INNOVATION IN QURAN MEMORIZATION LEARNING FOR DEAF CHILDREN: AN INCLUSIVE APPROACH

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Abstract
This study is motivated by the limited availability of adaptive methods for Qur'anic tahfiz (memorization) for deaf children, particularly in regions with constrained resources such as West Sulawesi. The objective of this research is to evaluate the effectiveness and describe the implementation of the Abata Method, an innovative approach integrating phonetic visualization, tactile vibration, and hand gestures, in enhancing the memorization ability of Surah Al-Fatihah among deaf children. This study employs a descriptive qualitative method, conducted at the SLB Negeri Pembina Provinsi Sulawesi Barat (State Special Needs School, Mentor of West Sulawesi Province). Participants consisted of 10 deaf students, 3 tahfiz teachers, 1 school principal, and 5 parents/guardians, selected purposively. Data were collected through participatory observation, in-depth interviews, and documentation studies, and were subsequently analyzed using the interactive model by Miles and Huberman (data reduction, data display, and conclusion drawing/verification). Key findings indicate that: (1) the method's implementation followed five systematic stages (pre-articulation to family-based *muroja'ah* or review); (2) observable improvements occurred in the accuracy of Hijaiyah letter articulation and the fluency of hand gesture sequences for the majority of students; and (3) the main supporting factors were the multisensory nature of the method and teacher competency, while the primary constraints were fluctuations in student concentration and limited access to therapists. The conclusion/implication of this study is that the Abata Method proves to be a viable alternative as an inclusive pedagogical tool. These findings imply the necessity for developing specific Standard Operating Procedures (SOP), school-family partnership packages, and collaboration schemes with health professionals to strengthen the inclusive Islamic Religious Education (PAI) curriculum in Indonesia.

INOVASI DALAM PEMBELAJARAN MENGHAFAL AL-QURAN UNTUK ANAK-ANAK TUNARUNGGU: PENDEKATAN INKLUSIF

Abstrak

Penelitian ini dilatarbelakangi oleh terbatasnya metode pembelajaran tahfiz Al-Qur'an yang adaptif bagi anak tunarungu, khususnya di daerah dengan sumber daya terbatas seperti Sulawesi Barat. Tujuan penelitian ini adalah untuk mengevaluasi efektivitas dan mendeskripsikan implementasi Metode Abata sebuah pendekatan inovatif yang mengintegrasikan visual fonetik, getaran taktil, dan isyarat tangan dalam meningkatkan kemampuan menghafal Surah Al-Fatihah pada anak tunarungu. Penelitian ini menggunakan metode kualitatif deskriptif yang dilaksanakan di SLB Negeri Pembina Provinsi Sulawesi Barat. Partisipan terdiri dari 10 siswa tunarungu, 3 guru tahfiz, 1 kepala sekolah, dan 5 orang tua/wali, yang dipilih secara *purposive*. Data dikumpulkan melalui observasi partisipatif, wawancara mendalam, dan studi dokumentasi, kemudian dianalisis dengan model interaktif Miles dan Huberman (reduksi, penyajian, dan penarikan kesimpulan). Hasil kunci penelitian menunjukkan bahwa: (1) implementasi metode berjalan melalui lima tahap sistematis (pra-artikulasi hingga muroja'ah keluarga); (2) terjadi peningkatan yang teramati dalam akurasi artikulasi huruf Hijaiyah dan kelancaran urutan isyarat tangan pada mayoritas siswa; serta (3) faktor pendukung utama adalah multisensorialitas metode dan kompetensi guru, sedangkan penghambat utamanya adalah fluktuasi konsentrasi siswa dan keterbatasan akses terapis. Kesimpulan/implikasi dari penelitian ini adalah bahwa Metode Abata terbukti layak sebagai alternatif pedagogis inklusif. Temuan ini mengimplikasikan perlunya pengembangan Standar Operasional Prosedur (SOP) khusus, paket kemitraan sekolah-keluarga, dan skema kolaborasi dengan tenaga kesehatan untuk memperkuat kurikulum Pendidikan Agama Islam (PAI) inklusif di Indonesia.

Keyword: Metode Abata, Tunarungu, Pendidikan Inklusif, Tahfiz Al-Qur'an, Visual Fonet

INTRODUCTION

Human beings, in their essence, are created by Allah Ta'ala in the best of forms. However, Allah Ta'ala demonstrates His power by creating humans with distinct privileges, characteristics, and inherent dignity, among them are children with special needs. In Indonesia, according to the latest data, the number of persons with disabilities has reached 16.5 million. One of the most commonly encountered disabilities is hearing impairment in children. Based on data from the Ministry of Social Affairs' Disability Management Information System, approximately 7.03% of persons with disabilities in Indonesia have hearing impairments (Supena & Iskandar, 2021).

First glance, individuals with hearing impairments may appear similar to others without physical abnormalities, having the same needs, responsibilities, and developmental stages. However, the impairment of their bodily functions makes them different in terms of social interaction activities (Efendi & Inayati, 2020). Children with hearing impairments require assistance

that is not merely material, such as money, clothes, toys, or other items. They need more specific support of a spiritual nature, encompassing education, encouragement, motivation, and sincere affection. By providing them with education, uplifting support, motivation, and genuine care, it is hoped that efforts to educate and guide deaf children can progress. This can inspire them to optimize and maximize their potential, enabling them to contribute meaningfully— not only for themselves but also for their environment and society at large. To develop their potential, focused attention, specialized handling, and dedicated mentoring are required from other parties capable of guiding and educating them effectively and appropriately.

In this context, memorizing the Qur'an is a vital component of Islamic education, as it not only nurtures spirituality but also enhances children's cognitive abilities (Kamba, 2018). However, deaf children particularly in underdeveloped regions such as West Sulawesi—face complex challenges due to a lack of adaptive learning methods. Data from the Sekolah Luar Biasa (SLB) Negeri Pembina Provinsi Sulawesi Barat (2023) reveals that 65% of deaf students come from low-income families, severely

limiting their access to hearing aids and innovative learning tools. Furthermore, a study by Zulfikar et al. (2022) in the Journal of Islamic Inclusive Education found that only 12% of special needs schools in Indonesia have a structured Qur'an learning curriculum for deaf children. This urgent problem highlights the critical need for methodological innovation, such as the Abata approach, which utilizes lip vibration techniques as an alternative for inclusive Qur'anic education.

Conventional methods like lip-reading and sign language have proven less effective for Qur'an memorization, especially for children with profound hearing loss (Wahyuni, 2023). While global multisensory approaches (Smith & Lee, 2021) have demonstrated success in improving memory retention, their application in religious education remains limited. Research by Nurhidayah & Febriana (2023) underscores the potential of visual-tactile media, such as Hijaiyah cards. However, infrastructure limitations in rural areas hinder the adoption of more advanced assistive technologies (Nurhayati et al., 2023). The Abata Method emerges as an innovative solution by integrating: lip vibration techniques, hand movements, and locally-sourced tactile

media. This approach leverages the heightened tactile sensitivity of deaf children to sound vibrations, allowing them to "feel" the pronunciation of Hijaiyah letters through touch on both the teacher's neck and cheeks during talaqqi sessions (Al-Husna & Rahman, 2022).

This research aims to evaluate the effectiveness of the Abata method in enhancing the memorization of short Qur'anic chapters (Surah Al-Fatihah) among deaf children. Through collaboration with teachers and parents, learning modules were developed using tactile wooden Hijaiyah boards and audiovisual recordings optimized for low frequencies. The target is for 85% of students to achieve memorization accuracy above 70% within two months, in line with UNICEF (2022) recommendations on context-based inclusive education. This innovation not only addresses technical challenges but also contributes to enriching Indonesia's inclusive education curriculum and supports the Sustainable Development Goals (SDGs) in promoting equitable access to education.

METHODS

This research employed a descriptive qualitative method to document and analyze the phenomenon of implementing the Abata method in Qur'anic tahfiz (memorization) learning for deaf children (Anggito & Setiawan, 2018). This approach was chosen to understand the process, challenges, and meanings from the perspectives of direct actors in the field.

Research Design and Location

The research was conducted at SLB Negeri Pembina Provinsi Sulawesi Barat (State Special Needs School, Mentor of West Sulawesi Province), a special education institution that has implemented the Abata method. This location was selected based on the consideration that the school is the primary setting where the learning interactions occur.

Participants and Sampling Technique

Research participants were selected using a purposive sampling technique with specific criteria to ensure depth and relevance of information. Participants consisted of:

1. **Tahfiz Teachers (n=3):** Teachers who have undergone training and have actively taught using the Abata method for at least 6 months.

2. **School Principal (n=1):** As the policy-maker and program supervisor.

3. **Deaf Students (n=10):** Students with moderate to severe hearing

impairment, aged 10-15 years, who have participated in tahfiz learning using the Abata method for at least 1 month.

4. **Parents/Guardians (n=5):** Of the participating students, who are involved in *muroja'ah* (review) sessions at home.

Data Collection Techniques

Data collection was conducted through three primary techniques to achieve triangulation:

1. **Participant Observation:** The researcher directly observed the learning process, from individual *talaqqi* sessions, articulatory exercises, to group activities. The focus of observation included teacher-student interaction, the use of tactile media, and student responses. The observation guide contained aspects such as the synchronization of lip movements and hand gestures, student focus duration, and the use of teaching aids.

2. **In-depth Interviews:** Conducted semi-structured with teachers, the principal, and parents. The interview guide for teachers covered themes: (a) the procedures for implementing the Abata method, (b) difficulties and solutions, and (c) perceptions of student progress. Interviews with parents focused on experiences assisting with *muroja'ah* and observed changes in their children.

3. **Documentation Study:** Included analysis of Lesson Plans (RPP), video recordings of learning sessions, student worksheets, and school-parent communication logs.

Data Analysis

Data were analyzed using the interactive model by Miles and Huberman (Emzir, 2011), which includes:

1. **Data Reduction:** Raw data from interview transcripts, observation notes, and documents were selected, focused, and simplified. An example of initial coding activity:

   a. **Quote:** "I hold the student's hand, place it on my cheek, then repeatedly pronounce 'ba' so they feel the vibration." (Interview G1).

   b. **Initial Code:** Direct Physical Guidance Technique.

2. **Data Display:** The reduced data were displayed in the form of matrices, tables, and descriptive narratives to facilitate the identification of

relationships. For example, a table linking Challenge Categories (e.g., Concentration Fluctuation), Data Evidence (Observation: S5 often looks out the window after 10 minutes), and Emerging Mitigation Strategies (Teacher: "I change it into a hand gesture guessing game").

3. **Conclusion Drawing/Verification:** Themes emerging from the data display were verified and interpreted to answer the research questions. Initial conclusions were verified again through member checks with several participants.

Validity and Research Ethics

Data validity was ensured through:

1. **Source and Technique Triangulation:** Confirming information from teachers, students, and parents using observation, interview, and documentation techniques.

2. **Member Check:** Preliminary analysis results were discussed again with participants to obtain confirmation and corrections.

3. **Audit Trail:** The decision-making process during the research was documented in detail to allow for tracking.

Research ethics were fulfilled through: obtaining written permission from the school and informed consent from parents/guardians, as well as guaranteeing anonymity by using codes such as G1, G2 (Teacher), S1, S2 (Student), and OT1, OT2 (Parent) in reporting the results. FINDINGS AND DISCUSSION

The implementation of the Abata method took place in five systematic stages designed to build phonological understanding and motor memory. The details of each stage and its empirical evidence are presented in Table 1

Table 1. Stages, Activities, and Evidence of Abata Method Implementation

Stage	Activity Description	Evidence Example	Field Verification (Verbatim Quote)
Pre-Articulation	Introduction to the concept of sound through vibration sensation on body parts (neck, cheek, chest).	Students touch the teacher's neck during the pronunciation of emphatic letters (such as 'ghain'). A bottle filled with rice is shaken to	*"We ask the child to place their hand on my cheek to 'feel' the vibration when pronouncing 'ba'."* (G1, 12/08/2024)

		simulate sound vibration.	
Letter Phonetic Visualization	Presentation of visual mouth shapes (*makhraj*) combined with a unique hand gesture for each Hijaiyah letter.	The letter 'ba' is taught with a demonstration: lips closed → open + breath, accompanied by a gesture of four fingers placed on the chin moving forward.	*"Explanation of the letter 'ba': lips closed exhale four-finger gesture on the chin."* (G2, 15/08/2024)
Lip and Gesture Synchronization	Practice imitating the teacher's lip movements visually while simultaneously displaying the corresponding hand gesture.	Use of a small mirror so students can correct their own lip shape and hand gestures. Repetition per letter up to hundreds of times.	*"I saw him (S3) in front of the mirror, his eyes intensely focused on his own lips, his hand trying to follow my movement."* (Observation, 18/08/2024)
Repetitive Practice with Tactile Media	Memory reinforcement through tactile media to engage the sense of touch and form kinesthetic memory.	Use of wooden boards with carved Hijaiyah letters; students trace the letter grooves with their fingers while articulating.	*"They remember better through fingertip touch. Begu holds the letter on the board and immediately knows its hand gesture code."* (G1, 20/08/2024)
Muroja'ah (Review) with Family Support	Integration of parents in the home-based memorization review process with structured guidance.	Daily *muroja'ah* sheets containing hand gesture symbols and images of lip positions for each memorized verse.	*"I (parent of S5) was given a sheet with gesture pictures. I hold it, watch my child recite, and can correct them if it's different."* (Parent Interview, 22/08/2024)

4.2. Supporting Factors, Constraints, and Mitigation Strategies

The implementation of this method was influenced by a number of contextual factors. Collaboratively developed mitigation strategies successfully addressed several key constraints. An analysis of these factors is presented in Table 2.

Table 2. Analysis of Supporting Factors, Constraints, and Mitigation Strategies

Category	Factor	Impact on Learning	Mitigation Strategy Applied
Supporting	1.Engaging and Multisensory Method.	Increases student engagement and focus duration.	Rotating activities (visual, tactile, kinesthetic) every 5-7 minutes within a session.

	2. Student Enthusiasm and Positive Response.	Speeds adoption of new gesture patterns and fosters intrinsic motivation.	Providing non-verbal positive reinforcement (stickers, visual applause, happy facial expressions).
	3. Teacher Competency and Commitment.	Enables improvisation and learning differentiation based on individual student responses.	Periodic sharing sessions among teachers to exchange techniques and solutions.
Constraint	1. Fluctuations in Student Mood and Concentration.	Causes inconsistency in output and difficulty achieving session targets.	Implementing short, intensive practice schedules (10-15 minutes) with high frequency (3-4 times/week).
	2.Limited Access to Speech Therapists.	Difficulty addressing complex, specific articulation problems.	Collaboration with local health center (Puskesmas) personnel for basic teacher training and a simple referral scheme.

4.3. Conceptual Model of Memorization Retention

Based on the analysis of the findings, a conceptual model was formulated to explain the mechanism of the Abata Method in building memorization retention (Figure 1). This model shows that the integration of phonetic visualization and multisensory stimulation forms the cognitive foundation. This foundation then enhances articulatory fluency and verse reading accuracy, which is significantly reinforced through family-based *muroja'ah* (review) practice. It is this continuous cycle that ultimately crystallizes long-term memorization retention.

4.4. Effectiveness of the Abata Method within an Inclusive Learning Theory Framework

These findings reinforce the proposition that the effectiveness of the Abata Method is rooted in its ability to perform modality translation (Lundeto, 2019), that is, transferring the representation of auditory phonemes into coherent visual-kinesthetic-tactile information packets. This process aligns with the principle of multisensory learning, which asserts that simultaneous stimulation of several sensory channels strengthens memory encoding and recall (Smith and Lee, 2021). By bypassing the need for auditory processing and replacing it with visual cues (phonetic visualization) and motor memory, the Abata Method reduces cognitive load and forms alternative neurological pathways (Nurritta, 2018). The quote from G1 regarding a student who "*remembers better through fingertip touch*" confirms the

formation of strong tactile associations, a crucial compensatory mechanism for deaf education.

5.2. Comparison and Contextualization of Findings

The findings regarding the importance of tactile and visual media are consistent with research by Nurhidayah and Febriana (2023), which revealed the potential of visual-tactile media in Qur'anic learning. However, this research goes further by integrating them into a systematic method that includes articulation and family involvement, an aspect still limited in previous studies. While Efendi & Inayati (2020) highlight the importance of socio-spiritual support, the implementation of the Abata Method provides a concrete, operational form of that support through school-family partnerships. On the other hand, the study by Wahyuni (2023), which highlighted the ineffectiveness of conventional lip reading, finds an answer in the Abata approach, where lip reading is enriched with gestures and tactile confirmation, making it more accurate and verifiable by the students themselves. Differences in context (*pesantren* vs. SLB) and technological availability do not diminish the essence of the findings; instead, they

demonstrate the adaptability of the Abata Method in resource-limited conditions.

5.3. Practical Implications for Inclusive Islamic Religious Education (PAI)

Based on the findings, this research recommends several practical implications:

1. Standard Operating Procedure (SOP) for Special Needs Schools (SLB): Ideal learning sessions should last 10-15 minutes with a fixed sequence: (a) vibration sensory warm-up (2 minutes), (b) introduction of 1-2 letters with phonetic visualization (5 minutes), (c) repetitive practice with tactile media (5 minutes), (d) gesture review (3 minutes). Achievement indicators should focus on gesture accuracy and consistency of lip shape.

2. School–Parent Partnership Package (Home-School Partnership): A comprehensive guidance package is needed, consisting of: (a) a visually formatted Daily Muroja'ah Sheet with a checklist column, (b) a Short Video Tutorial for parents to practice how to feel vibrations, and (c) a simple Communication Log Book.

3. Referral Scheme and Network Collaboration: Schools need to

establish an internal referral protocol to identify students requiring intensive articulation support and to build formal collaboration with local community health centers (Puskesmas) or speech therapists for periodic consultations and capacity building for inclusive PAI teachers.

CONCLUSION

Based on the research results and discussion, the following conclusions can be drawn. Firstly (RQ1), the implementation of the Abata method for deaf students at SLB Negeri Pembina consists of five sequential and systematic stages: (1) pre-articulation through the introduction of sound vibrations, (2) learning the visual phonetics of each Hijaiyah letter with specific hand gestures, (3) synchronization of lip movements and hand gestures, (4) repetitive practice with tactile media, and (5) memorization reinforcement through family-based *muroja'ah*. These stages successfully transformed the concept of auditory phonetics into a multimodal visual, kinesthetic, and tactile experience.

Secondly (RQ2), the main factors supporting the effectiveness of this method are the appeal of the multisensory approach, which increases student engagement; student enthusiasm and positive response; and teacher competence in improvisation. Meanwhile, the main constraining factors include fluctuations in student concentration and mood, as well as limited access to speech therapists and resources for media development. Several mitigation strategies, such as short-periodic practice sessions, parent coaching, and collaboration with health professionals, proved capable of reducing the impact of these constraints.

Thirdly (RQ3), this research provides practical implications for strengthening inclusive Islamic Religious Education (PAI), namely: (a) the need for Standard Operating Procedures (SOP) containing non-auditory durations, activity sequences, and achievement indicators; (b) the importance of developing a school-parent partnership package consisting of visual guides and structured *muroja'ah* sheets; and (c) the need for a referral scheme and collaboration with professionals for more holistic support.

Limitations and Suggestions for Future Research

This research has several limitations, namely its scope being limited to one study location (SLB Negeri Pembina), the qualitative nature of the data limiting generalizability, and external conditions such as access to therapists still posing a challenge.

For future research, it is recommended to: (1) conduct a small-scale controlled trial (quasi-experiment) to measure the comparative effectiveness of the Abata method; (2) adopt a mixed-methods approach to measure memorization retention both quantitatively and qualitatively; and (3) conduct a longitudinal evaluation to test the durability of memorization and the long-term impact of this method on the religious literacy development and self-confidence of deaf students.

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