has a distinctive sound character and use, namely *Bebano.*

Bebano is a traditional Malay musical instrument, a type of percussion or hit instrument. Every Malay art performance generally uses *Bebano* as a percussion instrument, such as the seaport sirih offering dance and *joget kangkong.* Most of the rhythm patterns found in Malay music can be played with *Bebano*, such as the *langgam, zap in, inang, joget*, and *jogi* rhythm patterns.

The *Bebano* musical instrument, which is the background of this research, aims to make math learning easily understood by students because it is associated with the real context of everyday life. This research is also motivated by the lack of mathematical knowledge of this *Bebano* musical instrument. This research will find out the role of Malay culture as a

background for preparing mathematics learning materials. From this problem, the researcher researched an exploratory study on the *Bebano* musical instrument to see the mathematical elements contained in it.

By applying culture-based learning, students are expected to understand concepts and reduce the occurrence of misconceptions. Because misconceptions often occur in the process of learning and teaching mathematics, it is necessary to explore the mathematical concepts contained in cultural elements in Indonesia.

II. Research Method

The type of research used in this study is qualitative research with an ethnographic approach. According to Widada (2018) qualitative research is research whose findings are not obtained through statistical procedures or other forms of calculation. In this study; the ethnographic approach is used to describe, explain, and analyze the concept of rhythm patterns contained in *Bebano* traditional musical instruments.

This research was conducted on *Penyengat* Island, namely Staman Malay Musical, one of the islands in Tanjungpinang City. The subject of the research is one of the art activists who lives on *Penyengat* Island.

Data collection techniques were observation, interview, and documentation. The research instruments used were interview sheets and observation sheets, with the researcher as the main instrument in this study. Data analysis techniques were carried out by analyzing domain, taxonomy, componential, and cultural themes.

The Ethnomathematics Research Design or Framework on the rhythm of *Bebano* musical instruments refers to the research of Prahmana et al. (2021) namely 4 general questions are the core of ethnographic principles, which are then arranged in the form of the following table:

Table 1. Design or frameworks for ethnographic thought on Bebano

Guiding Question	Initial Response	Analysis Steps	Viewpoint	Activity
Where to start observing it?	In observations and interviews with resource persons	Domain	Culture	Observations and interviews with sources related to the rhythm of the *Bebano* musical instrument
How do we observe it?	Seeing how to play the *Bebano* musical instrument where there is potential for math practice in it	Taxonomy	Alternative thinking	Examining how to play *Bebano* musical instruments with practice or math activities
What is that?	Evidence (Mathematical activity/concept as a result of alternative thinking)	Componential	Mathematics and philosophy of mathematics	Recognize and distinguish the potential of certain characteristics in playing *Bebano* musical instruments related to mathematics.
What does it mean?	Cultural values learned	Culture Theme	Anthropology	Describe the ethnomathematics of *Bebano* musical instrument rhythms by focusing on the relationship between activities and mathematical ideas or concepts.

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III. Results and Discussion

This ethnomathematics research on *Bebano* musical instrument rhythm patterns was obtained from observations, interviews, and documentation at Staman Malay Music. After conducting the research, the researcher found the existence of mathematical activities in the rhythm pattern of *Bebano* music, namely:

Playing activity

The *Bebano* musical instrument must be played to achieve the desired rhythm. From here, researchers found one of the fundamental mathematical activities in ethnomathematics: playing. The informant, Brother Shafur, directly did this.

This section is the central part of the research article and is usually the longest part. The research results presented in this section are "clean" results. Data analysis processes such as statistical calculations and hypothesis testing processes do not need to be presented. Only the results of the analysis and the results of hypothesis testing need to be reported. Tables and graphs can be used to verbally clarify the presentation of research results. Tables and graphs should be commented on or discussed.

Figure 1. Playing activity on Bebano musical instrument by resource person

From the picture above, the way to play the *Bebano* musical instrument is on one thigh, and the location of the hands is like embracing a musical instrument. The right hand is placed in the side position and the left is placed in the upper position while touching the skin. To produce a sound, *Bebano* musical instruments are played by hitting, more precisely, the skin. 4 tone colors can be produced by *Bebano* musical instruments, namely *Tung, Tak, Dum,* and *Pak.*

To produce the *"Tung"* sound, *Bebano* is hit using the right hand, and the position of the fingers is tight. Hit *Bebano* on the skin of the side area and not too centered or too edge. When hitting the fingers must be directly lifted to create the *"Tung"* sound on the *Bebano* instrument, as shown below.

Figure 2. How to hit to get the *"Tung"* sound

To produce the *"Tak"* sound, *Bebano* can be hit using the right and left hands, the position of the fingers is stretched and hit *Bebano* in the most marginal side area. The finger must be lifted when hitting to create the *"Tak"* sound on the *Bebano* musical instrument, as shown below.

Figure 3. How to hit to get the *"Tak"* sound

To produce the *"Dum"* sound, *Bebano* can be hit using the right hand, the position of the fingers is tightened and hit *Bebano* in the side area and the fingers slightly point inward. When hitting, the fingers must be directly lifted to create a *"Dum"* sound on the *Bebano* musical instrument, as shown below.

Figure 4. How to hit to get the *"Dum"* sound

To produce the *"Pak"* sound, *Bebano* can be hit using the right hand, the position of the fingers is tightened and hit *Bebano* in the side area and the fingers point slightly inward. The fingers must stick to the skin when hitting and not be lifted to create the *"Pak"* sound on the *Bebano* musical instrument, as shown below.

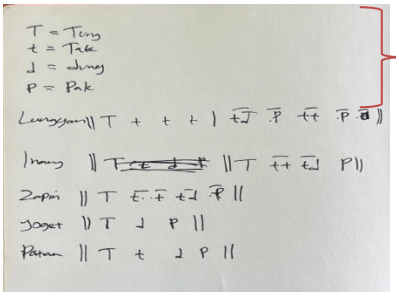
Figure 5. How to hit to get the *"Pak"* sound

On how to play *Bebano*, the position of the palm must be correct to produce the perfect sound. For the literature study to strengthen the arguments and data in it, the researcher tried to play the *Bebano* musical instrument himself. This playing activity aims to produce rhythmic patterns from the *Bebano* instrument itself. From the blow, the sound is created. The sound becomes a rhythm when the punch is played continuously. 5 types of punch rhythms are usually played: the rhythm of *Langgam, Inang, Zapin, Joget*, and *Patam-patam.*

Counting

Counting activities in this research domain are rhythm patterns produced by *Bebano* musical instruments that are played. Researchers calculate the distance between one beat and the next to make the resulting rhythm harmonious. This activity can be seen when the speaker plays the *Bebano* musical instrument and produces a beautiful rhythm. The rhythms produced by this *Bebano* musical instrument are *Langgam, Inang, Zapin, Joget*, and *Patam-patam*. Here are some of the rhythms produced by the *Bebano* musical instrument.

The symbolization of each rhythm produced makes it easier for sources when determine the sound and beat of the rhythm on the *Bebano* instrument. The symbols used in some of the rhythms above are T with the meaning of *Tung* also t with the meaning of *"tak*." The D symbol means dung and the P symbol is *Pak*. Indirectly, the speakers have used the concept of mathematics, namely elementary algebra or basic algebra which has an element, namely variables. This variablizing is useful for symbolizing or representing each sound color in Bebano musical instruments. When studying linear equations, this is the same thing as everyday phenomena symbolized by variables x, y, and z.



Variablizing

Figure 6. Symbol of sound colour on Bebano musical instrument

From the variable sound, it forms a pattern arranged into an arrangement of sounds. The arrangement is arranged horizontally like block notation in music. According to the informant, the *Bebano* musical instrument simply uses numerical notation; the numbers in the notation are converted into color symbols of the sound of the *Bebano* musical instrument.

In playing *Bebano* musical instruments, the informant explained that there is a bar in

numerical notation. A bar is a unit of time that contains a certain number of beats played at a certain tempo. The characteristics of the bar are that it forms a horizontal arrangement of sounds and has a dividing mark at the beginning and the end, symbolized by a vertical line "||." As for 1 bar has a value of $^4/_4$, meaning there are 4 beats in it. Each beat has a value of $^1/_4$. If there are more than 4 strokes in 1 bar, there is a value of $^1/_8$ in that bar. Indirectly, when the speaker plays *Bebano* musical instruments, there is a mathematical concept in it because there is an element of fractional number form in the bar. This is to make it easier for *Bebano* instrument players to read notations and produce harmonious sounds.

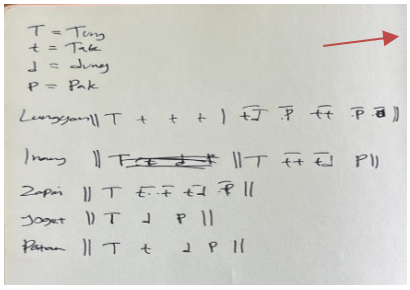


Figure 7. Bar shape in *Bebano* rhythm notation

As shown above, the *Bebano* instrument has standardized rhythms: *the Langgam, Inang, Zapin, Joget*, and *Patam-patam*. Each rhythm has a different tone color, so the resulting rhythm has different characteristics from one another. If we examine the difference in rhythm from the arrangement of sound colors is related to the mathematical concept of combination. Combination is one of the materials studied in math lessons. Combination is a choice by taking some or all objects regardless of the rules. The way the objects are selected in the collection does not matter the order. The *Langgam* rhythm begins with a Tung sound and is followed by a tak sound three times. Then in the second bar, it begins with *tak* and is followed by dung and continued by rest and Pak strokes and continued until the end. The color of the sound, if combined with its location, will produce other rhythms, such as the *Inang* rhythm and others.

Here are some patterns produced by *Bebano* musical instruments: *Langgam* / Humming Punches, *Mak Inang* Punches, *Joget* Punches, *Zapin* Punches, and *Patam-patam* Punches.

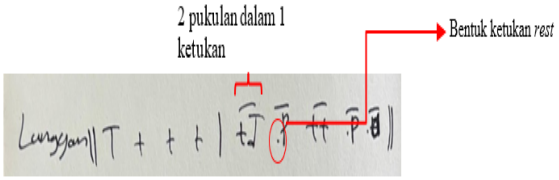


Figure 8. *Langgam*

The *Langgam* rhythm pattern has an opening bar and a closing bar. The form of the *Langgam* rhythm is ‖T t t t|t̄d̄ .P̄ t̄t̄ .P̄.d̄‖ The variable used after the opening bar is T with the sound *Tung* with a value of $^1/_4$ and then followed by three strokes of the sound *Tak* symbolized by t with each value also $^1/_4$. The separator bar is placed for the next rhythm, namely *tak* and *dung* in one umbrella where the sound of the tak stroke is greeted by the sound of *dung*. Because one beat has a value of $^1/_4$, the tak sound is divided into 2, with a value of $^1/_8$, and the *dung* sound has the same value.

The *Pak* sound is produced on the next beat with the symbol P but preceded by a dot. The dot on the bar means rest. Rest here means that there is still a beat but no stroke. If the sound should be produced when the palm hits the *Bebano* skin, then on the rest beat, the palm is in the air or away from the *Bebano* skin, as shown below.

Figure 9. Rest

The takedown sound is performed twice with one umbrella. That means the value of each

tak sound is $^{1}/_{8}$ because $^{1}/_{4}$ divided by two becomes $^{1}/_{8}$. The next rest is the *Pak* sound with the symbol P, and then the rest is again closed by the dung sound with the symbol d. The *Langgam* rhythm pattern is usually an arrangement of songs in regional dances in the Riau Islands, one of which is the offering dance.

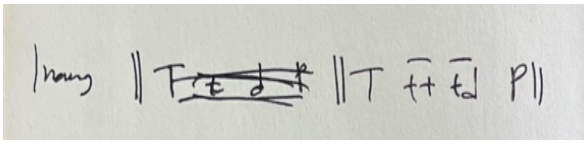


Figure 10. *Inang*

The second arrangement is *Inang,* starting with the first symbol T, then the symbol t with the pattern ||T̄ t̄ t̄ t̄d̄ P̄||. In the rhythm pattern*, Inang* has only one bar. The T or *Tung* sound on the first stroke has a value of $^{1}/_{4}$, followed by the t or *Tak* sound on one umbrella. Each of the *tak* sounds has a value of $^{1}/_{4}$. Likewise, the next umbrella has two strokes in one beat. The first stroke is a t with a *tak* sound and a d with a *dung* sound and ends with one beat, which is P, meaning Pak. The Pak sound has a value of $^{1}/_{4}$. In the *Inang* rhythm pattern, there is no rest stroke. The *Inang* rhythm pattern is usually a song arrangement, one of which is entitled Selendang *Mak Inang*. The next rhythm pattern is *Zapin*, as shown below.

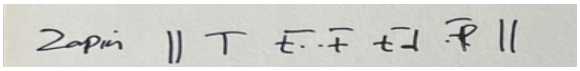


Figure 11. *Zapin*

The next pattern is the *Zapin* rhythm pattern ||T t̄. .t̄ t̄d̄ .P̄||, which consists of only one bar, as shown above. Within the bar, there are $^{4}/_{4}$ beats. On the first beat, there is a *Tung* sound with the symbol T, followed by a *tak* sound with the symbol t and a rest stroke. Before entering the next *tak* sound, the player also gives a rest stroke. On this second beat, the tak sound is $^{1}/_{16}$ because one stroke is worth $^{1}/_{4}$. Since there are four strokes on the second beat, 1⁄4 is divided by 4. The next beat is preceded by a tak and a *dung*. The tak sound has a value of $^{1}/_{8}$, and so does the value of the dung sound. The fourth beat of this *Zapin* rhythm is the rest then the *Pak* sound with a value of $^{1}/_{8}$ each. This *Zapin* rhythm pattern became the arrangement of several Riau Islands folk songs with *Zapin* Pulau *Penyengat* and *Zapin* Anak Ayam.

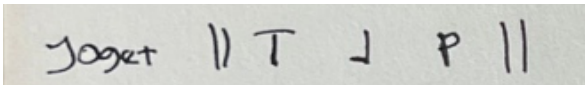


Figure 12. *Joget*

The rhythm pattern of the *Joget* ||T d P|| has a special beat. The beat of this *Joget* rhythm pattern can have a $^{4}/_{4}$ beat value if repeated twice. This is because one bar only has three sound colors and two beats. The first beat has the same umbrella as the *Tung* sound or T symbol, and the next beat produces a *dung* or d sound. These two strokes have a value of $^{2}/_{4}$ each. On the second beat, there are 2 strokes with an initial rest stroke followed by a Pak sound or with the symbol P. The rest stroke also has a value of 2⁄4 as well as the *Pak* sound or with the symbol P.

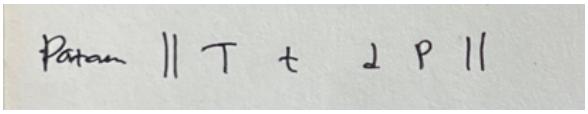


Figure 13. *Patam-patam*

Patam ||T t d P|| is the last standard pattern produced by the *Bebano* instrument with 4 different sound colors. The first sound is Tung with the symbol T, followed by the symbol t with the sound *tak*. These two sound colors have a value of $^{1}/_{8}$ because they are on the same beat or in the same umbrella. On the second beat, there are also two sound colors: *dung* with the symbol d and *Pak* with the symbol P.

From the five standard patterns above, we can see that in the counting activity, there are several mathematical materials, including variablizing, which is included in elementary

algebra material, and the fractional number pattern contained in each value in each sound and beat in the resulting rhythm. Then there is combination material where the rhythm can be changed to produce various arrangements. This can be one of the learning stimuli so that students can understand the material presented by getting to know the surrounding culture better.

After passing the above analysis, the ethnomathematics definition of the rhythm pattern of the Bebano musical instrument of the Riau Islands Community is answered. From this pattern, there is elementary algebraic mathematics learning material, fractional number forms, number patterns, and combinations.

Table 2. Recapitulation of data analysis results in

Domain Analysis	**Taxonomic Analysis**	**Componential Analysis**	**Analysis of Cultural Themes**
Playing	Bebano musical instruments are used for playing activities, namely producing sound. The instrument is played by hitting it. It is held on the thigh, and the hands are placed like embracing.	There are four tone colors or sound colors produced: "Tung," symbolized as "T;" "Tak," symbolized as "t;" "Dum," symbolized as "d;" and "Pak," symbolized as "P."	A mathematical concept in the color symbolization of the sound produced by Bebano is variableization.
	In playing activities, 5 types of Bebano musical instrument rhythms have been standardized: the rhythms of Langgam, Inang, Zapin, Joget and Patam - patam.	Langgam rhythm $\|\|T\ t\ t\ t\|\overline{td}\ .\ \overline{P}\ \overline{tt}\ .\ \overline{P}.\ \overline{d}\|\|$, Inang rhythm $\|\|\overline{T}\ \ \overline{t}\ \overline{t}\ \ \overline{t}\ \overline{d}\ \ \overline{P}\|\|$, Zapin rhythm $\|\|T\ \overline{t}.\ .\overline{t}\ \overline{td}\ .\ \overline{P}\|\|$, Joget rhythm $\|\|T\ d\ P\|\|$ and Patam – patam rhythm $\|\|T\ t\ d\ P\|\|$	A mathematical concept in the Bebano musical instrument's rhythm is called combination.
Count	The activity of counting is found in the bars of a rhythm. The arrangement of sound colors contained in the bar produces a standardized rhythm.	In 1 bar, there is a beat value of $4/4$, meaning there are 4 beats inside. Each beat of the bar has a value of $1/4$. If the sound color in 1 beat is 2 strokes, it has a value of $1/8$.	A bar is a mathematical concept in the rhythm of a musical instrument. Bebano is a fractional number.

Based on the research results, this study's domain is counting and playing. This information was obtained from three data collection techniques: observation, documentation, and interviews.

Playing

After observation, the data obtained is analyzed, called domain analysis. Domain analysis is carried out to obtain overall data from the research so that researchers achieve their research objectives. Relevant research was conducted Prananda (2020) with the title Exploration Study of Ethnomathematics on Sape 'Musical Instruments in the Culture of the Kalimantan Dayak Tribe. This study found that the same musical instrument can be used as mathematics learning material on rectangular, triangular, and circular materials. The similarity

between the researcher and the researcher is the research subject, namely the exploration of mathematics in an art. However, the object studied and the material obtained makes a difference from the research.

In playing activities, researchers learn how to play *Bebano* musical instruments played by sources and tried directly by researchers. *Bebano* is played by being hit in a position placed on the player's thigh, and the player's hands are positioned like embracing. The two palms hitting the *Bebano* instrument's skin will produce a sound.

The informant emphasized that Bebano musical instruments can play several patterns, including *Langgam* / Humming Punch, *Mak Inang* Punch, *Joget Punch*, *Zapin* Punch, and *Patam-Patam* Punch. These patterns have different rhythms. For example, the *Zapin* punch with the pattern || T t..t t d P || will have a different rhythm from the *Joget* punch. The application of the movement is also different. The *Zapin* rhythm is more assertive, while the *Joget* rhythm is more relaxed.

Counting

Each region has a different historical and cultural background and has its way of solving the problems faced (Mu'asaroh, 2021). Many forms of culture, including music, are preserved in the Riau Islands region. In this study, researchers explored the Bebano musical instrument. After playing activities, the domain obtained from exploratory research on the rhythm pattern of the *Bebano* musical instrument is counting activities. The mathematics material found from counting activities is variablizing in lamenter algebra and fractional number forms. Fractions are found in the value of each beat and stroke in the rhythm produced by the *Bebano* musical instrument.

The same research was also conducted by Mu'asaroh (2021) with the same research object, namely musical instruments. However, her conducted a research on Rebana musical instruments. In her research, Mu'asaroh found that the mathematics material in the object of her research was three-dimensional geometry. Meanwhile, the researcher researched *Bebano* musical instruments because there are many unique things in them.

From some of the relevant research above, we can conclude that art has many activities related to mathematics, not only in art but also in everyday life. Art can be a stimulus in learning at school so that students and the community can become more familiar with the mathematical concepts that exist in the surrounding environment.

The mathematical concept contained in the rhythm pattern of the *Bebano* musical instrument in playing activities is the concept of variablizing the color of the sound produced when playing the *Bebano* musical instrument. Four colors of sound can be produced on the *Bebano* musical instrument, namely the *Tung* sound with the symbol T, then the *tak* sound with the symbol t, then the *dung* sound with the symbol d, and *Pak* with the symbol P. This activity is carried out to facilitate writing in notation on the rhythm of the *Bebano* musical instrument. This is the same as the daily phenomenon symbolized by variables x, y, and z when studying elementary algebra.

In playing activities, different colors of sound are produced by *Bebano* musical instruments, which are then combined to create a rhythm that has characteristics in each of these rhythms. Five rhythms have been standardized on the *Bebano* musical instrument: the *Langgam* / Humming rhythm, *Mak Inang* rhythm, *Joget* rhythm, *Zapin* rhythm, and *Patam-Patam* rhythm. The math material relevant to the following activity is a combination.

The next activity is counting activity. When playing *Bebano* musical instruments there is a counting activity, namely counting the beats and strokes on each bar contained in each rhythm. 1 bar has a value of $^4/_4$, meaning there are 4 beats. Each beat has a value of $^1/_4$. If there are more than 4 strokes in 1 bar, it means $^1/_8$

strokes in that bar. Which means this activity contains the concept of fractions. After this study, we can find out that in the rhythm pattern of the *Bebano* musical instrument, there are mathematical activities and mathematical concepts that can be used as learning resources. The results of this study can also be used as teaching materials that are useful for students to increase their understanding of mathematical concepts through ethnomathematics-based mathematics learning.

IV. Conclusion

In this research, the object is the *Bebano* musical instrument with a focus on the rhythmic patterns contained in it. The type of research is the qualitative and ethnographic approach. Researchers conducted 3 data collection techniques: observation, interviews, and documentation. To obtain valid data, researchers conducted a domain analysis so that the domain of the data obtained could be found. Domain analysis in this study is the activity of playing and counting. However, domain analysis is not enough to make the data obtained to achieve the research objectives. Researchers need to conduct taxonomic analysis so that all data can be narrowed down and the intended research objectives can be found.

The researcher obtained data in the form of answers from interviews conducted on Penyengat Island. After being analyzed, it was found that the rhythm pattern of the *Bebano* musical instrument used the mathematical concept of counting. The last analysis carried out is cultural theme analysis. This analysis was carried out to find the "red thread" of the research. The "red thread" referred to here is the concept or mathematical material contained in the rhythm pattern of the Bebano musical instrument. In playing activities, mathematical material is found, namely variablizing and combination. While in the counting activity, mathematical material is found, namely the form of fractional numbers. So that the problem formulation of this research is answered to find out the form of ethnomathematics in the rhythm pattern of the Bebano musical instrument as mathematics learning material.

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