

## CONCEPTUAL LEARNING MODEL WITH MARIND CULTURE BASED FOR ELEMENTARY SCHOOL IN KAIBURSE MERAUKE

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### Abstrak

Setiap daerah memiliki warisan budaya yang telah diwariskan secara turun-temurun, bahkan di daerah-daerah dalam satu negara memiliki berbagai macam warisan budaya. Salah satu daerah di Indonesia yang memiliki cagar budaya adalah Kabupaten Merauke yang didiami oleh Suku Malind. Tujuan penelitian ini untuk mengaplikasikan pengalaman nyata yang terdapat pada suku Malind (Papua) sebagai bahan pengembangan model pembelajaran yang dapat diterapkan di wilayah Papua Selatan. Penelitian ini dilakukan di sebuah desa yang terletak di Kaiburse Kabupaten Merauke yang didiami oleh masyarakat Marind untuk melihat aktivitas masyarakat. Metode yang digunakan dalam penelitian ini merupakan penelitian deskriptif dengan pendekatan kualitatif. Pendekatan yang digunakan untuk menganalisis secara mendalam segala bentuk nilai warisan budaya yang terdapat pada masyarakat adat suku Marind yang mendiami Desa Kaiburse. Pengalaman nyata yang diperoleh berdasarkan hasil observasi, wawancara di lapangan dan dokumentasi selama penelitian yang kemudian dilakukan adalah triangulasi data. Penelitian ini menghasilkan penjelasan tentang kearifan lokal dalam materi matematika. Penelitian ini dapat menjadi sumber utama pemerintah untuk mengintegrasikan kearifan lokal dalam pembelajaran di sekolah serta dapat meningkatkan kemampuan pemahaman siswa terhadap matematika.

**Kata kunci:** Pembelajaran Konsep; Budaya Marind ; Kearifan Lokal

### Abstract

Each region has a cultural heritage that has been passed down from generation to generation, even regions within one country have various kinds of cultural heritage. One of the areas in Indonesia that has cultural heritage is Merauke Regency which is inhabited by the Malind Tribe. The purpose of this study is to apply the real experience found in the Malind tribe (Papua) as material for developing learning models that can be applied in the South Papua region. This research was conducted in a village located in Kaiburse, Merauke Regency which is inhabited by the Marind community to observe community activities. The method used in this study is a descriptive research with a qualitative approach. The approach used is to analyze in depth all forms of cultural heritage values found in the indigenous people of the Marind tribe who live in Kaiburse Village. The real experience gained based on the results of observations, field interviews and documentation during the research which was then carried out was data triangulation. This research produces an explanation of local wisdom in mathematics. This research can be the government's main source for integrating local wisdom in learning in schools and can improve students' understanding of mathematics.

**Keywords:** Cultural heritage; Curriculum; Experiences, Malind Tribe; Tangibles



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## PENDAHULUAN

Each region has a cultural heritage that has been passed down for generations, even in areas that are in one country have a variety of cultural heritage (Al taweraqi & King, 2022). One of the areas in Indonesia that has a cultural heritage is Merauke Regency which is inhabited by the Malind Tribe. Merauke Regency, which is located in eastern Indonesia, causes this area to be less noticed and studied more deeply (Kecamatan Kalitidu dalam Angka, 2020). This situation causes there are still many people in this area who cannot read, write or count. The eradication of illiteracy and the application of Papuan contextual curriculum education is one of the president's instructions in the field of education about accelerating welfare development in Papua Province, one of which is Merauke Regency located in the south of Papua. The Malinds are highly dependent on natural resources without replanting (Lee et al., 2022).

As one of the ways that the government can do this is to develop a value-based learning model – the cultural heritage values of the indigenous people who inhabit Merauke Regency. The values of cultural heritage owned by the community can be developed through a preliminary research to obtain in-depth information related to local wisdom that can be applied in mathematics learning (Qin et al., 2022). Learning mathematics is still considered a lesson that is difficult for them to understand (Suastika et al., 2021). This is due to the lack of contextual application to mathematics lessons. In fact, mathematics is used every day in their daily lives. The daily life of people who hunt, farm or fishermen use mathematical applications in it (Courtney et al.,

2022). There is a gap between the school's ability to translate teaching materials into learning and connect with the habits of the local community (Winarni et al., 2021). Through real experience, the value of local wisdom values of the Malind tribal community, is expected to be the initial stage to apply it in mathematics learning (Cahyanovianty & Wahidin, 2021).

This research is expected to be the basis for further research as well as part of the preservation of the local wisdom of the indigenous Malind tribe which has begun to be forgotten on its own land. In addition, it is hoped that this research will become a reference for the government in compiling the Papuan regional education curriculum.

As students who live in areas near the border, students in Merauke are also required to have better mathematical competence than students in areas that are not visited by many foreign tourists. Because, as the last destination, everyone is expected to be able to provide appropriate information to guests and foreigners about everything in Merauke, so as not to lose the opportunity to get a job, at the border, public service agencies and government agencies related to tourism. To be able to provide this information, it requires Merauke's mathematical skills and cultural knowledge, which must be done as early as possible (Parwati, 2016).

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To achieve this, the Merauke district government since 1994 has implemented a policy of training mathematics skills to students from the first grade, as a compulsory lesson in Merauke. This government policy strongly supports students' ability to learn mathematics and understand the concept of learning mathematics. Mathematics learning can also be linked to the culture of the meraka.

There are several factors that cause this not to be achieved, namely first, the curriculum developed (1) is not in accordance with the context of the Merauke community, (2) until now it has never been tested by experts and empirical tests so it is not clear the level of efficiency and effectiveness. (3) has not been reviewed for 14 years, (4) has not been equipped with a clear description, especially the expected standards of competence and basic competencies and assessment techniques suitable for mathematics lessons; second, the absence of mathematics learning textbooks that include cultural elements of Merauke students so that they are easier to understand because they are in accordance with the cultural background and knowledge of students; third

Context (not only in the classroom) and not always necessarily under the supervision of the teacher. In other words, the learning provided in school must be able to give encouragement to students to be able to continue and develop their learning process outside the classroom by using

the mathematics they have learned in real life. This mathematical competence at the initial level is very important and strategic because it becomes the basis of learning at the next level and errors that may occur due to deviations in the learning process will carry over a lifetime and affect the subsequent learning of students.

Understanding the importance of learning mathematics for children in Merauke and realizing the unavailability of learning models that can be used by teachers as guidelines in the learning process, it is urgent to conduct research that intends to develop a conceptual learning model based on the culture of the Marind community. It is hoped that this research will provide significant benefits not only for teachers but also for decision makers so that mathematics learning can take place correctly and professionally

## **METHOD**

This research is a descriptive research with a qualitative approach. Researchers in this study continue to actively participate in the field by recording and analyzing and representing all findings found in the field. Qualitative descriptive research is aimed at describing and describing existing phenomena, both natural and human engineering, which pay more attention to the characteristics, qualities, interrelationships between activities. The subjects of the study are the parties who are used as samples in a study. This research was conducted on 40 students around Kaiburse village along with the community. The location of this study is in Malind District, Kaiburse Village, Merauke Regency. This approach is used to analyze in depth all forms of cultural heritage values found in the indigenous people

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of the Marind tribe who inhabit Kaiburse Village. The material deepened in this research is a circle. The data analysis technique used is a qualitative analysis technique, data is obtained from various sources, using triangulation techniques, and is carried out continuously until the data. Data collection techniques are carried out by observing the learning process carried out by the teacher and then conducting direct interviews. The data collection techniques used are observation, interviews and literature / documentation studies. Meanwhile, the selection of informants uses purposive sampling techniques. This research instrument is in the form of observation sheets, interviews and validated mathematical materials. Data collection was carried out by conducting in-depth interviews with the indigenous Marind community. It was concluded that the results showed that social culture was very influential on the education system, both in the traditional and modern eras. Furthermore, the data is analyzed by representing the results of surveys (interviews) that are compared with mathematical scientific explanations. Interviews are used as a data collection technique to find problems that must be studied and also if researchers want to know things from informants in more depth

## **RESULT AND DISCUSSION**

In conducting the study, researchers explored the indigenous cultural heritage of the Malind tribal people. The collected data develops in society. Based on the data that has been collected, it was found that some original science is growing and developing in society. The mathematical material is then

interpreted by referring to the results of in-depth observations related to the culture of the Malinds by following the rules of the scientific method. In order for the results obtained in this study to be valid, data validation is carried out through a data triangulation process. The data obtained from the Malind tribe community was then compared with data obtained from literature studies and interviews with Malind cultural activists from the Merauke Education and Culture Office. The data in question is data from direct observation and identification

### **Cultural Heritage in Learning**

Cultural heritage is a cultural relic in a certain tribe that has certain historical value, technology, science, and art. The cultural heritage of a certain area is owned by the area and has developed from generation to generation and in a tradition. Education is one part of culture. The world of education is practically inseparable from cultural values. Education is a process of cultivation, is carried out by instilling values and norms in an order of national and state life, making humans into virtuous, noble and cultured creatures. No culture means the same thing as food that looks delicious yet tasteless. Philosophically, education comes from a deep-rooted human culture.

Culture is the closest part of human life to daily life, and almost every human activity is inseparable from cultural elements (Radwan, 2022). Culture as a truth that no human being lives in society, which is not based on the cultural values that that society recognizes. Cultural heritage is used as a basis for giving meaning to a concept and meaning in communication between members of that community (Wu et al.,

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2022). The socio-cultural system is a totality of values, social systems, human practices, embodied in the philosophical outlook of life of the State in various aspects of people's lives

### **Cultural Heritage, One of which is the Arrow**

Arrow is one of the cultural heritages that is still developing today and has become one of the sports. Archery itself has been developing since the Paleolithic period of 10,000-9,000 BC. At that time humans used arrows to hunt animals to maintain their lives. Along with the passage of time in the royal era, archery changed from a hunting tool to one of the weapons in warfare. It is said that almost all continents use arrows to fight. Along with the development of technology. Arrows are no longer used for weapons in warfare, arrows today have shifted to a sport of precision.

Arrows are one of the cultural heritages of the Malinds where arrows are used for hunting. Bows and arrows are one of the traditional weapons of West Papua used to hunt wild boars and other animals. Bows and arrows are also Papuan weapons that are always carried with spears. Another use of arrows is as a tool of war. The difference lies in the material used for the arrowhead. For the purpose of hunting animals is to use bamboo iron. On the other hand, indigenous Papuans have a rule that the spears used when going to war are made of animal bones. Arrows are also used as home decorations in some parts of Papua, such as Irian Jaya, Wamena, and Kururu. The arrows in this area are only for collection at home.

The collection of bows and arrows should not be carelessly placed on the walls of the house in honor of the culture of arrows (Das et al., 2022).

Collecting bows and arrows is already part of society. So finding a place to sell darts is not difficult. Usually darts can be traded in the market for collection purposes or ordered directly from arrow craftsmen. In modern times, this traditional Papuan weapon has undergone many developments and changes for modernization. The result is archery with the same technology and tools. What distinguishes is the purpose of such activities. Archery is for recreation, and traditional Papuan bows and arrows are a means of survival

### **The Concept of Arrows on the Matter of a Circle Bowstring**

The bow is a traditional Papuan weapon used for hunting which is one of the livelihood systems of the Papuan people. In addition, the Bow is one of the weapons used to fight to defend or seize territory. This can be seen in the life of the Papuan people in ancient times, in mountainous areas, for example the Dani Tribe which is a warlike tribe in other words, war is part of community life. War is considered a means of showing achievements and gaining prestige in society.

There are several materials used by Papuans to make bows, including; Marind Anim people make bows using Bamboo (e.g.) and bamboo ropes (dumbil). In making a bow, usually the sipembuat will do a prayer (ngutni) which is to ask the powerful so that later in hunting can get a lot of reseki. The bow material made by the Dani tribe is made from the trunks of young pine trees, and the strings are from rattan while the Mairasi tribe uses nibun trunks.

This nibun tree is divided and then taken by a hard outer trunk then shaped into an arc while the bowstring is from rattan. Game animals are usually wild boars, cassowaries,

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kangaroos, deer, cuscuses. The length of this arc can reach 1 to 2 meters depending on the height of the user. Bows are still used by the Papuan people until now, for hunting, but for mountain peoples until now they are still used in wars between tribes. Even though bows have developed in Papuan society, many artists make miniature bows equipped with arrows to be commercialized, bows are used in traditional dances in the context of cultural parties or art performances in Papua.

One of the elements of a circle is a bowstring, a straight line that is contained in a circle and connects two points on a circle called an arc rope. The bowstring that goes through the center and through the center of the circle is named after the diameter of the circle. Figure 1 shows the diameter on a circle

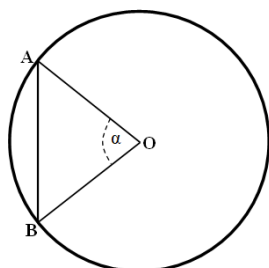


Figure 1. Circle bowstring

The straight line AB in figure 1 that does not pass through the center point is called a circular chord. The bowstring functions as a propellant so that it can shoot arrows where the bowstring is pulled and released so that it can shoot arrows to produce energy.

### Learning Through the Application of Cultural Heritage

Cultural heritage that will be applied through learning media will be an activity that will be applied in learning (Turkcan, 2019; Zekioglu & Kalkan, 2019). Cultural heritage is

applied through example, context in the application of principles in a subject. The uniqueness of the form of learning with culture is that students know and understand culture through the media and methods applied by the teacher during learning. Culture is not introduced specifically as in the form of learning about cultural heritage. Physical form of culture, teachers also use cultural forms in ideas and activities as learning media. Cultural forms are ideologically used by teachers when asking questions with students both in conditioning, meaning creation, and consolidation activities. 2) Learning through Culture

Learning through culture is a method that provides opportunities for students to demonstrate the achievement of understanding or meaning created in a subject through a variety of cultural embodiments (Sukadari & Huda, 2021; Zubaidah Amir et al., 2021). The uniqueness of the form of learning through culture is that students have the freedom to express their ideas through various cultural forms, such as images, stories, poems, etc. Of course, that freedom is still within the scope of the material discussed together with the teacher. In learning through culture, the teacher provides opportunities for students to explore, create, and the results will be appreciated by the teacher whether the students understand the concept of the material being taught.

### Application of Cultural heritage in Learning Tools

The tangible cultural heritage in this study is a touchable object that is the work of humans and is made to meet their needs. Physical cultural heritage (tangible heritage) is classified into immovable cultural heritage and movable cultural heritage (Suastika et

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al., 2021; Zhabykbayeva et al., 2021). Immoveable cultural heritage is usually in the open and consists of: sites, historical places, land and water landscapes, historical buildings, and statues of heroes. Mobile cultural heritage is usually indoors and consists of: cultural heritage objects, works of art, archives, documents, and photographs, printed papers, audiovisual in the form of tapes, videos, and films.

Learning using real-world contexts with abstract material will be easier for students to understand (Nguyen, 2019; Suastika et al., 2021; Tinja et al., 2017). But in reality, the development of learning tools based on Indonesian cultural heritage is lacking so that the use of cultural heritage contexts has not been maximized which results in a learning process that can eliminate the function of the cultural context itself.

## CONCLUSION

First, the learning carried out with the application of Malind's cultural heritage can provide new experiences. This concrete experience can be developed continuously. Second, the cultural heritage that is applied can be used as a guide for the basis of compiling a curriculum in accordance with the Merauke area. Further research to be applied in other areas with a wider community.

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