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## **ETHNOMATHEMATICAL REVIEW OF LUWUNESE TRADITIONAL VALUES IN SOUTH CELEBES INDONESIA**

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### **Abstract**

*Indonesia is one of the countries with a high level of diversity in the world. It makes Indonesia to be rich of culture and has many traditional values that must be upheld. Traditional values are part of the cultural identity possessed by a society group, not exception for Luwunese, one of the cultural groups in South Celebes Indonesia. The traditional values of Luwunese such as Getteng, Lempu, Tongeng, and Adele are four of fundamental characters that must be preserved and passed on to each next generation. One effort in preserving these aspects of culture is through education. Education is seen as the best effort in inheriting values and culture because it is the preparation process of the younger generation in living life and achieving life goals effectively and efficiently. Both of education and culture cannot be separated, so that every learning in school is expected to be integrated with culture. In mathematics learning, ethno mathematics is one of the learning approaches that links mathematics and local culture. Through this approach, learning mathematics in schools is expected to be able to internalize traditional values that apply in the local society. This research is a qualitative research in the form of a literature study with*

*an ethnographic approach to uncover the traditional value philosophy of the Luwunese and to give some school mathematics topics related to it, such as number, algebraic equation, geometry, sequence, and others. This study aims as a form of effort to preserve traditional values to students and preventive efforts of an opportunities for pluralistic nation disintegration.*

## **Keywords**

Ethnomathematics, Traditional Values, Luwunese, Mathematics Learning

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## **1. Introduction**

Indonesia is one of the countries with a high level of diversity in the world, ranging from ethnicity, language, and religious beliefs. This diversity shapes Indonesia's national identity into a pluralistic nation. A nation that must be willing and able to live in the midst of differences. A nation that should not worry about differences and are willing to consider these differences as a strength, because plurality of society is a necessity in Indonesia.

The principle "Bhinneka Tunggal Ika" - which means that although it is different but integrated in unity - is the slogan that binds the unity and unity of the nation in the reality of difference. This principle can maintain the solidarity of the Indonesian people in a harmony of religion, nation and state, by providing inspirational values that are peaceful so as to avoid disintegrations and negative provocations from inside and outside.

One thing that is most visible from the social conditions in Indonesia is cultural diversity. Studies related to this are often referred to as the multicultural concept, namely the concept of differences between one culture and another culture in a community. Multiculturalism is wisdom to see cultural diversity as a fundamental reality in social life (Mahfud, 2005). Multiculturalism is a cultural foundation associated with the achievement of civilization which is essential for the realization of a civilized democracy and democratic civilization (Azra, 2006).

Furthermore, the achievement of civilization as a cultural foundation is manifested in the form of character education, which in recent years has become a crucial issue in the national education and development mission system. The government has placed character education as the first mission in national development as written in the 2005-2025 National Long Term Development Plan (Sekretariat Negara RI, 2007). This shows the seriousness of the government in carrying out state development through the development of national character. One effort in realizing this is to return to traditional noble values that contain the teachings of the goodness of the nation's predecessors. Indonesia as a country rich in culture has fundamental values that are

taught and passed on to future generations. Because since long ago it has developed in a limited scale, these values are called traditional values.

The Luwu community as a cultural group in South Sulawesi has fundamental values that must be the principle of life by community members. The traditional values possessed by the Luwu community must also be taught to the younger generation. Education is seen as the best effort in inheriting values and culture. Education is a process in which a nation prepares its young generation to carry out life and achieve life goals effectively and efficiently (Azra, 2002). Therefore, every learning that takes place in the school does not only emphasize the intelligence aspects of the mind, but also the moral intelligence of the students.

In this paper, the author intends to examine the traditional values prevailing in Luwu society and relate them to examples of mathematical topics taught in schools. An overview of a culture from a mathematical point of view is known as ethnomathematics. Ethnomatematics is the process of presenting mathematical ideas possessed by traditional societies (Ascher, 1991) that refer to various forms of social activity in a cultural group and can be observed as a form of mathematical activity (Presmeg, 1998). Ethnomatematics research aims to make mathematics not far from people's lives, as a form of effort in preserving traditional culture, and in the form of prevention of the occurrence of division in a pluralistic nation (Devkota, 2013). In Indonesia, ethnomatematics research is still one of the trends in mathematics education research.

## **2. Reseach Issues**

The issues in this research are:

- a) How is the history, conditions, and Luwunese life nowadays?
- b) How is the Luwunese traditional values from an ethnomathematic perspective?

## **3. Method**

This research is a qualitative research, namely research that is oriented on natural phenomena, serves to interpret the actual phenomena that occur in the observation environment (Walidin, 2015). The approach used is an ethnographic approach, namely an approach that explores the history and culture of the society that is being observed (Windiani & Nurul, 2016). The focus of this research problem is to explore ethnomathematically traditional values of Luwu community. The ethnomathematical review is more specific in revealing the meaning of the

traditional values of the Luwu community and providing examples of the topics of school mathematics associated with it. Broadly speaking, the steps taken in this study are as follows:

(a) Formulating the focus of the research problem;

The author determines the research topic and limits the discussion.

(b) Collecting data (literature studies);

The author collects data through library research in regional libraries.

(c) Data Analysis;

The author elaborates the data and determines the results of the study.

(d) Compile reports according to the prescribed format;

The author reports the results of research according to the specified format.

#### **4. Result and Discussion**

History is a series of events that are built by rationality and irrationality, in which humans and their social environment dialectically and build their own awareness in forming a life order. Christopher Lloyd argues that history is the result of interaction between individuals or groups with social structures. History is a human or group effort that has succeeded in changing its social structure. In addition, there is also the idea of Hegel which explains that history is a process that is experienced by mankind towards certain directed goals. In the process, there are two factors that greatly influence the direction of history, namely material factors driven by science and spiritual factors. These two factors take place and influence each other with other factors in formulating the direction of history. This historical process continues in the spaces of awareness of each individual with his natural and social environment (Fukuyama, 2001).

Observing Luwu from a historical and cultural perspective is an eccentric exploration that can lead to wonder. Luwu in the past was an autonomous region with a very broad influence and penetrated the joints of its people. This influence is still felt today and has had its own impact on human and cultural travel, especially in South Sulawesi, Indonesia. Luwu or commonly referred to as Luwu is a very influential region and the oldest kingdom in South Sulawesi. Luwu means language "earth" or "region", there is also another meaning that is "stretched out" to be spread and sprinkled with abundant natural wealth.

Luwu, which was once a kingdom, is located on the island of Sulawesi, precisely at the northern end of Bone Bay. The Luwu region began from Palopo to the south to the Wajo area, from Palopo to the north to the Malili area, then turned east to Kendari area. The central palace of the Kingdom of Luwu is located in the center of Palopo City. The palace was built by the Dutch government while still colonizing Indonesia around the 1920s. The Luwu Palace played a strategic role in controlling the vast royal territory, especially in regulating the strategy of resistance to the colonizers namely the Netherlands and Japan. Furthermore, after the proclamation of the independence of the Republic of Indonesia, the Luwu Kingdom automatically integrated into the Unitary State of the Republic of Indonesia, marked by the official statement of King Luwu held by Andi Djemma (Sarapang, 2019).



**Figure 1:** *Luwu Kingdom Palace*  
(<https://m.visitsulsel.id/city/palopo>)

Luwu as a large empire in the past has a variety of cultures that cannot be ignored. Culture is expressed in the form of material and non-material. From the perspective of nonmaterial culture, the great Luwu civilization at that time certainly did not escape the high appreciation of the community in upholding traditional local values. The application of these values is one reason for the realization of a civilization. Like other forms of culture, the traditional values of the Luwu people are also very important to remain sustainable. The struggle of the warriors and the Luwu community in the past was indeed very heavy, but the struggle of the current generation was equally heavy. This is because the rapid development in the field of science and technology in the era of globalization has made Luwu people have to have certain creativity and approaches in the preservation of their traditional values to be passed on to the younger generation.

Education is a form of best effort in inheriting and preserving values and culture, because at the same time as the preparation process of the younger generation in living life and achieving life goals effectively and efficiently. The alignment of these objectives causes the two aspects (education and culture) to become two things that cannot be separated. The concept of integration is formulated so that every learning in the school is expected to be integrated with culture, so that in mathematics learning, an ethnomathematical approach emerges, namely a learning approach that links mathematics and local culture. Through this approach, learning mathematics in schools is expected to be able to internalize traditional values that apply in local communities as a form of cultural preservation efforts to students and preventive efforts on opportunities for disintegration in a pluralistic nation.

Mathematics as a fundamental knowledge must be found by those who have received an education, from elementary school to college. Mathematics is a scientific discipline about how to think and process logic quantitatively and qualitatively. In the study of mathematics at school, various kinds of concepts are divided more specifically into the fields of algebra, analysis, statistics, combinatorics, and geometry. When examined further, the educational curriculum imposed by the current government that focuses on character education makes mathematics learning in schools not only limited to the mission of educating the left brain, but also integrated with the teaching of ethical and moral values. In other words, the study of abstractions about symbols, numbers, builds, and patterns in mathematical exploration turned out to contain messages of kindness that were in harmony with the traditional noble values of the Luwu people that need to be preserved, such as *Getteng*, *Lempu'*, *Tongeng*, and *Adele'*.

In the concept of logic, as one of the content of mathematics in high school, the truth value of a statement is certain, whether right or wrong, and cannot be of value to both. Consider the following statement:

"Even numbers divide by two"

Strictly speaking, the above statement can be stated as a true statement, and numbers that are not divisible by two are also expressly said to be not even numbers. The value of assertiveness taught in mathematics is the character identity of Luwunese, known as *Getteng*, which is a bold and confident attitude expressing what is right and what is wrong, what is desired and unwanted clearly, real, and definitely, regardless the condition or to whom it was conveyed.

In the operation of simple algebraic forms, the topic of linear similarity is an abstract form of the rules of honesty in mathematics. For example:

$$"3x + 2x = 5x"$$

Note that the result of operation  $(5x)$  is bound to the values that are operated, cannot be reduced or added. This can teach students about the value of honesty as a supporter of system stabilization, not only in the universe of mathematics but also must be implemented more widely in real life. In Luwunese, this value is referred as *Lempu'*.

Furthermore, *Lempu'* is also related to value of *Tongeng* (true behavior). Learning mathematics in schools is done by using theorems, axioms, postulates, definitions, theorems, and lemmas that have been verified by mathematicians. For example, in calculating the length of the sides of a right triangle using Pythagoras's Theorem. Since long ago, the Pythagorean Theorem was taught in the world of education because it has been proven to be true and universally valid. Furthermore, on the basis of this truth, Pythagoras's theorem can be used to solve various problems of geometry. In this case, mathematics gives an implied message to us that the truth of an issue must be proven first, if it turns out that it is true, it must also be considered again whether it can be used and disseminated or not.

Beside that, mathematics learning such as one variable linear equations, also contains a moral message. For example when an equation is known:

$$"5x = 10"$$

to determine the value of  $x$ , both side must be divided by 5 so that it is obtained  $x = 2$ . Taking into account the working procedure, if the left side is divided by 5, the right side also must be divided by 5. Simply stated, the value of justice is taught in mathematics. More broadly in the social system, the value of justice in question is a view of equality for every human being, does not discriminate on grounds of identity or worldly privileges, and gives the right of everyone according to the level of their needs. This is the value of *Adele'* which must be maintained as hard as possible by the people of Luwu, because justice is the key to humanity to counteract arbitrariness.

The above description illustrates that mathematics learning can be in line with the character development of the young generation. Education is the best effort in inheriting character and values of local wisdom. Curriculum 2013 currently applied in Indonesia is an effort to integrate cultural values in learning process, including mathematics learning. Education

must not only focus on teaching the truth, but also must focus on teaching goodness. This research is more about offering ideas and can be further developed on other occasions.

## **5. Conclusion**

The current Indonesian education curriculum that focuses on character education makes mathematics learning in schools not limited to the mission of educating the left brain, but also integrated with teaching ethical and moral values. In other words, the study of abstractions about symbols, numbers, builds, and patterns in mathematical exploration turned out to contain messages of kindness that were in harmony with the traditional noble values of the Luwu people that need to be preserved, such as *Getteng*, *Lempu'*, *Tongeng*, and *Adele'*. In mathematics learning, the ethnomathematical approach is one of the learning approaches that links mathematics and local culture. Through this approach, learning mathematics in schools is expected to be able to internalize traditional values that apply in the local community as a form of effort to preserve traditional values to students and preventive efforts on opportunities for pluralistic nation disintegration.

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