e-ISSN: 2549-5070
p-ISSN: 2549-8231

Journal of Medives : Journal of Mathematics Education IKIP Veteran Semarang
Volume 7, No. 1, 2023, pp. 79 - 85

https://doi.org/10.31331/medivesveteran.v7i1.2265

Ethnographic Study: Sasak Culture In The Perspective Of Ethnomathematics

*Ni Wayan Parwati Septiani[1], Ari Irawan[2], Rayung Wulan[3]
[1, 2, 3] Universitas Indraprasta PGRI
*wayan.parwati@gmail.com

***Received**: September 2022. **Accepted**: December 2022. **Published**: January 2023.*

ABSTRACT

This study aims to discover the mathematical aspect found in the Sasak tribe as shown by the architecture, customs, and culture that define the Sasak tribe. This study was conducted using ethnographic studies and descriptive qualitative analysis. This study focuses on both tangible and intangible aspects of the sasak tribe culture which represent sasaknese characteristics. Data was collected using interviews, observations, and documentation techniques. The data analysis methodology was conducted utilizing a triangulation method in which specialists and researchers crossed each other to look further into the cultural presence of mathematics in society. This study concludes that there is an element of mathematics in the culture of the Sasak tribe, seen from the buildings that have spatial and flat shapes. Other cultures include broad calculations and habits that are integrated with the life of the Sasak people.
Keywords: *Ethnomathematics sasak tribe, Ethnography of the Sasak Tribe, Local Wisdom Culture.*

How to Cite: Septiani, N., Irawan, A., & Wulan, R. (2023). Ethnographic Study: Sasak Culture In The Perspective Of Ethnomathematics. *Journal Of Medives : Journal Of Mathematics Education IKIP Veteran Semarang*, *7*(1), 79 - 85.

INTRODUCTION

Indonesia, which has an abundance of culture, makes it an opportunity as well as a challenge for the community to continue to maintain and introduce local culture to foreign countries. Sasak is one of the tribes that occupy the island of Lombok in West Nusa Tenggara. Its existence in Eastern Indonesia is the reason for providing information to the public to conserve the local culture, which is rich in history, as well as the identity of the Lombok people based on their indigenous knowledge.

Community life develops along with the progress and attention of the government. The recent MotoGP event was the initial revival of the tourism sector's economy after the COVID-19 pandemic. Numerous Sasak traditional practices unknowingly use mathematical concepts. Thus, it needs an in-depth study of this matter to introduce and preserve the culture of the Sasak tribe to the next generation through education by developing ethnomathematics.

Ethnomathematics contains the culture, ideas, concepts, and habits of people in everyday life that cannot be separated from mathematics. Knowing which Sasak cultures contain mathematical concepts will be the foundation for implementing ideas, concepts, and mathematical calculations in the culture of the Sasak tribe, and it can be introduced to school students as part of mathematics learning activities, where the ministry of education, culture, research, and technology is currently intensifying numeracy and literacy skills to realize Pancasila, one of which indicators is diversity.

There had been several previous studies related to ethnomathematics (Dinata and Junaidi 2022; Kumala 2022; Maulida and Jatmiko 2019; Muhtadi et al. 2017; Permita et al. 2022; Prahmana et al. 2021; Pratiwi and Pujiastuti 2020; Risdiyanti and Prahmana 2017, 2018), but indeed not many have integrated culture, mathematics, and technology that makes the novelty of this research. This research activity will later use information and communication technology in present ethnomathematics information of the Sasak tribe that can be applied to learning mathematics.

METHOD

This research applies a descriptive qualitative approach (Hutauruk, 2020; Sugiyono, 2017). Ethnography is the work of describing a culture (Sukadari, Suyata, and Kuntoro 2015; Wahyono 2006). Researchers make direct contact with research subjects (Ridho, Markhamah, and Darsinah 2015). This study will explain in detail which parts of the culture contain elements of mathematics. The data collection is taken from interviews, observation, and documentation. Triangulation is done to validate the data obtained. The qualitative data analysis is done through data reduction, presentatconcludingsions, and then verification (Nurhasanah and Puspitasari 2022).

RESULTS AND DISCUSSIONS

The purpose of ethnomathematics is to recognize that there are different ways of doing mathematics by taking into account the mathematical knowledge developed by the culture of society (Santry Nova and Putra 2022). On this concept, mathematics becomes an integrated part of people's daily life. However, the majority of individuals are clueless that mathematics exists in their surroundings, and they can apply mathematical concepts to several different types of living activities.

The application of mathematical concepts is inseparable from the cultures produced by society (Fitriyah and Syafi 2022). Various interesting things are carefully observed. Several mathematically and non-mathematically related exciting phenomena are observed with special care. This procedure is required by both philosophers and mathematicians.

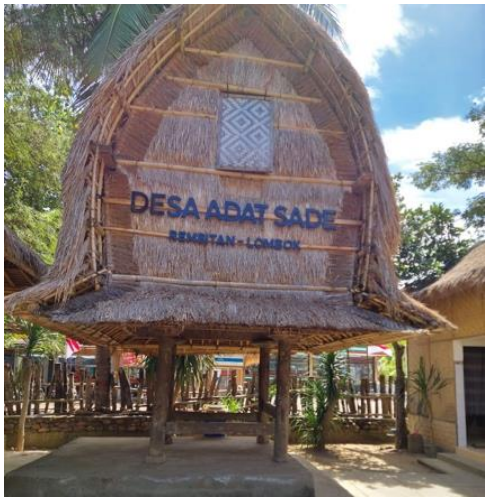

Figure 1. Bale Lumbung

Bale Bumbung is a place where the Sasak people store their agricultural goods, such as rice, corn, and others (Fitriyah and Syafi 2022). The mathematical components of the architecture can be easily observed. There are four supporting pillars that, when viewed from below, are cube-shaped. In addition, the roof features a parabola-like curve.

Figure 2. Environment and Interior of Sasak's House

As seen in Figure 2, the environment of the Sasak village and the inside of the house is still traditional,

including clay cooking tools. The walls of the house are woven bamboo, and there is a mathematical element involved in the weaving process. This is the part of the building and its interior in the Sasak culture. In addition, the philosophy of the house's architectural design, in which the entrance is shorter, implies that everyone entering must bend down as a symbol of respect for the host. In addition, the Sasak people sweep the floors with cow dung, which serves as a natural sealant or alternative for cement and strengthens the structure.

Many other things are discussed, such as traditional ceremonial marriages, determining the date, and the tools that use elements of mathematics. Apart from that, there are also daily activities that can be found in the Saksak community, where the community's economy is supported by many handicraft activities as part of a tourist village in Lombok.

The traditional wedding processions for the people of Lombok are as follows: 1) Mesejati; 2) Sebar; 3) Pick up the guardian; 4) Take an appointment; 5) Ajikrama (shove surrender) (Rahman et al. 2022). Based on this, it will be seen that the traditional procession in the marriage of the Sasak people, from a mathematical perspective, is the calculation of auspicious days and so on.

Belaq Tangkel in the Sasak Tribe contains scientific elements that can be used as a source for learning science. The original science of the Sasak people states that marriage is a way to maintain offspring, so when offspring are given, they must be glorified (ta pemolé) because they are a gift of life (Paice trip) (Mukti, Rahmawati, and Marzuki 2022). The term marriage in the Sasak people also refers to the science of mathematics.

There are 14 types of traditional games in the Sasak tribe, which developed and were often played by children in ancient times, including Selodor, Play Cans, Play Bawi, Gansing, Play Ships, Peresean, Cogklik, Sepek Manokthe, Play Batun Bagek Bejangrikan, Jingklak, Maen Dengkrek, Maen Meong Tekus, and Sebok Sampat. Each of these traditional games has character values that can shape the character of the nation's generation (Safitri, Affandi, and Zain 2022). Traditional games of the Sasak tribe, which are usually played in various ways, can improve numeracy skills and build children's character so that they can affect children's personalities and education.

REFERENCES

Abdullah, A. S. (2017). Ethnomathematics in perspective of Sundanese culture. *Journal on Mathematics Education, 8*(1), 1–16. https://doi.org/10.22342/jme.8.1.3877.1-15

Albanese, V., Adamuz-Povedano, N., & Bracho-López, R. (2017). The Evolution of Ethnomathematics: Two Theoretical Views and Two Approaches to Education. *ICME-13 Monographs*, 307–328. https://doi.org/10.1007/978-3-319-59220-6_13

Albanese, V., & Perales, F. J. (2015). Enculturation with Ethnomathematical Microprojects:

From Culture to Mathematics. *Journal of Mathematics and Culture*, *9*(February), 1–11.

Barton, B. (1996a). Ethnomathematics: Exploring Cultural Diversity in Mathematics. *American Ethnologist*, *21*(4), 922–923. http://doi.wiley.com/10.1525/ae.1994.21.4.02a00380

Barton, B. (1996b). Making sense of ethnomathematics: Ethnomathematics is making sense. *Educational Studies in Mathematics*, *31*(1–2), 201–233. https://doi.org/10.1007/BF00143932

Bengtsson, A. K. H. (2014). Liberal Arts Inspired Mathematics: A Report OR How to bring cultural and humanistic aspects of mathematics to the classroom as effective teaching and learning tools. *Journal of Humanistic Mathematics*, *4*(1), 16–71. https://doi.org/10.5642/jhummath.201401.04

D'Ambrosio, U. (1985). FLM Publishing Association Ethnomathematics and Its Place in the History and Pedagogy of Mathematics. *Source: For the Learning of Mathematics*, *5*(1), 44–48.

D'Ambrosio, U. (2018). The Program Ethnomathematics: Cognitive, Anthropological, Historic, and Socio_Cultural Bases. *PNA*, *12*(4), 229–247. https://doi.org/10.30827/pna.v12i4.7851

Dewita, A., Mujib, A., & Siregar, H. (2019). Studi Etnomatematika tentang Bagas Godang sebagai Unsur Budaya Mandailing di Sumatera Utara. *Mosharafa: Jurnal Pendidikan Matematika*, *8*(1), 1–12. https://doi.org/10.31980/mosharafa.v8i1.202

Fouze, A. Q., & Amit, M. (2018). Development of mathematical thinking through integration of ethnomathematics folklore game in math instruction. *Eurasia Journal of Mathematics, Science and Technology Education*, *14*(2), 617–630. https://doi.org/10.12973/ejmste/80626

Geertz, C. (1973). Thick Description: Toward an Interpretive Theory of Culture. In The Interpretation of Cultures: Selected Essays (1973). In *Basic Books, Inc.* (pp. 310–323). https://philpapers.org/archive/geettd.pdf

Gerdes, P. (1988). On culture, geometrical thinking, and mathematics education. *Educational Studies in Mathematics*, *19*(2), 137–162. https://doi.org/10.1007/BF00751229

Greer, G. B., & Mukhopadhyay, S. (2010). The language of mathematics: Telling mathematical tales. Bill Barton. 2008. *Educational Studies in Mathematics*, *73*(2), 211–215. https://doi.org/10.1007/s10649-009-9219-8

Harahap, S. A., & Rakhmawati, F. (2022). Etnomatematika dalam Proses Pembuatan Tempe. *Jurnal*

Cendekia : Jurnal Pendidikan Matematika, *6*(2), 1291–1300. https://doi.org/10.31004/cendekia.v6i2.1354

Hardiarti, S. (2017). Etnomatematika: Aplikasi Bangun Datar Segiempat Pada Candi Muaro Jambi. *Aksioma*, *8*(2), 99. https://doi.org/10.26877/aks.v8i2.1707

Lubis, S. I., Mujib, A., & Siregar, H. (2018). Eksplorasi Etnomatematika pada Alat Musik Gordang Sambilan. *Edumatika : Jurnal Riset Pendidikan Matematika*, *1*(2), 1. https://doi.org/10.32939/ejrpm.v1i2.246

Malalina, M., Ilma, R., Putri, I., Zulkardi, Z., & Hartono, Y. (2020). Ethnomathematics : Treasure Search Activity in the Musi River. *Numerical: Jurnal Matematika Dan Pendidikan Matematika*, *4*(1), 31–40. https://doi.org/https://doi.org/10.25217/numerical.v4i1.870

Nursyeli, F., & Puspitasari, N. (2021). Studi Etnomatematika pada Candi Cangkuang Leles Garut Jawa Barat. *Plusminus: Jurnal Pendidikan Matematika*, *1*(2), 327–338. https://doi.org/10.31980/plusminus.v1i2.1265

Osterberg, L. T., & De Lara, I. C. M. (2019). The Wittgensteinian perspective and ethnomathematics: An analysis of language games and the rules governing their uses in Certain work activities. *Acta Scientiae*, *21*(5), 28–43. https://doi.org/10.17648/acta.scientiae.4743

Pratiwi, F.D. (2019). Ethnomatematika dalam Pembelajaran Matematika pada Perspektif Filsafat Perenialisme. *Jurnal of Mathematics and Mathematics Education*, Vol 09 No.02, 69-76. https://doi.org/10.20961/jmme.v9i2.48394

Puspasari, R., Rinawati, A., & Pujisaputra, A. (2021). Pengungkapan Aspek Matematis pada Aktivitas Etnomatematika Produksi Ecoprint di Butik El Hijaaz. *Mosharafa: Jurnal Pendidikan Matematika*, *10*(3), 379–390. https://doi.org/10.31980/mosharafa.v10i3.851

Sulaiman.(2013). Pendidikan Versi Aliran Filsafat Perenialisme. *Jurnal Serambi Tarbawi Jurnal Studi Pemikiran, Riset dan Pengembangan Pendidikan Islam* 1 (1)

Regnier, J.-C., Bello, S. E. L., & Kuznetsova, E. M. (2016). The normative approach to ethnomathematics: linguistic and philosophical grounds. *Vestnik Tomskogo Gosudarstvennogo Universiteta*, *413*, 57–63. https://doi.org/10.17223/15617793/413/9

Richardo, R. (2016). Peran Ethnomatematika dalam Penerapan Pembelajaran Matematika pada Kurikulum 2013. *Jurnal Literasi* VII (2)

Rosa, M. (2018). The Anthropological Dimension on Ethnomodelling Research Based on Ethnomathematics and Modelling.

Open Access Journal of Archaeology & Anthropology, *1*(1), 1–8. https://doi.org/10.33552/oajaa.2018.01.000503

Rosa, M., & Gavarrete, M. E. (2017). An Ethnomathematics Overview: An Introduction. *ICME-13 Monographs*, 3–19. https://doi.org/10.1007/978-3-319-59220-6_1

Rosa, M., & Orey, D. (2011). Ethnomathematics: the cultural aspects of mathematics. *Revista Latinoamericana de Etnomatemática*, *4*(2), 32–54. http://www.revista.etnomatematica.org/index.php/RLE/article/view/32

Sebastiani, E. (1991). Por uma teoria da Etnomatemática. *Bolema*, *6*(7), 3–8.

Wahyuni. (2018). Ethnomatematika Geulengkue Teu Peu Poe Permainan Daerah pada Anak Pesisir Aceh. *Jurnal Seminar Nasional Royal*, *9986*(September), 527–532. https://jurnal.stmikroyal.ac.id/index.php/senar/article/view/234/177

Wahyuni, Panjaitan, C. J., Nuraida, & Husna, N. (2021). Etnomatematika Pada Permainan Kelereng Di Pesisir Aceh Dan Hubungannya Dengan Matematika Sekolah. *Jurnal Mathematic Paedagogic*, *V*(2). https://doi.org/10.36294/jmp.v5i2.1743.