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Research Article

The Ethnomathematics in Enhancing Communication Skills among Elementary School Students

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ABSTRACT

Learning mathematics in primary schools often faces challenges in making abstract concepts easier for students to understand. One approach that can address this challenge is ethnomathematics, which integrates elements of local culture into mathematics learning. This research aims to explore how ethnomathematics can be used to improve mathematical communication understanding in primary school students. The research method used is to use a literature review of various sources that examine the importance of training primary school children's communication in mathematics. Ethnomathematics can improve students' understanding of mathematical concepts through a cultural context that is familiar to them. This approach is also effective in training mathematical communication, where students learn to explain their thought processes, discuss with peers, and solve mathematical problems collaboratively. Students who learnt with the ethnomathematics approach showed improved mathematical communication skills, both orally and in writing. The importance of applying ethnomathematics lies in its ability to make mathematics more interesting and meaningful to students, thus increasing their motivation and active participation in learning. In addition, ethnomathematics also encourages the development of critical and creative thinking skills, which are essential in mathematical communication. Although its implementation requires teacher creativity and preparedness, these findings confirm that ethnomathematics is an important and effective approach in mathematics education in primary schools.

Keywords: Ethnomathematics; Mathematics Learning; Communication Skills: Elementary School; Students Learning

1. INTRODUCTION

One way a person can develop themselves to be better is by learning (Kencanawaty et al., 2020). In short, education is the process of acquiring the ability to understand, comprehend and think critically. Education drives social progress and human civilisation. Therefore, structured and conceptual knowledge is instilled through education. Primary education (SD/MI), secondary education (SMP/MT), tertiary education (SMA/MA) and higher education are formal education institutions or levels that are responsible for carrying out this educational function. Learning mathematics is part of the education provided by institutions. Maths is an important part of the development of science and technology. Maths plays an important role in everyday life, such as in calculating, displaying, collecting, and processing data. The need for mathematics increases over time. because mathematics is a science that studies social events (Zulaekhoh & Hakim, 2021).

The purpose of mathematics education at the elementary school level is for students to understand the basic concepts of mathematics early on, so that it is easier for them to solve problems related to mathematics because mathematics has many interrelated concepts. The Principles and Standards for School Mathematics, published by the National Council of Teachers of Mathematics (NCTM), is a very important publication that will have a major impact on the transformation of mathematics education. According to the Principles (2000), students should have five mathematical skills: problem solving, communication, connection, reasoning, and representation. Thus, mathematical communication skills are included in the five NCTM skills. This means that mathematical communication ability is one of the abilities that students must have.

Communication can be defined as notification, talk, conversation, exchange of thoughts, or bonding. Communication can also be defined as a two-way process that produces understanding and information so that individuals can form interactions with each other by influencing each other, either intentionally or unintentionally. In accordance with Endang

(Sutirman, 2013), Riyanto (2002), Shannon and Weaver (Wiryanto, 2005), and Abdulhak (Ansari, 2009). Communication has various types. The most common are linear or one-way communication (one-way communication), relational or two-way communication, referred to as the "cybernetics paradigm," and multi-directional convergent communication (Ansari, 2009).

There are three types of communication: the receiver of the message only listens to the sender's message, and the relationship is only one-way, which means linear communication; interaction between each other. The sending and receiving of the message, however, is highly dependent on experience: the message sent determines whether the sender of the message intends for the receiver to receive it. If the content of the message is not accessible to the experience/knowledge of the receiver, it will affect the intended message. Communication is holistic, moving flexibly towards mutually understood goals or interests between receiver and sender, and towards a collective and ongoing understanding of the message. Baroody (in Umar, 2012) argues that communication in mathematics learning needs to be the focus of attention for two important reasons, namely (1) mathematics as a language; mathematics is not only a tool to help think, a tool to find patterns or solve problems, but mathematics is also "a valuable tool for communicating various ideas clearly, accurately, and successfully", and (2) mathematics learning as a social medium. Activity; as a social activity in mathematics learning, interaction between students and communication between teachers and students are important components in "developing children's mathematical potential". Peressini and Bassett (in Izzati & Surayadi, 2010) also discuss the importance of mathematical communication. They argue that without mathematical communication, we would not have information, data and facts about students' understanding as they engage in the process and application of mathematics. This means that mathematical communication helps teachers understand students' ability to explain and express their understanding of the mathematical concepts and processes learnt. This is related to the findings of Handayani, Fitriza, and Jamaan et al (Izzati & Suryadi, 2010) showing that mathematical communication skills are still a weak point in student mathematics learning. If students are questioned, they often respond by bowing their heads or looking at their friends sitting next to them. They lack confidence in expressing their ideas for fear of making mistakes and being laughed at by their friends.

Practices found in the field are still many teachers who use expository learning models using lecture and question and answer methods. This makes students passive, so that student learning outcomes are low. Ulya (2017) states that mathematics learning that occurs in the field has not been able to make students understand and apply concepts to solve problems in everyday life. Activities between students are lacking, so the behaviour related to communicating ideas or ideas of thought is still very lacking. This supports the lack of student communication skills. In general, communication is defined as a way to convey a message to the recipient of the message to inform, opinion, or behaviour either verbally or indirectly through the media (Susanto, 2016). The definition of communication is also expressed by Ansari (2016) that communication is a process where individuals convey something verbally to others with the aim of changing the behaviour of the listener. Adler and Rodman in Iriantara (2013) reveal that in communication three characteristics can be found, namely: (1) communication is human; (2) communication is a process; (3) communication is symbolic. So it can be concluded that communication is a process of delivering messages that aim to provide information either directly or indirectly. Mathematical communication has seven indicators proposed by Lestari and Yudhanegara (2015) including: 1) connecting real objects, images, and diagrams into mathematical ideas; 2) explaining mathematical ideas, situations and relationships orally or in writing, with real objects, images, graphs, and algebra; 3) stating everyday events in mathematical language; 4) listening, discussing, and writing about mathematics; 5) reading with understanding a written mathematical presentation; 6) composing mathematical questions relevant to the problem situation; 7) making conjectures, compiling arguments, formulating definitions and generalisations.

In general, there are still many learning processes that are boring for students. Students are passive because learning is conventional, not providing meaning and concrete experience from the learning that is passed. Therefore, innovative models or methods and approaches are needed in order to realise the learning objectives. In order to realise students' learning motivation in learning mathematics so that an active learning atmosphere will arise, it is necessary to make meaning of the material that involves cultural aspects in everyday life. Culture is said to be the first source of education that a person sees when entering childhood because culture is formed from the place where a person is born which can shape the child's thinking patterns, causing the child to imitate or even preserve the culture of the place (Nurkhafifah, Pilokol, & Megawanti., 2021). Ethnomathematics-based learning prioritises culture as a medium for students to understand mathematics learning knowledge. The application of ethnomathematics as a learning approach will greatly allow the material studied to be related to the students' own culture, so that understanding of a material by students becomes easier because the material is directly related to their culture which is a daily activity in their environment. This is very helpful for teachers in the learning process to understand a material. Learning mathematics at school is the basis for the formation of an advanced society. In learning mathematics teachers should not only provide abstract symbols and

theorems that are boring for most students, because through the delivery of clear learning objectives and realistic approaches, mathematics will become students' daily friends. Learning mathematics that carries local wisdom is commonly called ethnomathematics. Ethnomathematics can be defined as a special way that a certain group performs mathematical activities. The form of ethnomathematics itself is the result of mathematical activities that are owned or developed in the group itself.

2. RESEARCH METHOD

This type of research used in this paper is a literature review type of study. Literature review is an important part of many types of research. A literature review is a summary analysis of a body of research on a particular research problem by describing, evaluating and clarifying known knowledge in a subject area (Easterby-Smith, Thorpe, & Jackson, 2015: 13). This research takes sources from books, journals, and research that has been done. These theoretical references can be used as a strong basis for understanding the importance of embedding basic mathematical numeracy concepts in primary school students.

3. RESULTS AND DISCUSSION

3.1 Understanding Ethnomathematics

Learning mathematics in primary school is one of the studies that is always interesting to raise because of the differences in characteristics, especially between the nature of children and the nature of mathematics. For this reason, a bridge is needed that can neutralise these differences or contradictions. Elementary-aged children are experiencing development in their level of thinking. This is because their stage of thinking is still not formal, in fact elementary students in the lower grades are not impossible some of them think still at the stage (pre-concrete). Another prominent benefit is that mathematics can shape the mindset of those who study it into a systematic, logical, critical mathematical mindset with full accuracy. Mathematics for elementary school students is useful for the benefit of living in their environment, to develop their mindset, and to study later sciences (Putra & Indriani, 2017).

Ethno or ethnic in language means culture, while mathematics in language means the science of numbers. the term ethnomathematics was introduced by Ubiratan D' Ambrosio around 1960. The word ethnomathematics comes from 3 words, namely "ethno" or "ethnic", mathematics or mathematics that applies to certain ethnicities, as well as the mathematical form of a cultural group that can be identified by symbols, jargon, codes, myths and even special ways of reasoning and concluding (Francols and Van Kerkhove, 2010; 127). While "mathema" is knowledge and behaviour about measurement, grouping, space time, comparison, inference and quantity. While "Tic" is the ways or techniques and methods that are accepted, transmitted, shared, and spread by certain individuals or groups. According to Marsigit in Richardo (2016), ethnomathematics is a science used to understand how mathematics is adapted from a culture and serves to express the relationship between culture and mathematics. So it can be said that ethnomathematics is a science in studying community culture, historical heritage related to mathematics and mathematics learning.

Gilmer in Nurliastuti (2018), ethnomathematics is mathematics applied by certain cultural groups such as certain tribes, labour groups, children from certain classes of society, professional classes, and so on. Ethnomathematics is actually not new, but has existed since the introduction of mathematics itself. Through ethnomathematics mathematical concepts can be studied in cultural practices. Through the application of ethnomathematics students will better understand how their culture is related to mathematics, and educators can instil the noble values of the nation's culture which has an impact on character education.

There are various definitions of ethnomathematics, where this diversity of definitions shows that ethnomathematics has a wide scope of study. Gerdes (2001:13-14) states that there are two levels of definition of ethnomathematics, namely at the first level, ethnomathematics is the mathematics of a particular cultural group or sub-culture. At the second level, ethnomathematics is the cultural anthropology of mathematics and mathematics education. In this case, ethnomathematics is the study of the mathematical ideas of non-mathematicians and the study of mathematical ideas in relation to culture and social life. A definition of ethnomathematics that accommodates cultural diversity was proposed by Hammond (2000). Ethnomathematics is the study of cultural aspects related to mathematics through a comparative study of mathematics in various cultures. Ethnomathematics studies mainly examine how mathematics is shaped and influenced by the values and beliefs of a group of people. The analysis of ethnomathematics studies is at the sociogenetic level, which is a historical and anthropological analysis. The study is conducted on the history of mathematics and the culture of the time. The analysis focuses on the relationship between the socio-political order and the acquisition of knowledge, namely

how the values of social groups influence certain forms of mathematics as a mediation in conveying ideas (Abreu, 2002). Mathematics in ethnomathematics studies cannot be separated from cultural values and its use as a language to convey ideas.

Ethnomathematics aims to propose a broader vision of science and human behaviour by interpreting the comparative ethnomathematics of several cultural groups (D'Ambrosio, 2006:1). Ethnomathematics is based on the view that mathematics is used in broad concepts including counting, measuring, designing, playing, explaining; analysing the influence of socio-cultural factors in the process of teaching and learning and developing mathematics; and positioning mathematics as a cultural practice and product. The implication of this view is to gain a deeper understanding of the interrelationship between nature, culture and the development of mathematical thinking. This is what D'Ambrosio refers to as a broad vision of science and human behaviour. Culture in anthropology is defined as a whole system of ideas, actions and human works in the context of community life that is made human by learning (Koentjaraningrat, 2002). Thus, culture has three forms, namely: 1) the form of culture as a complex of ideas, ideas, values, norms, rules and so on, 2) the form of culture as a complex of activities and patterned actions of humans in society, 3) the form of culture as objects of human work. The form of culture in the form of ideas is abstract, but these ideas underlie the activities and the realisation of objects of human work.

According to Pannen in Wahyuni (2013), culture-based learning is a model of learning approach that prioritises student activities with a variety of cultural backgrounds, integrated in the learning process of certain subject areas, and in the assessment of learning outcomes can use various manifestations of assessment. learning process, and in the assessment of learning outcomes can use various manifestations of assessment. Culture-based learning can be divided into three types, namely learning about culture, learning with culture, and learning through culture. According to Winataputra in Trisnawati (2014), culture-based learning is a learning strategy that is different from the learning strategies often used by teachers in general. There are four things that must be considered in culture-based learning, namely the substance and competence of the field of science / field of study, meaningfulness and learning process, assessment of learning outcomes, and the role of culture. Culture-based learning emphasises the achievement of integrated understanding rather than inert understanding. The importance of the study of ethnomathematics is to discover the reasoning patterns or modes of thinking of cultural practitioners. How to transition between artefacts and mindfacts is a central question of ethnomathematics studies (D'Ambrosio, 2006:4). It is important to understand symbolic knowledge, connecting theory with practice or knowing with doing.

Based on some of the descriptions above, it can be concluded that ethnomathematics is the study of mathematics embedded in culture. In its development, ethnomathematics is seen as a relatively new research perspective, namely as a methodology in tracking and analysing the process of generation, transmission, diffusion and institutionalisation of mathematical knowledge from diverse cultural systems. Ethnomathematics was developed as a study of the various ways, techniques and abilities of people in certain cultural groups to understand and explain their mathematical knowledge. As such, ethnomathematics sits at the boundary of history, anthropology and mathematics.

The scope of ethnomathematics studies are: 1) The subject of the study of ethnomathematics is all cultural groups which include ethnic groups and all groups that have jargon, codes, symbols, myths or special ways of reasoning and concluding, 2) The object of the study of ethnomathematics is daily activities and human-made objects where both are shaped by ideas, notions, values, norms, rules and so on in the local culture, 3) The study of ethnomathematics includes the knowledge and behaviour of cultural groups regarding space, time, measurement, grouping, comparison, quantity and inference, 4) The study of ethnomathematics focuses on studying how these cultural groups learn and teach their mathematical representations by finding the reasoning patterns of cultural practitioners to understand the transition from artefacts to mindfacts, knowing and doing, and connecting theory and practice.

3.2 Practising Communication

Communication is a process of interaction between people and is an art in conveying information, ideas and attitudes to others. School as an institution is inseparable from the interactions that occur between the elements of the school. The elements of the school with the individuals in it, as well as groups that all function as a unit form an interaction. Communication is an important factor in the learning process and also supports the success of school learning, especially in the process of learning mathematics. Greenes and Schulman (1996) said that mathematical communication is: 1) the central force for students in formulating mathematical concepts and strategies, 2) the capital of success for students towards approaches and solutions in mathematical exploration and investigation, 3) a forum for students to communicate with their friends to obtain information, share thoughts and discoveries, brainstorm, assess and sharpen ideas to convince

others. Furthermore, Baroody (1993) mentioned that there are five aspects of communication that must be fulfilled, namely the ability to present, the ability to listen, the ability to read or understand, the ability to discuss, and the ability to write mathematical ideas into mathematical language. Mathematical communication is an integral part of understanding and applying mathematics.

According to Ramdani, 2012; Anggraini and Leonard, 2015; Martini et al, 2018 mathematical communication is an ability that includes activities using writing, reading, listening, understanding, representing problems in mathematics using real objects, pictures, graphs, or tables, and can use mathematical symbols, evaluate a mathematical idea and express an argument in its own language. Furthermore, Mahmudi, 2009; Ariani, 2018; Wardhana and Lutfianto, 2018 revealed that mathematics communication is the ability of students to express their mathematical ideas to others both in oral and written form. Oral communication can be in the form of verbal disclosure and explanation or mathematical ideas. While written communication can be in the form of using words, pictures, tables, and so on that describe the student's thinking process that is carried out carefully, analytically, critically, and evaluatively to sharpen understanding.

Based on the description above, it can be concluded that mathematical communication skills consist of oral communication and written communication. oral mathematical communication skills are a person's ability to convey information, convey mathematical ideas or ideas through discussions and presentations that are conveyed clearly and systematically. The written mathematical communication ability is a person's ability to express mathematical ideas through pictures/graphics, tables, equations, in writing with the student's own language. Moreover, mathematical communication ability is the ability to express mathematical ideas through language, notation or mathematical symbols so as to be able to understand, interpret, describe relationships and solve contextual problems into mathematical models and be able to solve problems in everyday life.

Indicators of mathematical communication are needed to see the success of students' mathematical communication skills. The indicators of mathematical communication skills according to Ansari (2012) that students should master are: 1) express mathematical ideas by speaking, writing, demonstrating and describing them in visual form, 2) understand, interpret and assess mathematical ideas presented in written, oral or visual form, 3) use mathematical language, notation and structures to express ideas, draw relationships and model making. Sumarmo (2002) suggests indicators of mathematical communication skills that include the ability of students: 1) Connecting real objects, images, and diagrams into mathematical ideas; 2) Explaining mathematical ideas, situations and relationships, orally and in writing with real objects, pictures, graphs and algebra; 3) Expressing everyday events in mathematical language or symbols; 4) Listening, discussing, and writing about mathematics; 5) Reading with understanding a written mathematical presentation; 6) Making conjectures, composing arguments, formulating definitions and generalisations; 7) Explaining and making questions about mathematics learned. Explaining and making questions about the mathematics learnt. Afiffah (2018) explains the indicators of mathematical communication skills, namely: 1) Representing information using a distribution table appropriately; 2) Write down ideas or steps for solving problems clearly and precisely; 3) Re-present information using bar charts and write down ideas or steps for solving problems clearly and precisely; 4) State or explain mathematical models in pictorial form into ordinary language; 5) Write down what is known and asked using mathematical formulas.

Ritonga (2018) suggests indicators of mathematical communication skills, namely: 1) Skills to combine real objects into mathematical ideas; 2) Able to express mathematical thoughts in writing and express daily events with mathematical symbols; 3) Ability to use images to present ideas, daily conditions, and mathematical relationships in writing; 4) Skills in digesting and reviewing mathematical ideas when solving everyday cases in writing; 5) Able to convey conclusions on the answers to everyday questions based on the results of the questions. Based on the description above, it can be concluded that the indicators of mathematical communication ability can be measured through: 1) Explaining mathematical ideas, situations, and relationships in writing with real objects, pictures, graphs and algebra. 2) Connecting real objects, images or diagrams into mathematical ideas. 3) Expressing everyday events in mathematical language or symbols.

3.3 The Urgency of Ethnomathematics in Training Communication

Something that is disliked will have a negative impact on something. Likewise, students who dislike maths will have an indifferent attitude or even not want to learn maths at all. Most likely, the main reason is that students lack confidence and motivation to learn mathematics because they feel they do not have the ability to practice communication. In addition to the material that is considered difficult, the problems presented by the teacher may also be very unfamiliar to them. Mathematical communication skills are needed by a student to be able to express their ideas or ideas to others, so that these ideas or ideas can be reached or understood by others. Students' ideas or ideas can be conveyed orally or in writing, in the form of pictures, symbols, tables and so on so that students must have the ability to understand the meaning of the communication media well. As stated by Romberg and Chair (in Izzati & Suryadi, 2010) communication is: connecting real

objects, images, and diagrams into mathematical ideas; explaining mathematical ideas, situations and relationships orally or in writing with real objects, images, graphs and algebra; expressing everyday events in mathematical language or symbols; listening, discussing, and writing about mathematics; reading with understanding a written mathematical presentation, making conjectures, constructing arguments, formulating definitions and generalisations; explaining and making questions about mathematics that have been learned.

The process of communication helps establish the meaning and completeness of ideas and makes these public. When a student is challenged and asked to argue to communicate the results of their thinking to others orally or in writing, they learn to explain and convince others, listen to other people's ideas or explanations, and provide opportunities for students to develop their experiences. In learning mathematics, communication is an important aspect to support students' success in learning. With communication skills students can exchange ideas in mathematics so that learning will be more meaningful. Students will gain insight into their thinking. This is in line with Cai's opinion (in Rahmawati, 2013) which states that "communication is considered as the means by which teachers and students can share the processes of learning, understanding and doing mathematics". By applying ethnomathematics in the mathematics learning process, it can improve students' understanding abilities to be better and improve from before the application of ethnomathematics in the learning process.

In line with Ricardo's research, Ricardo (2016) shows that Ethnomathematics facilitates students to be able to construct mathematical concepts with the prior knowledge they already know because it is through the students' own environment. (2) Ethnomathematics provides a learning environment that creates good motivation and is fun and free from the assumption that maths is scary. (3) Ethnomathematics is able to provide affective competence in the form of creating a sense of appreciation, nationalism and pride in the nation's heritage of tradition, art and culture (4) Ethnomathematics supports student abilities in accordance with the expectations of implementing the scientific approach.

Joko Soebagyo, Rohim Andriono, Muhammad Razfy, and Muhammad Arjun (2021) stated from the results of their research that Ethnomathematics is proven to be able to make student learning outcomes more improved it has been proven by research studies that have been carried out by researchers who have been carried out previously which will be mentioned in the discussion of this study. Therefore, ethnomathematics can be used by teachers in conducting effective and enjoyable learning, besides that, ethnomathematics can improve students' mathematical abilities. Suci Nooryanti, Sri Utaminingsih, and Henry Suryo Bintoro (2020) from the results of the study showed that (1) the average mathematical communication skills of experimental class students were higher than the average mathematical communication skills of control class students with expository learning; (2) students' mathematical communication skills with the Realistic Mathematics Education approach based on ethnomathematics achieved learning completeness above 75%.

Atika Erlina Nasution, Irvan, and Ismail Hanif Batubara with the results of this study showed that the constant of the linear regression line equation for the mathematical communication ability of experimental class I students, namely 35.72, was greater than the constant of the linear regression line equation of experimental class II, namely 28.48. In other words, it can be concluded that the mathematical communication skills of students who get problem-based learning with ethnomathematics using geogebra are significantly better than students who get problem-based learning with ethnomathematics without using geogebra. Suryandaru Prasetyo Jati, Zaenuri Mastur, and Muhammad Asikin (2019) with the results of research that has been carried out, the buildings of Tugu Waseso, Sojiwan Temple and Plaosan Temple are loaded with the concept of flat mathematics. Ethnomathematics has the potential to improve students' mathematical communication skills, if integrated with the right learning materials and models.

Ratna Purwati (2020) states that students' mathematical communication that must be mastered by students involves oral and written communication. written communication skills are carried out with indicators, namely: the ability to express and illustrate mathematical ideas in the form of mathematical models, namely the form of equations, notations, images and graphs, or vice versa. Based on its characteristics, RME has the potential to contribute well to the development of mathematical communication of primary school students. Kuriang Reka Pratiwi, Monika Nurmaina, and Faiqoh Fauziah Aridho (2022) stated that mathematics learning based on local culture or ethnomathematics is an efficient and effective way to attract students' interest in learning mathematics. In addition, ethnomathematics learning will make it easier for students to learn mathematics which is considered difficult and too dry to be easier to understand by applying it directly through surrounding culture or daily life. The implementation of ethnomathematics will increase students' experience of culture and will certainly make it easier for teachers to improve student learning achievement.

Adi Suarman Situmorang, and Tutiarny Naibaho (2020) with the results of the study stated that ethnomathematics learning can increase the enthusiasm and motivation to learn and think logically for students at the elementary school level, especially at SDN 101917 Aras kabu. 2) ethnomathematics learning designed using fruit (in this study using durian

fruit) can increase the creative thinking ability of students at SDN 101917 Aras Kabu. From the results of the discussion it was also found that 100% of students of SDN 101917 Aras Kabu who experienced ethnomathematics learning treatment experienced an increase in mathematical reasoning ability. Juli Indah Lestari and Hasratuddin (2023) Based on data analysis of students' mathematical communication skills in each aspect, namely the representation aspect, students' mathematical communication skills increased from 43.77 (cycle I) to 68.33 (cycle II). The test results of students' mathematical communication skills in each aspect, namely the representation aspect, mathematical communication skills increased from an average of 43.33 (cycle I) to 68.33 (cycle II). In the aspect of drawing, students' mathematical communication skills increased from an average of 46.66 to 80.83 (cycle II). In the aspect of writing / explaining communication skills increased from 57.5 (cycle I) to 73.33 (cycle II). Based on the description above, it can be concluded that students' mathematical communication has improved by applying ethnomathematics-based mathematics learning on buying and selling material at SDN 112319 Bulu Sari.

Andi Saparuddin Nur, YL Sukestiyarno, and Iwan Junaedi (2019) stated that connecting ethnomathematics to the pedagogical context is an innovation that can accommodate the limitations of language, methods, and student understanding. However, culture-based learning requires efforts from teachers to master various components related to material, values, skills and philosophical foundations that apply in society. These are the fundamentals needed to achieve successful ethnomathematics learning, especially for indigenous students. The challenge of successful mathematics learning that brings students closer to various cultural products in society is a problematic perspective of learning mathematics for indigenous students. There are six dimensions of the ethnomathematics programme that can be studied, namely: (1) cognitive, (2) conceptual, (3) educational, (4) epistemological, (5) historical, and (6) political dimensions. Understanding the aspects of ethnomathematics studies can be a perspective used by teachers to adopt culture-based learning in pedagogical practices in the classroom.

4. CONCLUSION

Based on the above description, it can be concluded that Ethnomathematics is an effective approach in training mathematical communication of primary school children. This approach makes learning mathematics more relevant and interesting for students, increasing their motivation and active participation in learning. The urgency of applying ethnomathematics lies in its ability to build essential mathematical communication skills for students, as well as develop critical and creative thinking skills.

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