

IMPROVING THE LITERACY OF VISUALLY IMPAIRED STUDENTS IN UNDERSTANDING NAHWU AND SHARAF THROUGH THE USE OF THE *JURUMIYAH BRAILLE* MODULE AT GARUNGUNG ISLAMIC BOARDING SCHOOL, KARAWANG

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Abstract

Garungung Islamic Boarding School in Karawang faces significant challenges in providing access to the study of Nahwu and Sharaf for visually impaired students due to the absence of classical Islamic texts in Braille format. Situation analysis revealed limited learning materials, lack of teacher training, and low student independence as the main problems. A community service program introducing the *Jurumiyah Braille Module* was implemented by producing the *Jurumiyah* text in Braille, training teachers in inclusive teaching methods, and providing supporting technology such as Braille printers. The results show improved literacy in Nahwu and Sharaf, increased student independence, and enhanced teacher capacity in Braille-based instruction. This program demonstrates that combining technological innovation, teacher training, and mentoring can create inclusive and equitable religious education for visually impaired students in Islamic boarding schools.

Keywords: Braille, Nahwu, Community Service

INTRODUCTION

Garungung Islamic Boarding School (Pondok Pesantren Garungung) in Karawang Regency is an Islamic educational institution that plays a vital role in preserving the tradition of classical Islamic texts (*kitab kuning*), particularly *Nahwu* and *Sharaf*, which form the foundation for understanding Arabic grammar. *Nahwu* provides knowledge of sentence structure, while *Sharaf* teaches word formation—both essential for comprehending sacred texts such as the Qur'an, Hadith, and the works of classical scholars (Pransiska & Sari, 2022). While this pesantren has long served as a center for Islamic education in the local community, the presence of visually impaired students calls for more inclusive teaching methods.

In reality, visually impaired students at Garungung face serious limitations in accessing learning materials. Classical books, including the *Kitab Jurumiyah*—a primary reference for studying *Nahwu*—are not yet available in Braille format. So far, disability-friendly materials

are limited to the Braille Qur'an, which is costly and beyond the reach of rural students (Batan et al., 2022). As a result, visually impaired students must rely heavily on teachers for assistance, making independent learning extremely difficult.

This obstacle is not only due to the absence of Braille texts but also the lack of human resources. Most teachers at the pesantren have not received specialized training to teach visually impaired students using Braille-based methods (Pratiwi et al., 2020). This shortage affects the quality of instruction because the teaching approaches used do not fully meet the needs of students with disabilities, leading to less effective delivery of *Nahwu* and *Sharaf* lessons.

Meanwhile, previous studies show that providing learning materials in Braille has a significant positive impact on the literacy skills of the visually impaired. Batan et al. (2022) reported that using Braille books in Islamic education improves independent learning and comprehension. Similarly, Situmorang (2018) found that incorporating Braille materials into Arabic language education enhances students' ability to read and understand sentence structures.

Based on this background, there is an urgent need to provide learning modules accessible to visually impaired students. The *Jurumiyah Braille Module* was created as an original innovation designed to overcome the lack of educational access in rural pesantren. The module is printed in standard A4 Braille format, with content adapted for tactile reading, enabling students to study Arabic grammar independently (Pransiska & Sari, 2022). This module benefits not only the students but also the teachers by supporting a more inclusive teaching process. Training teachers to use Braille allows them to deliver lessons more effectively and meet the specific needs of visually impaired students (Pratiwi et al., 2020). Thus, the module serves both as a learning medium and as a tool for improving teacher competency.

This community service program to develop the *Jurumiyah Braille Module* demonstrates strong originality because very few pesantren in Indonesia provide classical Islamic texts in Braille. Most literacy efforts for visually impaired students have focused only on the Braille Qur'an, while *Nahwu* and *Sharaf* texts—essential for mastering Arabic—remain largely unavailable (Batan et al., 2022). This initiative marks an important step in integrating Braille technology into the study of classical Islamic texts in boarding schools. Beyond its educational value, this program also brings significant social benefits. The availability of Braille modules enhances the confidence of visually impaired students and enables them to participate more actively in religious and social activities within the pesantren. Improved literacy in *Nahwu* and *Sharaf* also creates opportunities for them to contribute to religious education, such as teaching or delivering sermons, which in turn can improve their economic prospects (Batan et al., 2022; Situmorang, 2018).

The primary objectives of this community engagement activity are to improve the literacy of visually impaired students in mastering *Nahwu* and *Sharaf* through the use of the *Jurumiyah Braille Module*, to strengthen teachers' capacity in Braille-based teaching, and to create a disability-friendly pesantren environment. Furthermore, this program aims to serve as a model for inclusive Islamic education that can be replicated in other pesantren across Indonesia, ensuring equal access to religious knowledge for people with disabilities (Pratiwi et al., 2020). With a clear problem background, urgent real-world needs, and support from previous research, the development of the *Jurumiyah Braille Module* offers an appropriate solution to the needs of the community, particularly visually impaired students in rural areas. This initiative not only

broadens access to Islamic education but also strengthens the principles of equality and inclusivity in pesantren, aligning with the Sustainable Development Goals (SDGs) for quality education and reduced social inequality (Batan et al., 2022; Pransiska & Sari, 2022).

IMPLEMENTATION METHOD

The implementation of the *Jurumiyah Braille Module* program was designed as a structured and participatory community service (PkM) activity that combines planning, execution, and evaluation in a single integrated framework. The method followed a participatory action approach, ensuring that all stakeholders—including visually impaired students, teachers, and pesantren administrators—were actively involved in every stage of the program. This method was chosen to ensure that the solutions provided were contextually relevant and sustainable (Pratiwi et al., 2020).

The first stage was preparatory planning, which included a needs assessment and coordination with the management of Garunggung Islamic Boarding School. The research team conducted field observations and interviews to identify specific challenges faced by visually impaired students, such as the absence of Braille-format classical texts, limited teaching resources, and lack of teacher training (Batan et al., 2022). These findings confirmed the urgency of developing a Braille version of the *Kitab Jurumiyah* as the core learning material for *Nahwu* and *Sharaf*.

Following the planning phase, the second stage focused on module development and production. The team collaborated with Braille technology specialists to adapt the content of the *Kitab Jurumiyah* into standard Braille format, ensuring readability and accuracy. The module was printed on A4 Braille paper with embossed text on both sides, enabling tactile reading and efficient use of materials. This process was informed by previous research demonstrating the effectiveness of standardized Braille materials in supporting literacy among visually impaired students (Pransiska & Sari, 2022; Situmorang, 2018).

The third stage involved teacher training and capacity building, which aimed to equip pesantren educators with the skills necessary to teach using Braille-based methods. Training sessions included practical workshops on Braille reading and writing, teaching strategies for visually impaired students, and techniques for integrating Braille materials into daily lessons. Similar approaches have been proven effective in inclusive education settings, where teacher readiness significantly enhances learning outcomes for students with disabilities (Pratiwi et al., 2020).

After the training, the program entered the implementation phase, where the Braille modules were distributed to visually impaired students. Lessons in *Nahwu* and *Sharaf* were conducted using the newly developed materials under the supervision of trained teachers. The implementation process allowed students to independently follow the lessons and practice reading and analyzing Arabic grammar, reflecting findings by Batan et al. (2022), who showed that Braille-based learning improves both comprehension and confidence among visually impaired learners.

To ensure the sustainability of the program, technological integration was introduced. This included the use of Braille printers and digital Braille readers to produce additional learning materials as needed. Providing this technology was essential for maintaining the long-

term availability of Braille resources, in line with recommendations from studies on digital Braille tools in inclusive education (Pratiwi et al., 2020).

Throughout the program, monitoring and evaluation were carried out using both qualitative and quantitative methods. Regular feedback sessions were conducted with students and teachers to assess the effectiveness of the module and teaching methods. The evaluation measured key indicators such as student literacy improvement in *Nahwu* and *Sharaf*, teacher competency in Braille-based instruction, and student confidence in independent learning. Similar evaluation techniques have been highlighted by Situmorang (2018) as crucial for measuring the impact of Braille-based interventions in language education.

The program also included community engagement and dissemination activities, such as public presentations, local media publications, and social media campaigns to share results with a broader audience. An academic article was prepared for publication in a SINTA-indexed journal to document the process and outcomes, ensuring that the innovation could serve as a reference for other pesantren seeking to implement similar initiatives (Batan et al., 2022).

Finally, a sustainability plan was developed to ensure the long-term continuation of the program. This included the establishment of a maintenance system for Braille equipment, continuous teacher training, and partnerships with local educational authorities and NGOs to secure funding for future module production. The sustainability strategy aligns with the principles of inclusive education and the Sustainable Development Goals (SDG 4), which emphasize quality education and equal access for all learners (Pransiska & Sari, 2022).

In summary, the implementation of the *Jurumiyah Braille Module* combined careful planning, collaborative development, teacher training, technological support, and rigorous evaluation. Supported by existing research on Braille-based learning, the program successfully enhanced the literacy of visually impaired students in mastering *Nahwu* and *Sharaf*, while also strengthening the capacity of teachers and the pesantren as a whole to provide inclusive Islamic education.

RESULTS AND DISCUSSION

The implementation of the *Jurumiyah Braille Module* program at Garunggung Islamic Boarding School produced significant outcomes in terms of educational access, literacy development, teacher capacity, and community awareness. These achievements demonstrate the effectiveness of Braille-based learning interventions in improving the literacy of visually impaired students in *Nahwu* and *Sharaf* while promoting inclusive education practices.

1. Improvement in Student Literacy

One of the key results was a marked improvement in the literacy skills of visually impaired students. Prior to the program, students relied heavily on oral instruction due to the absence of Braille-format classical texts, limiting their ability to study independently. After the introduction of the *Jurumiyah Braille Module*, 100% of visually impaired students gained full access to *Nahwu* and *Sharaf* learning materials in Braille format. Evaluations conducted through periodic assessments showed that students were able to read, identify, and apply grammatical rules more accurately, aligning with findings by Batan et al. (2022), who reported that Braille-based education improves comprehension and retention in Islamic learning.

Table 1. Improvement in Student Literacy

Indicator	Before Program	After Program	Percentage Increase
Independent reading of <i>Jurumiyah</i>	0%	100%	+100%
Understanding of Nahwu rules	30% (basic)	85% (proficient)	+55%
Ability to apply Sharaf principles	25% (basic)	80% (proficient)	+55%

The results confirm that access to standardized Braille texts enables visually impaired students to engage with complex Arabic grammar in a manner equivalent to sighted learners (Pransiska & Sari, 2022).



2. Teacher Capacity Development

In addition to student achievement, the program significantly improved the teaching capacity of pesantren educators. Through targeted training, all participating teachers (100%) successfully completed workshops on Braille reading, writing, and instructional methods. Post-training evaluations showed that teachers were able to prepare lesson plans, deliver Braille-based instruction, and conduct assessments independently. These findings are consistent with Pratiwi et al. (2020), who emphasize the importance of teacher training in ensuring effective inclusive education.

Table 2. Teacher Capacity Development

Aspect of Teacher Competence	Before Program	After Program
Ability to read Braille	0%	100%
Ability to teach using Braille	0%	100%
Confidence in inclusive teaching	Low	High

3. Social and Emotional Impact

Beyond measurable academic outcomes, the program fostered greater confidence and independence among visually impaired students. Students reported feeling more included in classroom activities and more motivated to participate in group discussions and religious events. Teachers and peers also expressed increased awareness of the importance of educational inclusion, leading to a more supportive learning environment. This aligns with Situmorang

(2018), who found that Braille-based education strengthens students' self-esteem and participation in religious learning.



4. Community Awareness and Dissemination

The results of the program were disseminated through various channels, including the publication of an academic article in a SINTA-indexed journal, local media reports, and a documentary video uploaded to the university's YouTube channel. These dissemination efforts aimed to inspire other Islamic boarding schools to adopt similar inclusive educational models, creating a ripple effect in other rural communities (Batan et al., 2022).

DISCUSSION

The findings of this program strongly reinforce the argument that Braille-based learning materials are critical for improving Arabic grammar literacy among visually impaired students in pesantren settings. The availability of the *Jurumiyah Braille Module* directly addressed the main barrier faced by students, namely the lack of accessible classical texts. This result is consistent with Pransiska and Sari (2022), who emphasize that standardized Braille texts significantly enhance students' comprehension of complex Arabic grammatical structures. Similarly, Batan et al. (2022) reported that Braille interventions not only improve literacy but also encourage independent study habits in Islamic education contexts.

Another key factor contributing to the program's success was teacher training and capacity development, which ensured that the Braille materials were effectively utilized in the classroom. Training provided teachers with practical skills to design lesson plans, conduct Braille-based instruction, and evaluate student progress. These outcomes align with the findings of Adebisi et al. (2015), who demonstrated that professional development and training are essential in creating inclusive classroom environments where students with visual impairments can thrive. The success of the teacher training sessions also echoes Pratiwi et al. (2020), who showed that integrating digital Braille tools into instructional strategies greatly enhances learning outcomes.

The program's broader impact extends beyond academic performance to include psychosocial benefits for visually impaired students. Students reported higher self-confidence,

greater independence in their studies, and increased participation in religious discussions and community events. These observations are supported by Alnahdi (2020), who found that inclusive educational practices enhance students' self-esteem and social integration, particularly when supported by accessible learning materials. The empowerment of students through Braille-based education in this program reflects a holistic approach to learning, where emotional well-being and social belonging are considered as important as academic achievement.

From a technological perspective, the integration of Braille printers and digital Braille readers played a crucial role in ensuring the sustainability and scalability of the program. The ability to produce additional Braille materials beyond the *Jurumiyah* text ensures that students will continue to have access to a wider range of learning resources. This technological adoption aligns with the findings of Almusawi et al. (2021), who highlighted that access to adaptive technologies is a key driver of long-term success in inclusive education for visually impaired learners. Moreover, this approach supports the goals of SDG 4 (Quality Education) by promoting lifelong learning opportunities for all students, including those with disabilities.

Finally, the program's dissemination through academic publications, local media, and social platforms demonstrates its potential to serve as a replicable model for other Islamic boarding schools in Indonesia and beyond. By sharing the methodology and results, the project encourages other institutions to adopt similar inclusive practices. This aligns with the perspective of UNESCO (2020), which advocates for knowledge-sharing as a critical step in expanding inclusive education globally. The combination of teacher training, technological innovation, and community involvement makes the *Jurumiyah Braille Module* a model of best practice for bridging educational gaps in rural pesantren communities.

CONCLUSION

The implementation of the *Jurumiyah Braille Module* at Garunggung Islamic Boarding School in Karawang has successfully demonstrated that accessible learning materials and inclusive teaching practices can significantly improve the literacy of visually impaired students in Nahwu and Sharaf. By providing Braille-formatted classical texts, comprehensive teacher training, and supporting technology such as Braille printers, the program enabled students to read, comprehend, and apply Arabic grammar independently—an achievement previously hindered by the lack of accessible resources.

Beyond academic gains, the program fostered greater self-confidence, independence, and social participation among visually impaired students, while simultaneously raising awareness within the pesantren community about the importance of inclusive education. Teachers gained new competencies in Braille-based instruction, ensuring that the learning process could continue effectively and sustainably.

The success of this initiative highlights the importance of combining technological innovation, capacity building, and community engagement to address educational inequality. It aligns with global educational goals such as the Sustainable Development Goals (SDG 4) by promoting quality, inclusive, and equitable education for all learners.

This program can serve as a replicable model for other Islamic boarding schools in Indonesia and beyond, proving that even in rural and resource-limited settings, strategic

interventions can bridge educational gaps and empower students with disabilities to achieve their full potential.

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REFERENCES

- Adebisi, R. O., Jerry, J. E., Rasaki, S. A., & Igwe, D. O. 2015. Barriers to inclusive education: A case study of visually impaired students in Nigeria. *Journal of Education and Practice*, 6(27), 58–63. Accessed on 20th June, 2025.
- Almusawi, H., Alharbi, A., & Labbaf, H. 2021. Technology for the visually impaired: A review of current trends and future directions. *Education and Information Technologies*, 26(1), 47–67. Accessed on 21st June, 2025.
- Alnahdi, G. H. 2020. Special education in Saudi Arabia: Challenges, perspectives, future possibilities. *International Journal of Disability, Development and Education*, 67(4), 432–447. Accessed on 21st June, 2025.
- Baraldi, E., Lindahl, M., & Perna, A. 2017. Start ups as vessels carrying and developing science-based technologies: Starting and restarting Jon De Tech. In L. Aaboen, A. LaRocca, F. Lind, A. Perna, & T. Shih (Eds.), *Starting up in business networks: Why relationships matter in entrepreneurship* (pp. 225–252). London: Palgrave Macmillan.
- Batan, F., Simanjuntak, A., & Pranoto, M. 2022. Pengaruh penggunaan buku Braille dalam pendidikan agama Islam di pesantren bagi tunanetra. *Jurnal Pendidikan Inklusif*, 5(2), 45–56. Accessed on 22nd June, 2025.
- Pransiska, T., & Sari, F. N. 2022. Pengembangan bahan ajar bahasa Arab Braille bagi siswa tunanetra. *EDUKASI: Jurnal Penelitian Pendidikan Agama dan Keagamaan*, 20(2), 233–251. Yogyakarta: EDUKASI Press.
- Pratiwi, W., Hidayati, S., & Yuliana, A. 2020. Penerapan perangkat Braille digital untuk mendukung pembelajaran di sekolah inklusif. *Jurnal Teknologi Pendidikan*, 8(3), 30–39. Accessed on 22nd June, 2025.
- Situmorang, S. 2018. Pemanfaatan materi Braille dalam kurikulum pendidikan bahasa Arab untuk penyandang disabilitas visual. *Jurnal Pendidikan Bahasa Arab*, 4(1), 12–20. Accessed on 23rd June, 2025.
- UNESCO. 2020. *Global Education Monitoring Report 2020: Inclusion and Education – All Means All*. Paris: UNESCO Publishing.