

International Journal of Multidisciplinary Research and Literature

IJOMRAL



Vol. 3, No. 3, May 2024 pp. 241-360 Journal Page is available at <u>http://ijomral.esc-id.org/index.php/home</u>

# THE TRADITION OF MEMORIZING THE KORAN IN AN ETHNOMATHEMATICS PERSPECTIVE: A CASE STUDY AT THE RUMAH TAHFIDZ BAITU USYSYAQIL QURAN (RTBUQ) PURWOKERTO

Kusno<sup>1\*</sup>, Yusuf Nalim<sup>2</sup>, Sri Supiyati<sup>3</sup>, Eka Setiyaningsih<sup>4</sup>, Makhful<sup>5</sup>

<sup>1,4,5</sup>Universitas Muhammadiyah Purwokerto <sup>2</sup>Universitas Islam Negeri Pekalongan <sup>3</sup>Universitas Hamzanwadi Selong NTB Email: kusnoump@gmail.com<sup>1</sup>

## Abstract

The tradition of memorizing the Koran at the *Rumah Tahfidz Baitu Usysyaqil Quran (RT BUQ)* Banyumas Regency, Central Java, Indonesia, contains various applications of mathematics but is not widely known from a mathematics learning perspective. This research aims to reveal the phenomenon of applying mathematics to the tradition of memorizing the Koran at *RT BUQ* as an innovation in contextual mathematics learning based on local culture and with Islamic nuances. This ethnographic research is at *RTBUQ* Banyumas Regency, Central Java, Indonesia. The subjects in this research were Muhammad Husna (R-1) and Sur'ati Istiqomah (R-2), *RTBUQ* supervisors, and Muhammad Azka (R-3), *RTBUQ* students. Data collection uses in-depth interview techniques, observation, field notes and documentation. Data were analyzed using the results of interpretation and translation of phenomena found based on the informant's conception of the meaning and original language of the informant with the researcher's language after in-depth understanding through focus group discussions (FGD). The research results show that the tradition of memorizing the Koran at *RTBUQ* involves using sets, number patterns, sequences and arithmetic series. The findings of this research can be recommended to strengthen mathematics learning based on local wisdom and Islamic nuances. **Keywords:** Ethnomathematics; *RTBUQ*; Tradition of Memorizing the Koran

# **INTRODUCTION**

The tradition of memorizing the Koran at the '*Rumah Tahfidz Baitu Usysyaqil Quran'* (*RTBUQ*) Purwokerto, Banyumas Indonesia, is a learning program to read, memorize, memorize and understand the Koran for students and students in Purwokerto who live at the *Tahfidz* House. This tradition is an inseparable part of Islamic boarding school culture with material on *this* (rules of recitation), *tahfidz* (rules of memorization), and *muraja'ah* (strengthening memorization of the Koran). This program aims to improve students' ability to read, memorize, recite, study and practice the Koran properly and correctly. On the other hand, the tradition of memorizing the Koran is also a form of love for the Divine Word as well as a form of spreading Islam. *RTBUQ* is a unique *tahfidz* house because it organizes a Koran *tahfidz* program that utilizes mathematics in a series of lessons. However, there is still little mathematics learning in general and Islamic-based schools in particular that is explored from the tradition of memorizing the Koran is also and *tahfidz* homes.

#### 242 International Journal of Multidisciplinary Research and Literature, Vol. 3, No. 3, May 2024, pp. 241-249 https://doi.org/10.53067/ijomral.v3i3.213

For mathematics teachers working in Islamic-based schools, this is an interesting phenomenon as a context for local wisdom in increasing students' motivation and understanding of mathematics. In this way, students can rediscover mathematics derived from surrounding traditions. The relationship between mathematics, human activities and the surrounding culture or traditions cannot be separated because they are one unit. Culture is a typical human way of adapting to their environment (design for living). Mathematics is realized because of human activities, "Mathematics as human activities." When mathematics, culture and education are combined, it will give birth to what is called ethnomathematics (D'Ambrosio & Rosa, 2008). Ethnomathematics exists in all cultural areas of people's daily lives, including in the tradition of memorizing the Koran. Research on ethnomathematics as a form of exploring mathematics teaching materials based on local wisdom and the tradition of memorizing the Koran has not been touched upon. It is important because the trend of memorizing the Koran in Islamicbased schools has recently increased. Research results also show that mathematics learning, which is linked to Islamic phenomena and the Koran, is better.

Wulandari et al. (2022) stated that Islamic-based mathematics learning is mathematics learning that uses the Koran and Sunnah as the basis for thinking and acting. Kenedi et al. (2018) research states that Al-Quran-based mathematics learning shows effective results. It is also confirmed by Mansur et al. (2018) and Winarso & Wahid (2020), who state that Al-Quran-based mathematics learning provides effective results. Ulfah Meiningtyas (2020) stated that Al-Quran-based mathematics learning provides effective results. Ulfah Meiningtyas (2020) stated that Al-Quran-based mathematics learning positively influences the formation of students' character. Furthermore, Soimah Fitriana (2020) emphasized that learning mathematics is an inseparable part of the verses of the Koran, especially the kauniyah verses. This research recommends effective mathematics learning (Nahar et al., 2020), namely mathematics learning integrated with Al-Islam in particular (Winarso & Wahid, 2020). Apart from that, research results examine the learning of the Koran and its reflection on strengthening mathematics learning. According to Aini, N. (2018), Murottal Al-Quran audio therapy positively affects concentration in mathematics learning. Hasan et al. (2022) revealed that implementing ethnomathematics based on the Koran can reinforce mathematics learning. To introduce the letters of the Koran, Alhamuddin et al. (2018) suggest using puzzles that resemble specific shapes or using padding (Asroni et al., 2021).

Everyone has different ways to memorize the Koran. According to Sa'diyah et al. (2023), read the Koran correctly and adequately before memorizing the verses. Mardhiah et al. (2022) suggest that to memorize the Koran, start by memorizing short suras that are easy to memorize before memorizing more complex verses from the Koran. Majid Tresnawati (2022) suggests using multimedia, such as video, audio, and applications containing Koranic verses to help children memorize Koranic verses. Strengthening techniques are needed to maintain memorization by doing *muraja'ah*. *Muroja'ah* means repeating, checking and checking your memorization of the Koran (Afrianto et al., 2019). This technique is beneficial for memorizers to determine the proper technique for themselves. According to Lauchia et al. (2023), carrying out *muraja'ah* in prayer services is necessary. *Muroja'ah* in prayer means that a person who memorizes the Koran can repeat the memorization during prayer. *Muraja'ah* can also

be done using *murottal*, pair method or with an ustadz or teacher to find out where the wrong reading is.

According to Indrivani et al. (2016), to achieve the memorization target, the strategy used is to determine a memorization method that suits the child's abilities and desires, for example, the *wahdah* method, the *kitabah* method, the *sima'i* method, the combined method, the *muraja'ah* method, or the jamai. Furthermore, Agustina et al. (2020) suggest setting an appropriate memorization schedule to memorize the targeted verses of the Koran consistently and with commitment so that one does not miss a single day unless there is an emergency.

## METHOD

This research uses a qualitative approach with ethnographic methods. The reason is that it examines the community system in a particular tradition (the tradition of memorizing the Koran at *tahfidz* house) to observe, photograph, and reveal facts related to thoughts, statements, behavior, interactions and cultural meanings from an ethnomathematics perspective. The interview subjects in this research were the actors involved in providing information, namely the founder and caretaker of the BUQ *tahfidz* house, Muhammad Husna (R-1) and Surati Istiqamah (R-2), as well as one of the *RTBUQ* students, namely Muhammad Azka (R -3). The objects in this research are things that are the focus of attention that researchers study and reflect on, namely strategies for recognizing places where *hijaiyah* letters (*makharijulhuruf*) are issued, determining deposit targets, *ziyadah* deposit methods, how to determine pages, *muraja'ah* methods and strengthening memorization.

The data collection technique in this research refers to Spradley's (2016) ethnographic steps, namely through in-depth interviews, documentation and ethnographic notes. In-depth interviews were conducted to gather information directly from informants as research subjects. Interviews were used to discover opinions, understanding, concepts, thoughts, and practices in implementing tahfidz learning at *RTBUQ*. The research questions are related to the knowledge and understanding of all subjects according to their respective fields. Document study complements observation methods related to information to support ethnographic data, such as photos related to activities and learning artifacts in *Tahfidz's* house. Ethnographic notes include field notes, recording equipment, pictures, artifacts and other objects that can complement data about learning traditions at *RTBUQ*.

The data collection instrument in this research was the researcher himself. In qualitative research, the ethnographer functions as a "human instrument" responsible for the research focus, selecting informants as data sources, collecting data, assessing data quality, analyzing data, interpreting data, and making conclusions about findings. The validity of the research data is tested, as are the steps and stages of ethnographic research. The steps and stages are adjusted in two forms: first, data and information are grouped into domains, taxonomies, and ethnographic components. Second, confirm data and information with informants by asking rational questions about the usefulness, similarities, and

contrasts of the data and information obtained. According to stages and steps, the ethnographic research process is a guide to facilitate the recording and analysis process. Apart from the two forms of testing data validity as an integral part of ethnographic steps and stages, researchers test data validity through focus group discussion (FGD) activities.

Research data was analyzed directly and in stages according to the stages of ethnographic techniques. The data was analyzed descriptively based on the results of the meaning and translation of the phenomena found. The ethnographic description in question is based on the informant's conception of the meaning and the informant's original language regarding the focus, which is verbally combined with the researcher's language after in-depth understanding and confirmed with relevant research results.

## **RESULTS AND DISCUSSION**

From the results of the interview with Muhammad Husna (R-1), it was explained that learning about the places where the hijaiyah letters (makharijul letters) come out is carried out using the talaqi method, where each student is asked to pronounce the hijaiyah letters according to the places where the letters come out by looking and listening. Moreover, practicing what the caregiver exemplifies is strictly controlled by the caregiver. From the observations regarding the implementation of makharijul letters learning at *RTBUQ*, it appears that the student's sitting position creates a circle, and the caregiver is in the center of the circle, as seen in Figure 1. The advantage is that it facilitates the control mechanism for each student because the distance between each student and the caregiver is the same.



Figure 1. Practice the *talaq* method to form a circle

Based on the documentation results of the learning media used during *makharijulhuruf* learning, it can be explained that they used image media that were available in the memorized Koran manuscripts, as seen in Figure 2 below:



Figure 2. Makharijul huruf

The results of the interview with Surati Istiqomah (R-2), corroborated by Muhammad Azka (R-3) in learning *makharijulhuruf*, were used by the association as a tool to explain groups of letters produced from the same places of production. The diagram of each set is shown in Figure 3.



Figure 3. Makhorijulhuruf set

meets the roof of the mouth above it) (9) *Halqiyah* letter  $Q = \{\dot{z}, \dot{z}, \dot{z},$ 

From the results of the interview with Muhammad Husna (R-1), it was explained that in determining the target for memorizing deposits, each student used a standard memorized copy of the Koran (corner Koran). A corner Koran is a Koran where the end of each page is the end of a verse, and each page consists of 15 lines, and each *juz* has 20 pages. Every student who memorizes the Koran at *RTBUQ* is required to use the Koran. The results of the documentation of the corner of the Koran manuscript used are presented in Figure 4 below.



Figure 4. Corner Koran with 15 lines

According to R-1's explanation, every student who memorizes the Koran is obliged to set a target for achieving memorization according to his/her abilities; as for the target and prediction of the *ataman* using the following comparison concept:

- 1. If the target is to memorize 1 page/day, then he will memorize 1 *juz* in 20 days and 30 *juz* in 20 x 30 = 600 days = 1.67 years.
- 2. If the target is to memorize 1/2 page/day, he will memorize one *juz* within 40 days and 30 *juz* within  $40 \ge 3.3 = 1200$  days = 3.3 years.
- 3. If the daily memorization target is 1/3 page/day, he will memorize one *juz* for 60 days and 30 *juz* in 60x30 = 1800 days = five years.
- If the target is to memorize one line/day, he will memorize one page for 15 days and one *juz* for 300 days. So,, to memorize 30 juz,, it takes 300 x 30 = 9000 days = 25 years.
- 5. If the target is to memorize n lines/day, then he will memorize 1 page in 15/n days, and to memorize one *juz* takes time = 300/n days. He will be able to memorize 30 *juz* in 9000/n days = 25/n years. The target time for memorizing the Koran according to ability is also confirmed by Irsyad, M.,

& Qomariah, N. (2017). The results of the interview with R-2 and confirmed by R-3 stated that the

*ziyadah* memorization method (new memorization) that applies at RT BUQ is that the verse to be memorized is read repeatedly up to 10 times, followed by the next verse 10 times and then continued with the first and second verses and Repeat five times while paying attention to the *Mushaf* of the Koran. The aim is to make the memorization of the Koran well imprinted in memory, and you can imagine verse by verse when reading it without holding a *mushaf*. So you can memorize with tartil, as stated by Syafril et al. (2021). For example, the first verse is symbolized by one, and the second verse is symbolized by 2; then, to memorize the first and second verses, it is expressed by 12 to form a number pattern which is written as follows: 111111111-2222222222-1212121212.

*Ziyadah* deposit is depositing new memorization to the *ustadz* or *murabbi*. From the results of the interview with R-1, the pattern used for *ziyadah* deposits depends on the target or ability of each student. If a student's additional new memorization is ten verses daily, then the *ziyadah* payment is first to repeat the ten previously memorized verses, followed by ten additional verses memorized today. Suppose a student's new target for memorizing is five verses. In that case, when making the *ziyadah* deposit, he must deposit the five verses memorized previously, followed by those memorized today. And so on, if a student aims to memorize n verses in a day, then he pays for his *ziyadah* of n previous verses followed by n verses memorized today. Mathematically, this can be stated that if a student has a target of memorizing n verses every day and S indicates the number of *ziyadah* deposits, then S = na + nb or n (a + b) where a is the previous memorization and b is the memorized that day. It will be deposited.

From the results of observations and field notes at RT BUQ Banyumas, Central Java, Indonesia, the memorized Al-Quran *mushaf* used is an Ottoman *mushaf* with standard printing, which consists of 30 juz with each juz consisting of 20 pages except *juz* 30. Each page consists of 15 lines, and the end of each page is the verse's end, so the memorized *mushaf* is also called the Corner Koran. The entire Koran consists of 114 Surahs and 6236 verses. The first page is Surah Al-Fatihah, followed by the second page is Surah Al-Baqarah until page 49; then page 50 is Surah Ali Imran and so on until Surah An-Nas on page 604. *Juz* 1 starts from page 2, Surah Albaqarah, until page 21; *Juz* 2 is still Surah Albaqarah and starts from page 22 to page 41; *Juz* 3 starts from page 42 to page 61.

Based on these data, it can be formulated that the page pattern in each chapter forms an arithmetic sequence with the initial term a = 2 and the difference between terms b = 20 so that  $U_1=2$ ,  $U_2=22$ ,  $U_3=42$ , and so on so that Un = a + (n-1) b = 2 + 20 (n-1). In this way, the page for each *juz* can be determined easily. For example, what page is *juz* 20 located to determine the answer? The formula  $U_{20} = 2 + 20(20-1) = 382$  is used. To determine the page of the letter and verse that is read, the first step is to determine the page of the chapter that contains the letter and then add the page to which the letter or verse is located. Position of the first page of the *juz*. To make it easier to remember or bridge the location of the letters or verses in the *juz*, it is best to use intersection, middle or three-intersection pages. The first intersection is pages 1-5; the second intersection is pages 6-10; the third intersection is 11-15, and the

fourth intersection is 16-20. For example, on what page is Annisa's letter located? To answer this question, remember that Surah An-Nisa is located in the fourth *juz* at the fourth intersection. Next, using the sequence formula, first determine the page of the fourth *juz*, namely  $U_4 = 2+ 20(4-1) = 62$ , then Surah An- The Nisa is located on page  $3/4 \times 20 = 15$  so that Surah An-Nisa is located on page 62 + 15 = 77. Likewise, if you want to determine which page a particular verse is on, you must first determine that the verse is in what *juz*. , then determine what page of the chapter the verse is on, and then use it in the same way as above.

## CONCLUSION

Ethnomathematics is a form of applying mathematics to a particular culture. In the tradition of memorizing the Koran at '*Rumah Tahfidz Baitu Usysyaqil Quran'* (*RTBUQ*), several Koran learning programs use mathematical concepts. The program in question includes (1) *makharijul* letters to introduce the places where *hijaiyah* letters come out using the circle concept and set concept, (2) determining memorization targets using the comparison concept, (3) memorization method using number patterns, (4) method *ziyadah* deposits and page determination of Koranic verses using the concept of arithmetic sequences. Applying mathematical concepts to the tradition of memorizing the Koran is very important to present contextual problems based on local wisdom and have Islamic nuances. It is highly recommended for Islamic-based schools.

## ACKNOWLEDGMENT

We thank the Muhammadiyah University of Purwokerto for funding this research through a professor acceleration grant. Likewise, we would like to thank all *RTBUQ* relatives who have helped us provide research data. We also express our thanks to all parties who have helped us complete the research.

#### REFERENCES

- Afrianto., Faris., AF, Atin, S (2011). Hijaiyah letter interactive learning for mild mental retardation children using the gillingham method and augmented reality. *International Journal of Advanced Computer Science and Applications, (IJACSA) Vol. 10, No. 6, 2019*
- Agustina, M., Yusro, N., & Bahri, S. (2020). Strategi peningkatan minat menghafal al-qur'an santri di pondok pesantren ar-rahmah curup. *Didaktika: Jurnal Kependidikan*, *14*(1), 1-17.
- Aini, N. (2018), Pengaruh terapi audio murotal al Quran terhadap konsentrasi belajar pada pembelajaran Matematika. Jurnal Ilmiah Pendidikan. http://digilib. uinsby. Ac. id/22690/7/Nur Aini\_D74213084. pdf.
- Alhamuddin, Hamdani. FRS, Tandika. D., Adawiyah. R. Developing an al-quran instruction model through 3a (ajari aku al-quran or please teach me al-quran) to improve students' ability to read al-quran at Bandung Islamic University. *International Journal of Education. Vol. 10 No. 2*, *February 2018, pp. 95–100.*
- Asroni. A, Mahmud. KRK., Damarjati. C, Slamat. HB (2021) Classification Method Based on Padding and Deep Learning Neural Network. Baghdad Science Journal, Vol. 18 No.2 hal 926-936.
- D'Ambrosio, U., & Rosa, M. (2008). Um diálogo com Ubiratan D'Ambrosio: uma conversa brasileira sobre etnomatemática. A dialogue with Ubiratan D'Ambrosio: a Brazilian conversation about

ethnomathematics. Revista Latinoamericana de Etnomatemática, 1(2), 88–110. http://www.etnomatematica.org/v1-n2-julio2008/DAmbrosio-Rosa.pdf

- Hasan, M. N., Nuroniyyah, A., & Diyana, A. S. (2022). Implementasi Etnomatematika Berbasis Alquran Sebagai Rujukan Pembelajaran Teori Bilangan. *Al Furqan: Jurnal Ilmu Al Quran dan Tafsir*, 5(1), 143-159.
- Indriyani, I., Hidayat, S., & Muthoifin, M. A. (2016). Pembelajaran Tahfidzul Qur'an Di Sekolah Dasar Islam Terpadu (Sdit) Mutiara Insan Dan Sekolah Dasar Islam Terpadu (Sdit) Fatahillah Sukoharjo Tahun Pelajaran 2016/2017 (Doctoral dissertation, Universitas Muhammadiyah Surakarta).
- Kenedi, A. K., Helsa, Y., & Hendri, S. (2018). Pengembangan Bahan Ajar Matematika Berbasis Alquran Di Sekolah Dasar. *Jurnal Inovasi Pendidikan Dan Pembelajaran Sekolah Dasar*, 2(1).
- Lauchia, R., Dwi, F. E., & Ahmad, M. (2023). Penerapan Metode Murojaah Dalam Menghafal Al-Qur'an. JURNAL ILMU PENDIDIKAN & SOSIAL (SINOVA), 1(1), 13-22.
- Majid, N. A., & Tresnawati, D. (2022). Rancang Bangun Aplikasi Pembelajaran Surat-Surat Pendek untuk Usia Dini Berbasis Multimedia. *Jurnal Algoritma*, 19(2), 469-480.
- Mansur, Helsa. Y, Kenedi. AK (2017). Al-Quran-based learning strategy in teaching mathematics in primary education. Advances in Social Science, Education and Humanities Research (ASSEHR), volume 169, pp 304–306.
- Mardhiah, A., & Nurbaiti, N. (2022). Peningkatan Kemampuan Membaca dan Menghafal Alquran Dengan Menggunakan Strategi Reading Aloud Bagi Siswa Kelas VI SDN 6 Kualasimpang. *Jurnal Pendidikan Dan Konseling (JPDK)*, 4(4), pp. 2282-2295.
- Nahar.KMO, Al-Khatib, Moy'awiah A. Al-Shannaq and Malek M. Barhoush, (2020). An efficient holy quran recitation recognizer based on the SVM learning model. Jordanian Journal of Computers and Information Technology (JJCIT), Vol. 06, No. 04, pp. 395-414
- Irsyad, M., & Qomariah, N. (2017). Strategi menghafal Al-Quran sejak usia dini. In *Annual Conference* on Islamic Early Childhood Education (ACIECE) (Vol. 2, pp. 135-148).
- Sa'diyah, M., Kumala, A., & Setyawan, W. H. (2023). Pendampingan Santri dalam Menghafal Al-Quran dengan Metode Puzzle di LKSA Ar-Ridlo Peterongan Kabupaten Jombang. Prima Abdika: Jurnal Pengabdian Masyarakat, 3(2), 153-158.
- Soimah, W., & Fitriana, E. (2020). Konsep Matematika ditinjau dari perspektif Al-Qur'an. *Prosiding Konferensi Integrasi Interkoneksi Islam Dan Sains*, 2, 131-135.
- Spradley, JP., (2016). The Ethnographic Interview. Waveland Press, Inc. 4180 IL Route 83, Suite 101 Long Grove, IL 60047-958. Science and Technology, DOI: 10.1080/0020739X.2020.1736351
- Syafril.S, Yaumas. NE, Engkizar, Jaafar. A, Arifin. Z (2021). Sustainable Development: Learning the Quran Using the Tartil Method. Jurnal Al-Ta'lim, Vol 28, No 1, hal 277–284.
- Ulfah, E. N., & Meiningtyas, D. A. (2020). Penguatan Pendidikan Karakter Melalui Pembelajaran Matematika Berbasis Al Quran. Makalah dipresentasikan dalam Seminar Nasional Matematika dan Pendidikan Matematika pada tanggal 29 Agustus 2020 di Prodi Pendidikan Matematika FKIP UMP
- Winarso. W, Wahid. S (2020) Development of mathematics teaching device integrated with quranic values: issues, challenges, and implementation model. *International Journal of Learning*, *Teaching and Educational Research Vol. 19, No. 1, pp. 95-117*
- Wulandari, W., Diantini, A. S., Aksan, E. F., Helga, H., & Fitria, D. (2022). Pembelajaran Matematika Berbasis Islam. *Jurnal Ilmiah Mahasiswa Kuliah Kerja Nyata (JIMAKUKERTA)*, 2(3), 617-622.