

Iqro Bil-Isyarah: A Sign-Language-Based Innovation for Teaching Hijaiyah Letters to Deaf Children

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ABSTRACT

Learning the Hijaiyah alphabet is an important foundation in Islamic Education, especially for deaf students who face difficulties in verbal and auditory-based learning. Initial observations show that existing learning media do not accommodate visual and kinesthetic learning styles, and the integration of sign language with the Hijaiyah alphabet and visualization of makhraj is still lacking. This study uses a research and development (R&D) method with a 4D model (Define, Design, Develop, Disseminate), including needs analysis, media design using Canva, prototype development, and expert validation. The results of the development show that Iqro Bil Isyarah is considered feasible based on the validation results from material and media experts and integrates sign language illustrations, makhraj visualization, tutorial videos via QR codes, and graded exercises, thereby supporting visual-kinesthetic and systematic learning of Hijaiyah letters for deaf students. The benefits and expectations are that this media can facilitate students in mastering Hijaiyah letters effectively, assist teachers in implementing inclusive Islamic education, and support more equitable and meaningful access to Al-Qur'an literacy for students with special needs.

Keywords: Deaf Children, Hijaiyah Letters, Interactive Learning Media, Iqro Bil-Isyarah, Sign Language

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INTRODUCTION

Learning the Hijaiyah alphabet is a key foundation in Islamic Education because it is the first step for students in reading the Qur'an, understanding daily prayers, and performing worship correctly (Selian et al., 2025). Mastery of Hijaiyah letters is not only related to technical reading skills, but also plays a role in shaping religious awareness, morals, and Islamic identity from an early age (Herlina et al., 2021). The urgency of this learning is in line with the teachings of the Qur'an, which places reading as the first divine command, as stated by Allah SWT in Surah Al-'Alaq, verse 1

اِقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ

“Read in the name of God, who created you”.

In addition, the Qur'an also emphasizes the principle of ease in the practice of religious teachings, as mentioned in Surah Al-Baqarah verse 185: (“Allah desires ease for you and does not desire hardship for you”), which emphasizes that religious learning must be designed in a meaningful way and not burden the students (Nurhikmah, 2024).

Some recent studies show that visual media and sign language approaches play an important role in improving letter comprehension and learning mastery for deaf children in the context of general learning (Suryanto et al., 2025). Several studies show that visual and sign language approaches are very important in improving letter comprehension for deaf students (Wicaksono et al., 2025). developed sign language-based letter and number learning media that guide users visually and kinesthetically to understand letter and number symbols. In addition, (Purwanti & Perdana, 2024) showed that Hijaiyah sign language flashcards are effective in improving the ability to read the Qur'an in deaf students in special elementary schools. Other studies also confirm the effectiveness of using Hijaiyah sign language in improving the ability to read the Qur'an for deaf people.

However, existing research tends to focus on the development of media as a tool or evaluation of the effectiveness of basic media, while studies on developing an integrated concept of learning Hijaiyah letters based on sign language positioned within a more holistic Islamic Education framework are still limited (Baehaqi & Misbah, 2025). For example, studies on the use of Arabic sign language videos to improve Hijaiyah letter recognition show an increase in the learning abilities of deaf students, but they are still not integrated as a systematic learning model in the context of inclusive Islamic Religious Education. This condition indicates a strong gap in research on the integration of sign language media in a deep Islamic religious education framework, thus emphasizing the need for research that comprehensively formulates the concept of Hijaiyah media based on sign language (Muhawarman, 2025).

This study offers originality in the formulation of the concept of Hijaiyah letter learning media based on sign language, which is specifically designed for deaf students in the context of Islamic Religious Education. The uniqueness of this study lies in the integration of visual representations of Hijaiyah letters, sign language movements, and the kinesthetic understanding of makhraj (Hikmah, 2024). This study also aims to formulate and develop the concept of Hijaiyah letter

learning media based on sign language that can facilitate visual and kinesthetic understanding of deaf children, so that they can gain more inclusive access to Al-Qur'an literacy (Ruhama et al., 2024) .

In addition, this study has both theoretical and practical significance. Theoretically, this study contributes to the development of inclusive Islamic Education studies through the formulation of the concept of *Iqro Bil Isyarah* as a medium for learning Hijaiyah letters based on sign language for deaf students (Nurdyansyah & Pujiati, 2023). This concept enriches the scientific knowledge of Islamic Education by presenting a visual and kinesthetic approach as a more adaptive alternative to learning the Qur'an (Niratama & Widajati, 2022). Practically, the results of this study are expected to serve as a conceptual reference for Islamic Education teachers, madrasas, and special schools in implementing *Iqro Bil Isyarah* as a humanistic, inclusive, and engaging medium for learning Hijaiyah that is in line with the learning characteristics of deaf children (Dp et al., 2023). Furthermore, this research supports the fulfillment of the rights of deaf children to have equal access to Qur'anic literacy and meaningful religious education.

Based on these considerations, this study aims to formulate and develop the concept of *Iqro Bil Isyarah* as a sign language-based Hijaiyah learning medium for deaf students within the context of Islamic Religious Education. This study is expected to contribute theoretically by enriching inclusive Islamic Education studies through a visual and kinesthetic approach to Qur'anic literacy, and practically by providing a conceptual reference for educators in implementing adaptive and inclusive Hijaiyah learning. Ultimately, this research seeks to support equal access for deaf students to meaningful Qur'anic literacy and religious education in accordance with their learning characteristics.

METHOD

This study uses a research and development (R&D) approach to produce and develop Hijaiyah learning media based on sign language for deaf children (HL et al., 2023). The development model used is the 4D model (Define, Design, Develop, and Disseminate) because it has systematic and relevant stages in the development of learning media based on the needs of students, especially in the context of inclusive Islamic education (Sihombing, 2024). The data analysis technique in this study was conducted qualitatively using descriptive analysis of data obtained from the results of needs assessment, media design process, and product development validation and evaluation results (Pratiwi et al., 2024). This analysis aims to systematically describe the characteristics, feasibility, and suitability of the learning media developed for the needs of deaf children in learning the Hijaiyah alphabet. Through qualitative descriptive analysis, the data obtained is interpreted to provide a comprehensive understanding of the process and results of developing sign language-based learning media (Septianti & Firdaus, 2024).

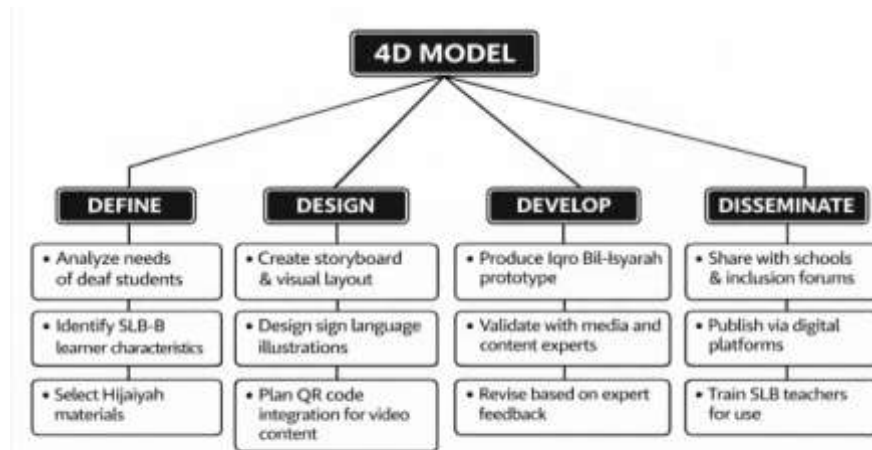


Figure 1. Development Flow Chart Of *Iqro Bil Isyarah* (Utaminingsih et al., 2024)

In the Define stage, researchers analyzed the learning needs of deaf students in learning the Hijaiyah alphabet and found that verbal methods were not suitable for their visual and kinesthetic learning characteristics. The available learning media were not integrated with sign language and did not facilitate visual understanding of makhraj. Based on an analysis of the characteristics of the students, the material, and the context of inclusive Islamic Education, the researcher determined the need to develop adaptive and inclusive sign language-based Hijaiyah learning media as the basis for design in the next stage (Susilawati et al., 2025).

In the Design stage, researchers used Canva as a design tool to systematically and child-friendly arrange the storyboard and visual layout of the *Iqro Bil Isyarah* learning media. This design includes the creation of illustrations and visual tutorials that explain in detail the sign language process for each Hijaiyah letter, the design of communicative sign language illustrations, and the integration of QR codes that link to step-by-step video tutorials on how to sign Hijaiyah letters for deaf children, sourced directly from the Ministry of Religious Affairs of the Republic of Indonesia. In addition, the researcher also determined the selection of colors and designs that are suitable for the characteristics of deaf children, and compiled various forms of exercises, such as exercises in signaling and writing Hijaiyah letters, matching letters with the correct signs, and exercises in reading Hijaiyah letters through sign language, as an effort to strengthen the students' overall understanding.

In the Develop stage, researchers realized the design that had been compiled into a complete *Iqro Bil Isyarah* learning media prototype that was ready for testing. The prototype was then validated by media experts and Islamic Education material experts to assess the visual appearance, clarity of sign language illustrations, suitability of Hijaiyah letter material, and integration of video content via QR code. Based on the validation results and input from the experts, the researchers revised and refined the media in terms of design, content clarity, and material presentation, so that the developed product became more feasible, accurate, and suitable for the Hijaiyah letter learning needs of deaf students.

In the Disseminate stage, activities are not directed at widespread media distribution, but rather focused on conceptual introduction and readiness for the

use of *Iqro Bil Isyarah* learning media by educators at the SLB Negeri Sragen. This stage is intended as part of efforts to support Hijaiyah letter learning based on sign language in the context of inclusive education. The *Iqro Bil Isyarah* media is designed in a form that allows digital access so that it is ready for use and further development at the implementation stage in the future. Thus, the Disseminate stage serves to strengthen the sustainability of media development and as a basis for the use of media in Islamic Religious Education for deaf students.

RESULTS AND DISCUSSION

RESULT

The results of the study show that the analysis of Hijaiyah letter learning needs for deaf students reveals a gap between the learning methods used and the learning characteristics of the students. Hijaiyah letter learning, which has been verbal and auditory in nature, has not been fully understood by deaf students who have a tendency to learn visually and kinesthetically (Ruhama et al., 2024). Students have difficulty recognizing letter shapes, distinguishing between similar-sounding letters, and understanding the makhraj of Hijaiyah letters due to the lack of clear and systematic visual representations. In addition, the learning media available in schools are not integrated with sign language and do not provide visual guidance on how to pronounce Hijaiyah letters in accordance with tajwid rules (Purniasih et al., 2024).

These findings are reinforced by an analysis of the characteristics of students who need learning media with simple visual displays, child-friendly colors, communicative illustrations, and direct and repetitive practice activities. In terms of material, learning the Hijaiyah alphabet requires clarity in the shape of the letters, their makhraj, and pronunciation, which has been difficult for deaf students to access without visual aids and sign language (Neto et al., 2025). Based on the analysis of student characteristics, material, and the context of inclusive Islamic Religious Education, the need to develop adaptive, visual, and inclusive sign language-based Hijaiyah letter learning media was determined as the basis for media development in the next stage. During the design stage, researchers developed the *Iqro Bil Isyarah* learning media design using Canva as a design tool to produce a systematic and child-friendly visual prototype:



Figure 2. Design Of *Iqro' Bil Isyarah* Book

The image in the design section shows the initial design of the *Iqro Bil Isyarah* learning media, which contains a complete set of Hijaiyah letters accompanied by

sign language representations for each letter. Each Hijaiyah letter is visualized with the corresponding hand sign to help deaf students recognize and remember the letters through a visual and kinesthetic approach. The same page also includes a QR code that, when scanned, directs users to a tutorial video demonstrating how to sign Hijaiyah letters correctly.

On the next page, the media provides a more detailed explanation of how to sign each Hijaiyah letter. The explanation includes the position and movement of the fingers, the direction of the sign, and its relationship to the makhraj of the letter so that there are no mistakes in pronunciation. This visual tutorial is designed to provide a deeper and more accurate understanding, so that deaf students not only recognize the shape of the letters, but also understand how to sign and read Hijaiyah letters correctly according to the rules of makhraj in sign language.



Figure 3. Design Of Iqro' Bil Isyarah Material Content

The images in the exercise section show learning activities that train understanding of Hijaiyah letters through visual and kinesthetic sign language, beginning with the presentation of Hijaiyah letters, followed by instructions for students to demonstrate or sign the letters according to the correct sign language. Next, students are asked to trace the shapes of Hijaiyah letters while performing the corresponding signs, so that the exercise not only trains fine motor skills through writing activities, but also strengthens the connection between letter shapes, sign movements, and a comprehensive understanding of Hijaiyah letters.



Figure 4. Design Of Iqro' Bil Isyarah Exercises

The next exercise shows an evaluative activity that focuses on identifying and understanding Hijaiyah letters through sign language. In the first exercise, pictures of Hijaiyah letters are shown, and students are asked to write down the Hijaiyah letters that match the signs, thereby training their ability to connect sign movements with letter symbols correctly. In the next exercise, Hijaiyah letters are

displayed along with their sign language, and then students are asked to determine whether the signs displayed correspond to the Hijaiyah letters by giving correct or incorrect answers, as a form of reinforcement of understanding and accuracy in recognizing Hijaiyah letter sign language.

During the development stage, researchers realized the design results into a complete prototype of the *Iqro Bil Isyarah* learning media, including a learning book with sign language illustrations, visual makhraj of Hijaiyah letters, learning exercises, and QR code integration linked to tutorial videos (Mohd Noor et al., 2025). This prototype was developed as an implementation of media design tailored to the visual and kinesthetic learning characteristics of deaf students in learning Hijaiyah letters. The media prototype was then validated by media experts and Islamic Education subject matter experts to assess the visual appearance, clarity of sign language illustrations, suitability of Hijaiyah letter material, and video content integration.

The results of the assessment by material experts and media experts were then calculated using descriptive percentage statistics with the formula:

$$\text{Expert Validation (V)} = \frac{T_{se}}{T_{sh}} \times 100\%$$

Description:

V = Validity percentage

TSe = Number of assessments by validators

TSh = Maximum score)

The validation results are as follows:

Table 1. Media expert validation

Question	Validation		
	Tse	Tsh	V
Q1	5	5	98,18
Q2	4	5	
Q3	5	5	
Q4	5	5	
Q5	5	5	
Q6	5	5	
Q7	5	5	
Q8	5	5	
Q9	5	5	
Q10	5	5	
Q11	5	5	
Total	54	55	98,18

Based on the results of media expert validation presented in the validation table, an empirical score (TSe) of 54 out of a maximum score (TSh) of 55 was obtained, resulting in a validity value (V) of 98.18%. This value falls within the 81–100% interval, indicating that the learning media is highly valid and excellent for use. This signifies that the appearance, design, illustrations, and readability of the media have met the criteria for suitability as learning media.

Table 2. Expert material validation

Question	Validation		
	Tse	Tsh	V
Q1	5	5	95,56
Q2	4	5	
Q3	5	5	
Q4	5	5	
Q5	5	5	
Q6	5	5	
Q7	5	5	
Q8	5	5	
Q9	4	5	
Total	43	45	95,56

Based on the results of subject matter expert validation, an empirical score (TSe) of 43 out of a maximum score (TSh) of 45 was obtained, resulting in a validity score (V) of 95.56%. This value falls within the 81–100% interval, which is classified as highly valid and very good for use. Thus, the material presented in the learning media is in line with the learning objectives, conceptually accurate, and suitable for use in the learning process. At the Disseminate stage, activities are not directed at widespread media dissemination, but rather focused on conceptual introduction and readiness for the use of *Iqro Bil Isyarah* learning media by educators at the Sragen State Special School. This stage is part of the initial effort to support Hijaiyah letter learning based on sign language in the context of inclusive Islamic Religious Education. Through this introduction, educators are given an understanding of the concepts, objectives, and characteristics of the *Iqro Bil Isyarah* media as an alternative learning method that suits the visual-kinesthetic learning needs of deaf students.

In line with this dissemination process, researchers also provided assistance and training to SLB teachers on the use of *Iqro Bil Isyarah* media in learning. This training covered understanding the concept of media, utilizing sign language illustrations and makhraj visualization, integrating QR codes with video tutorials, and using available evaluative exercises. This assistance was provided to ensure that teachers not only understood how to use the media technically, but were also able to implement it pedagogically in accordance with the visual-kinesthetic learning characteristics of deaf students. Thus, the dissemination stage not only served as a process of disseminating the product, but also as an effort to ensure the sustainability and effectiveness of the media's use in learning practices (Khotimah, 2018).

DISCUSSION

This discussion aims to interpret the results of the development of the *Iqro Bil Isyarah* media in meeting the needs of Hijaiyah letter learning for deaf students. The results of the study show that the developed media can accommodate visual and kinesthetic learning characteristics through the integration of sign language illustrations, visualization of letter makhraj, and systematic learning exercises (Prasetyani et al., 2025). These findings confirm that learning Hijaiyah letters for

deaf students can be done effectively without relying on a verbal approach, as long as the media is designed to be adaptive and contextual (Jannah, 2025).

Analytically, the visual integration of makhraj in sign language, including the depiction of mouth positions even without sound, plays an important role in helping students understand the concept of Hijaiyah letter articulation (Nurdyansyah & Pujiati, 2023). This shows that Al-Qur'an learning for deaf students does not only focus on recognizing letter symbols, but also on understanding the basic rules of reading conceptually. This approach broadens the meaning of Qur'anic literacy from simply the ability to recognize letters to a deeper and more meaningful understanding (Utami & Salamah, 2021).

As presented in the research results section, based on the validation by media experts and subject matter experts, the results of validation by media experts show that the *Iqro Bil Isyarah* learning media has met the eligibility criteria as an effective learning medium for deaf students. Positive assessments of the appearance, design, illustrations, and readability indicate that this media was designed with consideration for the visual learning principles needed by students with hearing impairments. The systematic layout, use of clear sign language illustrations, and communicative visual presentation play an important role in helping students understand the material nonverbally (Dostal et al., 2025). This reinforces the view that the quality of visual design is not only aesthetic, but also has a pedagogical function in supporting a more easy and structured understanding of Hijaiyah letter concepts for deaf students (Tamphu et al., 2024).

Meanwhile, validation results by subject matter experts indicate that the learning content presented in the *Iqro Bil Isyarah* media is in line with the learning objectives of Islamic Religious Education and is conceptually well-structured (Saad et al., 2024). The accuracy of the material in explaining the Hijaiyah letters, makhraj, and the order of presentation shows that this media not only helps students recognize the shapes of letters, but also helps them understand the basics of reading the Qur'an conceptually. The compatibility between the material, sign language illustrations, and learning exercises reinforces the integration between cognitive and kinesthetic aspects in the learning process (Herlina et al., 2021). Thus, the results of the material and media validation together confirm that *Iqro Bil Isyarah* is a learning medium that is not only suitable for use but also pedagogically relevant in supporting inclusive and meaningful Hijaiyah letter learning for deaf students (Elysa, 2025).

The findings of this study are in line with the research by Rahmatya et al., which shows that sign language-based media is effective in improving letter comprehension through visual and kinesthetic approaches in deaf children (Dostal et al., 2025). This similarity confirms the relevance of sign language as the primary medium in learning. However, this study has a fundamental difference because it integrates Hijaiyah letter learning into the framework of Islamic Religious Education, so that it is not only oriented towards general literacy, but also towards the formation of religious understanding. In addition, the results of this study reinforce the findings of Purwanti et al., who developed Hijaiyah sign language flashcards to improve the ability of deaf students to read the Qur'an. The difference in this study lies in the development of a more comprehensive and systematic

medium, namely by combining learning books, sign language illustrations, visual makhraj, QR code-based tutorial videos, and tiered evaluative exercises. This approach provides a more complete and sustainable learning experience

Thus, the specific contribution of this study lies in the development of the concept of *Iqro Bil Isyarah* as a sign language-based Hijaiyah learning medium that is integrated and contextual in inclusive Islamic Religious Education. The novelty of this research lies not only in the media product produced, but also in the learning approach that emphasizes visual, kinesthetic, and non-verbal understanding of makhraj, thereby enriching the study of Al-Qur'an learning for deaf students (Zaeni, 2025).

CONCLUSION

This study concludes that the development of *Iqro Bil Isyarah* learning media can overcome the gap in learning Hijaiyah letters for deaf students through visual and kinesthetic approaches. In line with the research by Rahmatya et al. and Purwanti et al., the findings of this study confirm that sign language-based media play an important role in supporting the recognition of Hijaiyah letters and the ability to read the Qur'an for deaf students. However, unlike previous studies that tended to focus on the development of media as a learning aid or on evaluating the effectiveness of basic media, this study emphasizes the concept of integrated learning. Responding to the research gap revealed by Baehaqi and Misbah, as well as Muhawarman, this study positions Hijaiyah learning media based on sign language within a more holistic and inclusive Islamic Education framework, by integrating materials, structured learning exercises, and QR code-based digital support into a single learning model. Theoretically, the findings of this study contribute to the development of multisensory learning theory and visual-kinesthetic approaches by expanding their application in the context of Islamic Religious Education for deaf students. This study confirms that sign language-based learning not only functions as a supporting medium but also as a systematic learning model in inclusive Al-Qur'an education. Practically, the *Iqro Bil Isyarah* medium offers an adaptive and applicable learning medium alternative and has the potential to expand access to Al-Qur'an literacy for students with special needs.

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