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Numeracy Skills Assistance for Undocumented Children

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ABSTRAK

Numerasi adalah kemampuan untuk memahami dan menggunakan angka serta konsep matematika dalam kehidupan sehari-hari. Santri di An Nahdhoh mungkin mempunyai masalah dengan kemampuan berhitungnya karena berbagai faktor, termasuk terbatasnya akses terhadap sumber daya pendidikan yang berkualitas, metode pengajaran tradisional yang mungkin tidak secara efektif menumbuhkan pemahaman matematika, potensi prioritas kurikulum yang lebih mengutamakan pendidikan agama dibandingkan matematika, kendala bahasa, dan kurangnya dukungan yang disesuaikan untuk kesenjangan keterampilan individu. Kesediaan siswa untuk mempelajari kemampuan berhitung juga dapat dipengaruhi oleh keterbatasan sosial ekonomi dan sikap budaya dalam masyarakat Santri. Maka dari itu penelitian pengabdian ini bertujuan untuk memberikan bimbingan yang komprehensif khususnya terhadap An-Nahdhah, yang pada akhirnya dapat meningkatkan hasil numerasi di kalangan santri. Inisiatif ini melibatkan partisipasi 25 santri. Penelitian ini bersifat kuantitatif dengan Teknik analisis data menggunakan Uji-t. Pengabdian kepada masyarakat ini penting dan relevan dalam beberapa hal, antara lain peningkatan literasi numerasi, penerapan agama, keterampilan hidup sehari-hari, pengembangan kemampuan analisis, persiapan pendidikan lanjutan, peningkatan daya saing, dan pengenalan teknologi. Pengabdian kepada masyarakat ini meliputi tahapan sebagai berikut: persiapan, penilaian, pelaksanaan, dan evaluasi. Program dukungan berhitung An-Nahdlah untuk anak-anak yang tidak memiliki dokumen menawarkan beberapa keuntungan besar, khususnya dalam membantu anak-anak yang tidak memiliki dokumen formal atau status imigrasi untuk memperoleh pendidikan yang dapat diterima.

ABSTRACT

Numeracy is the ability to understand and use numbers and mathematical concepts in everyday life. Santri in An Nahdhoh may have problems with their numeracy skills due to various factors, including limited access to quality educational resources, traditional teaching methods that may not effectively foster understanding of mathematics, potential curriculum priorities that prioritize religious education over mathematics, language barriers, and a lack of tailored support for individual skills gaps. Students' willingness to learn numeracy skills can also be influenced by socio-economic limitations and cultural attitudes in the Santri community. Therefore, this service research aims to provide comprehensive guidance, especially to An-Nahdhah, which in the end can improve numeracy results among students. This initiative involves the participation of 25 students. This research is quantitative in nature with data analysis techniques using the t-test. Community service is important and relevant in several ways, including increasing numeracy literacy, application of religion, daily living skills, developing analytical skills, preparation for further education, increasing competitiveness, and introducing technology. This community service includes the following stages: preparation, assessment, implementation and evaluation. An-Nahdlah's numeracy support program for undocumented children offers several great benefits, particularly in helping children without formal documentation or immigration status to obtain an acceptable education.

1. INTRODUCTION

Pesantren provides education and teaching for learning, understanding, living, and practicing Islamic teachings (Khoeriyah, 2019; Rohman & Muhtamiroh, 2022; Utomo et al., 2022). (The primary

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function of the pesantren is to prepare students to study and master knowledge religion of Islam or better known as Tafaqquh fi al-din, which is expected to produce cadres of clergy and contribute to educating people and do da'wah spread Islam as well as forts defense of the people in the field of morality (Arifin, 2022; Islam et al., 2016). Pesantren continues their role in educating life nation (Tafaqquh fi al-din) and giving social services in preparing the ruling powers Islamic sciences as a cadre of scholars. An-Nahdlah is the only Pesantren in Malaysia founded by the Executive of the Nahdlatul Ulama Special Branch Malaysia management located in Tanjong Sepat, Selangor, Malaysia. Based on Nu Online's release, An-Nahdlah was established to be a place for students from Indonesia, Malaysia, and other countries who want to study religion. The Nahdlatul Ulama Board (PBNU) inaugurated An-Nahdlah in April 2022. Currently, 25 students at the An-Nahdlah come from NU members, most of whom are children of Indonesian immigrants. The study of immigrant children is still ongoing. The fact that migrant children do not have the same sense of belonging in the world as non-migrant children is troubling. Many countries in the southern hemisphere have become migration hubs, both as home countries and as transit countries (Allerton, 2020; Banerjee, 2016; Civil et al., 2020). In relation to education, the Malaysian government revised the Education Act of 1996 (Act 550) in 2002, thus limiting Malaysian people' access to free education. This implies that children of foreigners who do not have valid documents yet live in Malaysia are not permitted to attend public schools. Children of foreign workers, asylum seekers, and refugees are among those impacted (Chuah et al., 2019; Nimehchisalem et al., 2023). The term "undocumented children" refers to children who do not have any kind of documentation to indicate that they are legal Malaysian citizens or have any documentation as a foreign national. It should be mentioned that these children have never left their current geographical region, including their parents' home nation (Loganathan et al., 2019, 2022).

Mathematics education is urgent for all individuals, including students from the children of Indonesian immigrants in Malaysia. Here are some reasons why mathematics education is important to them (Castillo-Cuesta, 2022; Gabriel, 2020). First, they improved their analytical thinking skills. Mathematics involves analytical and logical thinking processes, which can help students develop critical skills to solve problems in everyday life and future careers. Second, mathematics education helps students to understand number systems, measurements, and other mathematical concepts which are universal languages. By mastering mathematics, students can adapt more easily to a new environment in Malaysia or wherever they are. Third, Preparation for the world of work. Mathematics is a skill in high demand in the modern world of work. Whether in the technology, business, or science sectors, math skills are essential for many occupations. Fourth, Improved financial skills. Mathematics helps develop an understanding of numbers, percentages, and financial calculations, which can help students manage their money better and make smart financial decisions (Diana, P., Marethi & Pamungkas, 2020; Faradiba & Alifiani, 2020; Zubaidah, 2019). Fifth, The Development of problem-solving skills. Mathematics education involves systematic and creative problem-solving. Numeracy skills, or the ability to understand and use numbers, are a critical aspect of daily life and individual development. Numeracy skills are not only relevant in the math classroom, but also permeate many aspects of life, including personal finance, career, and decision making (Hendrowati & Faelasofi, 2021; Rohmah et al., 2022). By having strong numeracy skills, a person can easily manage their finances, measure risks and opportunities, and make data-based decisions. In the workplace, numeracy is a fundamental skill required in a variety of industries, including business, science, technology and health. By understanding numbers, one can perform data analysis, make forecasts, and identify patterns, all of which are highly valued skills in the information age. Therefore, it is important for individuals to develop numeracy skills from an early age in order to face complex challenges in personal and professional life (Hudson et al., 2021; Söğüt et al., 2021). Numeracy is not just about counting, but also about understanding mathematical concepts and the ability to apply them in various life contexts.

Numeracy skills assistance children is an approach that aims to improve numeracy skills or mathematics skills in children. This program is designed to help children develop a strong understanding of basic math concepts from an early age. By providing the right help, children can develop numeracy, measurement, problem solving and logical thinking skills (Hendrowati & Faelasofi, 2021; Rohmah et al., 2022). Numeracy education in children is not only important for their future academic success, but also for the development of critical life skills. Through this approach, children can learn in an interactive and fun way, motivating them to explore and understand the world of mathematics better. By focusing on numeracy skills assistance, we can provide a solid foundation for children's mathematical development, helping them become more confident and ready to face more complex learning challenges in the future (Chan & Scalise, 2022; Halisa et al., 2022). This ability is invaluable in dealing with students' challenges and difficulties in a new environment. Even though these students do not have official documents, their right to education must still be recognized (Letchamanana, 2013; Loganathan et al., 2022). As a society, we

must strive to create an inclusive environment and provide access to education for all, including students from the children of Indonesian immigrants in Malaysia. The aim of this study is to provide comprehensive guidance, especially to An-Nahdhah, which in the end can improve numeracy results among students.

2. METHOD

This community service is located at An Nahdloh, Tanjung Sepat, Malaysia. Next, for the goal of community service activities, 25 An Nahdloh pupils will participate in mathematics learning help activities. The community service with a numeracy theme was carried out in Pesantren An-Nahdlah in Tanjung Sepat, Malaysia. This study is quantitative. The t-test is used to analyse data. This community service is important and relevant in several ways, including increasing numeracy literacy, religious application, everyday life skills, developing analytical skills, preparing for further education, increased competitiveness, and introduction to technology. This community service includes the following stages: preparation, assessment, implementation, and evaluation. The stages of community service are as follows: First, The Preparation Stage, including (a) Survey and preparation by identifying the problems and needs of An Nahdloh students; (b) The team carries out internal coordination to plan conceptual, operational implementation, and job descriptions for each service team member; (c) Preparation of assistance tools and materials; and (d) Publication preparation, location, and documentation (Prastyawan et al., 2023; Viskovic & Robson, 2001).

Second, The Assessment Stage, which includes all methods commonly used to determine the success of community service activities by assessing the performance of An Nahdloh students. Third, the alternative planning stages of the program include activities to prepare material to be conveyed regarding the numeration skills to partners. Fourth, Implementation of programs or activities conveying the numeration skills. At this stage, students are asked to form three groups. Each group sits close together in a line. Students are asked to solve enumeration problems in a relay, starting with the students sitting in front and continuing to the students sitting behind them. The students who sit at the back are in charge of making a report in written form and presenting it. Fifth, Evaluation stage Inviting partners, in this case, the leadership of An Nahdloh, to carry out a joint evaluation related to the numeration skills that has been carried out.

3. RESULTS AND DISCUSSION

Results

This community service has an important and relevant urgency in several aspects. First, Increasing numeracy literacy. With community service focusing on numeracy, Islamic boarding school students can improve their numeracy literacy. Numerical literacy is important because it allows them to manage finances, calculate drug doses, understand statistical data, and make smart decisions in various aspects of life. Documentation numeracy skills assistance is show in Figure 1.

Figure 1. Numeracy Skills Assistance

Figure 1 show community service with the numeracy theme at Islamic boarding schools will help students apply mathematical concepts in their religious activities, such as calculating prayer times, zakat, or calculations in astronomy (Islamic astronomy). Third, skills for everyday life: Numerical literacy is becoming increasingly important in this modern era. Students who have a good understanding of

mathematics will be better prepared to face the challenges of everyday life, including in the context of careers, and contribute positively to society. Fourth, developing analytical skills: Learning numeracy at Islamic boarding schools helps develop students' analytical skills. These skills are important for solving problems, interpreting information, and making sound decisions. Fifth, Preparation for further education: If students plan to continue their studies to a higher level of education, a good understanding of numeracy will be a solid foundation for dealing with more complex and technical subjects. Closing ceremony of community service is show in Figure 2.

Figure 2. Closing Ceremony of Community Service

Sixth, Increased competitiveness: In an increasingly connected and competitive world, good numeracy literacy will increase students' competitiveness in finding work and contributing productively to the economy. The last, introduction to technology: Numerical literacy is closely related to technology. In today's digital era, many jobs require an understanding of mathematics and the ability to use number-based technological tools. Through community service with the theme of numeracy at Islamic boarding schools, students can benefit significantly by improving their quality of life, developing relevant skills, and contributing positively to society. In the context of Islamic education, numeracy can also be used to understand and develop an understanding of Islamic laws related to mathematics, such as the law of inheritance, zakat, and muamalah (financial transactions). The numeracy literacy assessment rubric is based on Table 1.

Table 1. Numeracy Literacy Assessment Rubric

Assessment aspect	Assessment weight
number concept skills	4
arithmetic operation skills	4
use symbols and numbers	4
translate reality into mathematical form	4

Then t-test is conducted before and after assisted numeracy and literacy to measure students ability. The following is the data obtained from the research results as show in Table 2.

Table 2. Differences in Numeracy Literacy Abilities Before and After Training

	Average Numeracy Literacy Ability Score	
	before	after
Male	1.87	2.34
Female	1.99	2.12

Base on Table 2 show the result of differences in numeracy literacy abilities before and after training. The result of male students before training is 1.87 and after training there is increace into 2.34. Then result of female students before training is 1.99 and after training there is increace into 2.12.

Discusion

In contemporary society, students are consistently expected to possess the ability to effectively address many challenges that arise in their personal, social, professional, and scientific spheres (Huda & International, 2021; Mert, 2019; Yang et al., 2020). In addressing the aforementioned challenges, it is evident that Mathematics plays a crucial role in providing effective solutions. Nevertheless, it has been shown that students have difficulties when attempting to construct and assess mathematical problem-solving strategies within real-world situations (Sengupta-Irving & Agarwal, 2017; Sumirattana et al., 2017). The occurrence can be attributed to the disparity between the mathematics curriculum taught in schools and the practical Mathematics skills required in professional settings. The former is characterised by limitations in terms of its relevance. Furthermore, it is imperative that mathematics training provided in educational institutions effectively cultivates and enhances students' understanding, enabling them to acquire the necessary skills to proficiently tackle certain problem-solving tasks (Faradiba, 2022; Faradiba & Alifiani, 2020). The successful translation of conceptual mathematics into real-life practises necessitates a tailored approach for any curricula adopted in educational institutions. Mathematical literacy can be defined as a comprehensive set of abilities that encompass mathematical reasoning and the use of concepts, methods, facts, and mathematical elements to effectively describe, explain, and forecast recurring phenomena in everyday life (Gabriel, 2020; Sumirattana et al., 2017). Furthermore, it is imperative for educational institutions to prioritise the acquisition and critical examination of mathematical literacy. This is in line with a social theory that views literacy as an integral component of social practises, as certain key theories may have limited applicability to real-world contexts. The competence of teachers in conducting instructional processes is a significant factor that influences the mathematical literacy of students (Colwell & Enderson, 2016; Rosa & Orey, 2015; Skagerlund, 2018). An effective instruction necessitates a conceptual understanding of Mathematics and relevant content that reflects the needs of the community (Stacey & Turner, 2015; Utomo et al., 2022; Wijaya, 2016). Nevertheless, according to empirical observations, a significant number of educators still lack a comprehensive understanding of mathematical literacy, resulting in a misalignment between classroom instruction and the fundamental principles of this concept (Gabriel, 2020; Sari & Wijaya, 2017). Apart from the influence of teachers, several other elements have been identified as contributing to students' mathematical literacy. These factors include individual personality traits, socio-economic and cultural backgrounds, as well as the availability of supportive facilities and infrastructures for students.

Furthermore, it has been shown that mathematical literacy exhibits a significant correlation with the Holy Qur'an, as evidenced by the presence of five specific verses that allude to mathematical concepts. Hence, this underscores the significance of Mathematics, not alone within the context of publicschool education, but also within the framework of pesantren-based education. In the contemporary era, a significant number of parents exhibit a preference for pesantren-based education when it comes to their children's schooling. This choice is driven by the belief that such an educational approach offers a valuable opportunity for their children to develop both academic and religious competences (As' ad & Aji, 2020; Karim et al., 2022). In light of the current emphasis on the 4.0 Industry revolution, there is a growing recognition of the need for Islamic education to play a pivotal role in fostering dynamic and active engagement in the context of the globalisation era. Consequently, the focus of pesantren-based education should extend beyond religious teachings to encompass the development of scientific knowledge, thereby promoting excellence (Abidin, 2020; Fathani, 2019). The lack of standardisation in the curriculum implemented in pesantren-based schools can be attributed to the autonomy granted to each pesantren institution by the Ministry of Religions. This autonomy allows pesantren institutions to design their own curriculum, taking into consideration their unique characteristics, existing resources, cultural context, and the talents of their students. The pesantren-based school is an educational institution that combines two curricula, namely formal education and pesantren education, in a comprehensive educational system. The primary objective of this system is to cultivate individuals who possess both religious and intellectual knowledge (Nurochim, 2016; Widiani & Istiqomah, 2021).

4. CONCLUSIONS

The numeracy assistance program for undocumented children at An Nahdloh has many important benefits, especially in helping children who do not have official documents or immigration status to receive adequate education. This program allows children who still need official documents to receive education. Moreover this program helps children improve their math or numeracy skills. Good numeracy skills are important in everyday life, including in managing money, shopping, or even in finding a future job. Through numeracy assistance, children are invited to think critically in solving math problems. This critical thinking ability is important in their intellectual development and helps them to be more adaptive

in various situations. The numeracy assistance program for undocumented children at An Nahdloh Malaysia has significantly improved the quality of life for these children and paved the way for a brighter future.

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