Challenges And Development Of The ILMAN Innovative For Arabic Language Leaning As A Foreign Language For Individuals With Visual Impairments

Received 2025-11-16
Accepted 2026-05-19
Published 2026-07-04

Ijlal Saja[*1], Azman Che Mat[2], Nurshaza Farah Md Sharif[3], Zamzuri Ghani[4], Sumitha Thavanendran[5], Akmaluddin[6], Nor Afifa Nordin[7]

[1237]Academy of Language Studies, University of MARA Technology, Melaka Branch, Malaysia, [4]Malaysian Islamic Association for the Visually Impaired (PERTIS), Malaysia, [5]Malaysian Association for the Blind, Kompleks (MAB), Malaysia, [6]Universitas Islam Negeri Mataram, Indonesia,
ijlalsaja@uitm.edu.my[*1], azman531@uitm.edu.my[2], shazafarah@uitm.edu.my[3], zamzuripertis@gmail.com[4], sumitha@mab.org.my[5], akmal@uinmataram.ac.id[6], afifanordin@uitm.edu.my[7]

To cite this article: Saja, Ijlal. (2026). Challenges And Development Of The ILMAN Innovative For Arabic Language Leaning As A Foreign Language For Individuals with Visual Impairments. Ijaz Arabi: Journal of Arabic Learning, 9 (3), 1126-1142, DOI: https://doi.org/10.18860 /ijazarabi.V9i3.36565

Abstract

Mastering a foreign language fosters self-reliance, enhances employability, and creates opportunities for participation in local and global contexts. For individuals with visual impairments, language acquisition is particularly significant as it grants access to knowledge, facilitates social interaction, and supports career advancement. The objectives of this study are to identify the challenges and develop an innovative approach to Arabic language learning (ILMAN) for visually impaired learners, with emphasis on innovation (I), inclusive learning (L), multimedia (M) support, flexible accessibility (A-anywhere), and continuous engagement (N-nonstop). These dimensions are combined to establish a sustainable framework that addresses learners' needs. Assistive technologies such as electronic Braille displays, screen readers, and audio resources are crucial in overcoming barriers. The research adopted a qualitative design and was conducted in Kuala Lumpur and Ipoh, Malaysia. Eight participants with visual impairments were selected using purposive and snowball sampling to ensure representation of diverse experiences. Data were collected through interviews and analyzed thematically to identify challenges and effective strategies. The theme results show that access to learning materials (20.6%) is the most critical issue, reflecting a shortage of Braille resources. Religious-based methods such as memorization and talaqqi remain dominant (27.3%), indicating that Arabic Language Learning (ALL) for blind students is still largely centered on religious practice. At the same time, Braille displays and teacher support (40%) highlight the importance of assistive technology and motivation, with the ILMAN innovation concept offering an inclusive and flexible solution. This is expected to assist visually impaired learners in developing spoken Arabic communication skills. Future studies are encouraged to expand these practices and assess their application across other languages and contexts.

Keywords: Foreign Language Learning; Arabic Language; Visually Impaired Persons; Innovation; Braille

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license (https://creativecommons.org/licenses/by-sa/4.0/)

INTRODUCTION

Persons with disabilities (PWD) are often perceived as a burden to the nation due to the high costs associated with meeting their special needs. According to the Employment and Labour Statistics (Jabatan Tenaga Kerja Semenanjung Malaysia, 2022), an estimated RM6,686.55 is allocated per PWD, amounting to approximately RM2 million to support 43 individuals. Therefore, one of the strategies to broaden employment opportunities for PWD is through foreign language proficiency (Saja, 2022). Foreign language learning for PWD has been increasingly emphasised within inclusive education, although it is still in its early stages (Domagała-Zyśk et al., 2025). Mastery of a foreign language is seen as an important step toward fostering self-reliance and enhancing employability (Young & Rooney, 2023). In Malaysia, as of May 2025, a total of 64,887 individuals have been registered under the category of visually impaired PWD, representing approximately 8.35% of the overall PWD population in the country (Jabatan Kebajikan Masyarakat, 2025). Globally, more than 2.2 billion people experience some form of vision impairment, including 17 million who are blind and 295 million with limited vision, of which at least 1 billion cases could be treated or have yet to receive treatment (World Health Organization, 2022). There are six categories of visual impairment: C1 (total blindness), C2 (severe partial blindness), C3 (severe low vision), C4 (low vision), C5 (monocular vision), and C6 (other visual impairments) (Jabatan Kebajikan Masyarakat, 2025; World Health Organization, 2022). These statistics highlight the urgent need for inclusive education strategies and accessible learning materials to support foreign language acquisition among visually impaired PWD as a means of enhancing career prospects.

Foreign languages such as Arabic, Mandarin, and others have been systematically introduced in Malaysia; however, the participation of visually impaired students remains limited (Kementerian Pendidikan Malaysia, 2013). In special schools and training centres, Arabic is taught only indirectly through Islamic Education, while in institutions of higher learning it is offered as an elective subject. This indicates that foreign language proficiency is also a necessity for visually impaired students who wish to pursue higher education (Krisi et al., 2022). The lack of teaching aids, unequal access to resources, and insufficient teacher training have been shown to undermine the effectiveness of teaching and learning (Awang Ali & Md Ghalib, 2024; Awang, Abdul Rani, & Kway, 2024). By contrast, countries such as Saudi Arabia, the UAE, and Qatar have made significant progress in providing visually impaired-friendly materials (Jafri et al., 2022; Mustafa et al., 2024), followed by the UK, Australia, and the US, which emphasise assistive technology and interactive learning (Douglas et al., 2011; Andreou & Argatzopoulou, 2025). There are three aspects of previous studies that need to be highlighted, namely challenges, ALL, and innovation for PWB.

Research in Arab countries shows that technological innovations such as smart glasses, Arabic text readers, and 3D object interfaces have opened new opportunities for education and self-empowerment among visually impaired individuals (Jafri et al., 2022; Alanazi & Benlaria, 2024). The adaptation of culturally relevant assessment tools (Macrine et al., 2015; Mustafa et al., 2024), along with teacher support in utilising assistive technologies (Zakiyah et al., 2021), has also contributed to improved learning outcomes. However, the implementation of such technologies remains limited due to cost, inadequate training (Effendi, Thurston, & MacKenzie, 2024), and low public awareness (Noman et al., 2019; Albulayhi, 2022). The limited availability of Arabic Braille materials

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

has made it difficult for students to read and write Arabic script (Yuslam et al., 2022), and restricted access to learning materials continues to affect educational quality (Zakiyah et al., 2021). Although initiatives such as Content-Based Instruction (CBI) have been introduced (Shodiq & Na Ziihah, 2024), pronunciation and phonology remain weak due to the absence of a systematic linguistic approach to Arabic Braille.

Previous studies have highlighted increasing awareness of the need for Arabic language teaching methods that focus on oral communication for visually impaired learners. Effendi (2017) and Effendi et al. (2023) emphasise the effectiveness of auditory approaches such as the audiolingual method and repetition drills, which have been shown to improve speaking proficiency. However, these approaches rely heavily on memory and repetition and give less emphasis to meaningful communication in real-life contexts. Yuslam et al. (2022) and Ahmad Yusoff et al. (2025) highlight the social aspect of communication, showing that peer interaction and the use of digital media can enhance learning, although this is dependent on the readiness of inclusive school environments. Therefore, oral communication in Arabic as a foreign language remains under-emphasised for visually impaired learners.

Previous studies have largely focused on Arabic language learning for Quran memorisation among visually impaired learners. For instance, Che Mat (2014) developed the Model of Translating Preposition (MTP), which emphasises lexical, phrasal, and contextual aspects in translating Arabic prepositions into Malay. El Ghoul et al. (2020) and Jamal et al. (2020) introduced electronic Arabic Braille systems such as the Talah Arabic Writing System, applications, and Liblouis software that support Arabic spelling. Sabaruddin et al. (2022) confirmed the effectiveness of talaqqi and rhythmic memorisation in strengthening memory among blind students. Mokhtar et al. (2022) studied challenges such as the lack of tactile materials and trained teachers for Quranic Braille instruction, while Abdul Aziz and Muhammad Hafiz Salleh (2024) incorporated emotional constructs into their work. More recently, Ahmad Yusoff et al. (2025) integrated augmented reality (AR) elements into a Tadabbur Al-Quran model. Overall, previous research shows that Arabic is mostly learned to understand the Quran as a guide, with less emphasis on communication skills for employment. The focus remains largely on tahfiz students and senior learners.

In Malaysia, however, there is still a lack of dedicated studies on ALL for this group, as it is often associated with Quranic studies (Ahmad Yusoff et al., 2025). Therefore, innovative, inclusive, and adaptive teaching methods must be strengthened to support foreign language learning for visually impaired students. A diverse range of suitable materials can enhance basic Arabic language communication for this group (Kementerian Pendidikan Malaysia, 2023). This study addresses that gap by developing the innovative ILMAN, which is based on beginner-level communication. This aligns with Sustainable Development Goals (SDG) 4 and 10, the Ekonomi MADANI framework, and the Malaysia Science, Technology, Innovation and Economy (MySTIE) Framework by advancing innovation in foreign language education for visually impaired learners (Kementerian Pendidikan Malaysia, 2023). Accordingly, the objectives of this study are to identify the challenges and develop an innovative of Arabic language learning (ILMAN) for visually impaired learners. The research questions are: what are the challenges faced by visually impaired learners in learning Arabic as a foreign language? How is Arabic taught and learned as a foreign language among visually impaired

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

DOI: 10.18860 /ijazarabi.V9i3.36565
ISSN(print): 2620-5912 | ISSN(online):2620-5947

learners? How can innovative approaches to Arabic language learning support visually impaired learners?

METHOD

This study adopts a qualitative case study design. The case study approach was selected as it is appropriate for small-scale data collection involving an inclusive group, namely persons with visual impairment. A case study design is particularly suitable when the research seeks to gain a deep understanding of a phenomenon within its real-life context, especially when the boundaries between the phenomenon and its context are not clearly defined (Yin, 2018). This approach allows for a detailed and holistic analysis of the case (Bryman, 2008). In qualitative research, a smaller sample size is considered sufficient as long as the data collected is rich and meaningful (Marshall et al., 2013). This is consistent with the principle of data saturation, where data collection is concluded once no new information emerges (Francis et al., 2009). This study also represents an initial effort, as resources for teaching Arabic communication to the visually impaired are almost non-existent and efforts toward empowerment remain limited.

This study focuses on foreign language learning, with particular attention to Arabic. This focus is justified as Arabic is often less emphasised and is usually taught indirectly through Islamic education courses (Kementerian Pendidikan Malaysia, 2023). The study is geographically limited to Ipoh and Kuala Lumpur. Consideration is also given to urban and rural factors. According to Yin (2018), the selection of case study locations should take into account the context in which the phenomenon under investigation naturally occurs.

This study employed purposive and snowball sampling methods. The choice of these techniques was justified as the study involved a small group of participants with special needs and specific policy considerations. According to Creswell and Poth (2018), purposive sampling in qualitative research allows researchers to select individuals who best understand the phenomenon being studied, thereby enriching the data collected. Purposive sampling is well-suited for qualitative studies with small samples. The inclusion criteria consisted of teachers or instructors and students involved in Arabic language learning. The sample size comprised eight informants, which aligns with qualitative research practices that prioritise data saturation over population size. Among the informants, six were male (75%), the majority compared to two females (25%). In terms of experience, two participants (25%) had between 1 to 5 years of experience, another two participants (25%) had between 6 to 10 years of experience, while four participants (50%) had more than 10 years of experience, making them the largest group. This sample size sufficiently meets the data needs of this study. Creswell and Poth (2018) note that qualitative studies typically involve between 5 to 25 participants.

Qualitative data were collected through focused and individual interviews, conducted either face-to-face or online via Google Meet. According to Patton (2015), the selection of interview techniques emphasises the importance of using data collection methods that meet the needs and comfort of the informants. This study employed a semi-structured interview protocol to ensure data saturation. In addition, voice recorders, video recorders, and field notes were used as supporting instruments. The development of the interview protocol involved several steps: defining the purpose, formulating questions, obtaining expert validation, ensuring data reliability, and categorising the questions. Clearly defining the purpose of the interview was essential to ensure that all questions

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

were aligned with the study objectives (Patton, 2015). The interviews were conducted in several phases: scheduling and arrangement, briefing and consent, implementation, and closing, as outlined by Yin (2018). Each session was kept within ninety minutes, a duration deemed suitable and comfortable — neither too long nor too short (Seidman, 2019). The interviews took place in an office or private room setting. Patton (2015) highlights that interviews should be conducted in a closed and comfortable environment.

Thematic data analysis was carried out using Excel, Atlas.ti 25.0, and NVivo 24.0. Thematic analysis is a method used to identify, analyse, and report themes within data (Braun & Clarke, 2006). The process began with transcribing the interview data from audio recordings into text using Turboscribe. The audio was listened to several times to ensure every word was accurately captured. The transcription was done verbatim and then adjusted into a formal format to ensure that the data could be analysed effectively. Next, several rounds of preliminary reading were conducted to understand the context, including both explicit and implicit meanings. This was followed by the generation of initial codes. These codes were derived both deductively, based on the research questions, and inductively, emerging from the data. Subsequently, categories and preliminary themes were formed.

The following step involved reviewing and refining the themes and subthemes to ensure they aligned with the research objectives. This process included assessing relevant, irrelevant, or overlapping codes to decide whether to retain, combine, or remove them. This step enhanced the validity and coherence of the themes. The final step was naming the themes and writing the report. The development of ILMAN innovation began by identifying the key challenges faced by visually impaired learners in studying Arabic, such as limited access to printed materials, difficulties in vocabulary acquisition, and the lack of disability-friendly methods. Insights from previous studies on assistive technologies, including electronic Braille displays, screen readers, and audio resources, provided the theoretical foundation. Fieldwork was then carried out in Kuala Lumpur and Ipoh, involving eight participants selected through purposive and snowball sampling. Data from in-depth interviews and observations were thematically analyzed. ILMAN as a holistic innovation that emphasizes technological innovation, a balance between traditional and modern approaches, multimedia integration, flexible learning opportunities, and continuity supported by teacher motivation.

RESULTS AND DISCUSSION

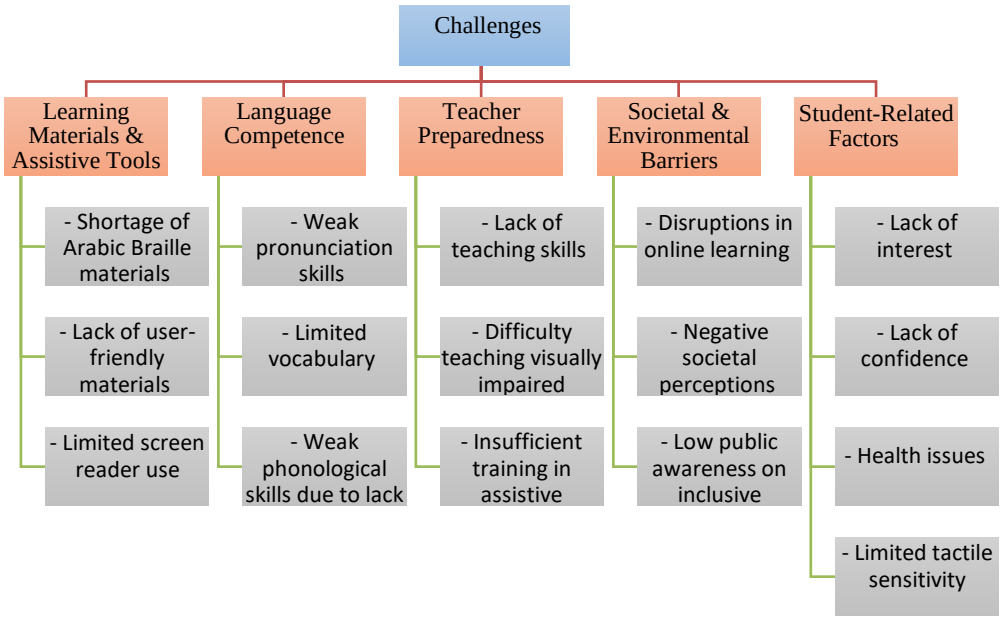
The Challenges Faced By Visually Impaired Learners In Learning Arabic As A Foreign Language

Result shows the initial themes, subtheme and code from figure. In qualitative, relative frequency (rf) is also shown. The formula is $rf = f / \Sigma f$. Frequency of first findings is $\Sigma f=63$, second findings is $\Sigma f=33$ and third findings is $\Sigma f=5$).

Figure 1 shows that learning Arabic as a foreign language among visually impaired learners involves interrelated challenges, particularly in the areas of learning materials and tools, learning styles, teachers, societal environment, health, and attitudes. These results are consistent with previous literature from Arab countries, which highlights the significant potential of technological innovations in enhancing learning opportunities for visually impaired learners.

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

Figure 1. Challenges Faced By Visually Impaired Learners In Learning Arabic As A Foreign Language



Source: Data analysis (Saja, 2025)

The results of this study point to a shortage of Braille materials. Access to learning materials (rf=20.6% and rf=17.5%) supports the urgent need for assistive technologies such as these. Similarly, the limited use of screen readers among students (rf=1.6%) suggests that while technology is available, its effectiveness still depends on proper training and the ability to use it. This can be demonstrated in the statement *"Access to Arabic Braille books is very limited"* and *"I use TalkBack, but it mispronounces Arabic words."* The results are consistent with the study of Jafri et al. (2022) and Alanazi and Benlaria (2024) emphasised the role of smart glasses, Arabic text readers, and 3D object interfaces as technological innovations that open new possibilities in education.

According to the interview results *"I struggle to pronounce some Arabic letters." "It's hard to build up vocabulary."* This is consistent with the result that students struggled to pronounce Arabic letters (rf=15.9%) and had a limited vocabulary (rf= 14.3%), reflecting weaknesses in phonological and linguistic aspects, as also discussed by Shodiq and Na Ziihah (2024). In addition, the issue of insufficient Arabic Braille materials, as highlighted by Yuslam et al. (2022), was identified as a major barrier to learning to read and write Arabic letters. They stated that although the Content-Based Instruction (CBI) approach has been applied, the absence of a systematic Braille linguistic approach means pronunciation and phonology skills remain weak.

The interviews results namely, *"Teachers are not well-trained in using assistive technology.", "Some ustaz said it is difficult to teach us."* From the perspective of teacher support, the results indicate that teachers were not highly skilled (rf= 12.7%) and perceived teaching visually impaired students as a challenge (rf= 7.9%). This supports the findings of Zakiyah et al. (2021), who emphasised the importance of teacher training and support in using assistive technology. The lack of training highlighted in past studies is consistent with the current results that teachers are not fully prepared to implement appropriate teaching methods for students with special needs (Effendi, Thurston, & MacKenzie, 2024).

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

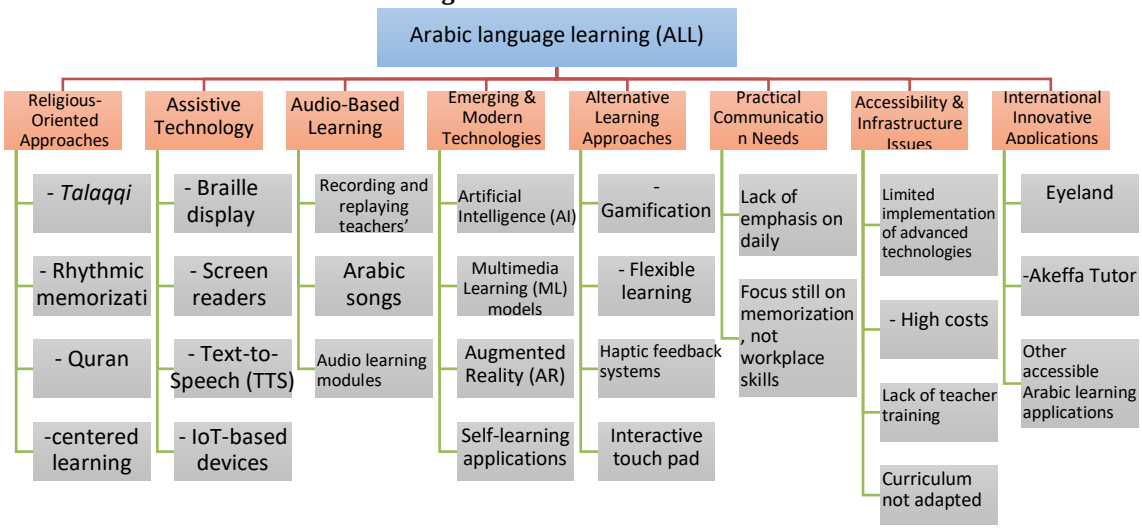
Furthermore, the results show that societal factors, such as disruptions during online learning and negative perceptions towards persons with disabilities (rf= 4.8%), also affect student motivation and engagement. For example, *"Online classes were often disrupted.", "Some people still think visually impaired students cannot learn Arabic."* This aligns with the findings of Noman et al. (2019) and Albulayhi (2022), who stressed that low public awareness of the needs of persons with disabilities is one of the reasons for delays in implementing inclusive educational technologies. Finally, student-related factors such as lack of interest, low confidence, and health issues were also identified as additional barriers. This is demonstrated in the results *"Sometimes I lose motivation.", "I feel less confident speaking."* and *"My health problems make it hard to focus."* This underscores that even with the availability of technology and materials, students' internal factors and external support from teachers and the community still play an important role in ensuring successful learning outcomes.

In conclusion, these results not only support previous literature but also strengthen the call for a holistic approach that includes the development of disability-friendly materials and technologies, specialised teacher training, and greater societal awareness. Only through such a comprehensive approach can the effectiveness of Arabic as a foreign language learning for visually impaired learners be improved in a sustainable way.

Arabic as a Foreign Language For Visually Impaired Learners

The results showed that Arabic as a foreign language for visually impaired learners is applied as illustrated in Figure 2 below.

Figure 2. ALL For PWB



Source: Data analysis (Saja, 2025)

The Concept Of Innovation In Arabic Language Learning (ALL) As A Foreign Language

Figure 2 illustrates that the current focus of innovation in ALL remains largely religious, particularly centered on Quran memorization. This aligns with previous findings reported by Sabaruddin et al. (2022), who confirmed the effectiveness of the talaqqi and rhythmic memorization methods in strengthening memory among visually impaired learners. The use of talaqqi that incorporates ALL recorded the highest

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

frequency (rf=27.3%), making it the most dominant approach among the studies analyzed. For instance, Informan 5 (I5) shared, *"...we recite together, repeat until we remember. That really helps with memorization."* Similarly, I3 added, *"The ustaz checks right away. So we listen and follow."* This trend indicates that ALL among visually impaired learners is still one-dimensional, focused mainly on religious practice rather than everyday communication.

Nevertheless, progress toward integrating technology is becoming increasingly evident in several past studies. For example, the use of Braille display systems was mentioned three times (rf= 9.1%). This supports the findings of Jamal et al. (2020) and El Ghoul et al. (2020) regarding electronic Braille systems for Arabic spelling. These findings suggest that there are early efforts to digitize Braille learning, though such initiatives remain limited. As I1 mentioned, *"I use a Braille display… it really helps me when typing and reviewing my notes."* Likewise, I7 stated, *"Nowadays, there are many electronic Braille devices… they can even connect to the computer."*

Audio-based learning approaches were also highlighted (rf=18.2%), suggesting that audio is becoming a popular supplementary tool for learners with visual impairments, alongside Braille. I2 shared, *"I listen to a lot of audio. Sometimes I record my ustaz's voice so I can replay it."* I6 also said, *"I like listening to Arabic songs… they stick in my head more easily."*

In efforts to modernize teaching methods, technology-based approaches (rf=9.1%) such as Augmented Reality (AR), Artificial Intelligence (AI), and Multimedia Learning (ML) models (Ahmad Yusoff et al., 2025) have also been explored. However, these methods were mentioned only once or twice (rf= 3.0%, n= 6.1%), suggesting that their application is still at an early stage or has yet to gain widespread acceptance. Barriers include high costs, limited teacher training, and lack of curriculum adaptation, consistent with Effendi, Thurston, & MacKenzie (2024). I2 acknowledged, *"I listen to a lot of audio (AI). Sometimes I record my ustaz's voice so I can replay it."* I3 also remarked, *"Nowadays with AI, things are a bit easier."*

Furthermore, results show that little attention has been given to other approaches such as gamification, flexible learning, and haptic feedback systems, with each recording only one mention (rf= 3.0%). For example, I4 shared, *"If we could learn while playing quizzes or guessing pictures, it would be more fun. But not all materials are like that."* This reflects the access challenges reported by Almelhes (2024). Young and adult visually impaired learners who need Arabic for daily communication and work opportunities are still underserved. This is largely because existing infrastructure is not yet ready to support the implementation of advanced technologies. As I6 put it, *"You need communication skills to work. But when we learn Arabic, it's just memorizing the Quran."*

Text-to-speech (TTS) systems, IoT-based devices, and screen readers were mentioned only once (rf= 3.0%). One informant shared, *"I use TalkBack… it reads the text. But sometimes it doesn't pronounce Arabic words correctly."* In contrast, international studies by Al-Watban & Al-Salman (2019), Alzubaidi et al. (2021), and Gayathiri et al. (2024) highlight the potential for developing innovative approaches. Although applications such as Eyeland and Akeffa Tutor (Villalba et al., 2024; Jamal et al., 2020) are seen as accessible for visually impaired users, their use in ALL remains limited. As I2 explained, *"Akeffa Tutor really helps with spelling... but speaking in Arabic is another story* (not implemented and still limited).

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

How Can Innovative Approaches To Arabic Language Learning Support Visually Impaired Learners?

To realise this goal, this study produced ALL materials for communication as a foreign language for students with visual impairment, based on the ILMAN innovation. The materials have undergone content validation by experts and received feedback from visually impaired students. This innovation integrates technology elements such as multimedia in both digital and physical (Braille) formats, with the aim of improving accessibility and learning effectiveness in face-to-face, online, and mobile contexts. The primary goal is to support students' speaking skills. Although there are limitations, such as content being restricted to the early stages of basic communication, these materials help students with visual impairment build a strong foundation in spoken Arabic. Hence, the contribution of this study is its applicability for beginners among visually impaired students. This is demonstrated in Tables 1 and 2 below.

Table 1. Basic Arabic Communication Conversation Content Based On Audio And Screen Reader

English translation	Arabic Sentence (Female - أَنْتِ)	Arabic Sentence (Male - أَنْتَ)	Topic
Assalamualaikum	السَّلَامُ عَلَيْكُمْ	السَّلَامُ عَلَيْكُمْ	IG
What is your name?	مَا ٱسْمُكِ؟	مَا ٱسْمُكَ؟	
My name is Ahmad/Nur	ٱسْمِي نُور	ٱسْمِي أَحْمَد	
How are you?	كَيْفَ حَالُكِ؟	كَيْفَ حَالُكَ؟	
I'm good, thank you	أَنَا بِخَيْر، شُكْرًا	أَنَا بِخَيْر، شُكْرًا	
Where are you from?	مِنْ أَيْنَ أَنْتِ؟	مِنْ أَيْنَ أَنْتَ؟	R
I'm from Melaka	أَنَا مِنْ مَلَاقَا	أَنَا مِنْ مَلَاقَا	
Where do you live??	أَيْنَ تَسْكُنِينَ؟	أَيْنَ تَسْكُنُ؟	
I live in Johor	أَسْكُنُ فِي جُوهُر	أَسْكُنُ فِي جُوهُر	
What is your job?	مَا عَمَلُكِ؟	مَا عَمَلُكَ؟	O
I work as masseuse	أَنَا مُدَلِّكَة	أَنَا مُدَلِّك	
I work from home	أَعْمَلُ فِي الْبَيْتِ	أَعْمَلُ فِي الْبَيْتِ	
I have a backache	أَشْعُرُ بِأَلَمٍ فِي الظَّهْر	أَشْعُرُ بِأَلَمٍ فِي الظَّهْر	
I have joint pain	عِنْدِي أَلَمٌ فِي الْمِفْصَلِ	عِنْدِي أَلَمٌ فِي الْمِفْصَلِ	
Where is the mosque?	أَيْنَ الْمَسْجِدُ؟	أَيْنَ الْمَسْجِدُ؟	T
I want to go to the market	أُرِيدُ أَنْ أَذْهَبَ إِلَى السُّوقِ	أُرِيدُ أَنْ أَذْهَبَ إِلَى السُّوقِ	
What is there to do in Kuala Lumpur?	مَاذَا يُوجَدُ فِي كُوالَا لُمْفُور؟	مَاذَا يُوجَدُ فِي كُوالَا لُمْفُور؟	
How many hours from here?	كَمْ سَاعَةً مِنْ هُنَا؟	كَمْ سَاعَةً مِنْ هُنَا؟	
I like to travel	أُحِبُّ السَّفَرَ	أُحِبُّ السَّفَرَ	
How much is the food?	بِكَمْ هَذَا الطَّعَامُ؟	بِكَمْ هَذَا الطَّعَامُ؟	FB

continued

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

The price of this food is RM10	سِعْرُ هَذَا الطَّعَامِ عَشَرَةُ رِنْجِت	سِعْرُ هَذَا الطَّعَامِ عَشَرَةُ رِنْجِت	
What would you like to eat?	مَاذَا تُرِيدِينَ أَنْ تَأْكُلِي؟	مَاذَا تُرِيدُ أَنْ تَأْكُلَ؟	
I would like to drink water	أُرِيدُ أَنْ أَشْرَبَ مَاءً	أُرِيدُ أَنْ أَشْرَبَ مَاءً	
How does this food taste?	كَيْفَ طَعْمُ هَذَا الطَّعَامِ؟	كَيْفَ طَعْمُ هَذَا الطَّعَامِ؟	
The food is very delicious	هَذَا الطَّعَامُ لَذِيذٌ جِدًّا	هَذَا الطَّعَامُ لَذِيذٌ جِدًّا	

Introduction and Greetings (IG), Residence (R), Occupation (O), Tourism (TL), Food and Beverages (FB)
Source: Data analysis (Ijlal Saja, 2025)

Table 1 provides the content of basic Arabic communication discussions utilizing audio and screen reader support. This was also found in Mohd Noh's (2015) where the screen reader support audiolingual learning method is believed to be the most practical aid for VI users. There are five topics related to daily life: introduction and greetings, residence, occupation, tourism, and food and beverages.

Table 2. Basic Arabic Communication Conversation Content Based On Arabic Braille

Topic	Arabic Braille (Male)	Arabic Braille (Female)	Brille English translation
PU	⠠⠊⠎⠊⠠⠞⠠⠍⠊⠍⠠⠞	⠠⠊⠎⠊⠠⠞⠠⠍⠊⠍⠠⠞	⠠⠎⠠⠞⠠⠊⠠⠞⠠⠊⠠⠍⠊⠍⠠⠞⠲⠲
	⠠⠞⠠⠎⠠⠞⠲	⠠⠞⠠⠎⠠⠞⠲	⠓⠁⠠⠞⠠⠎⠠⠞⠠⠁⠠⠍⠠⠞⠲⠓ ⠠⠞⠠⠞⠲⠲
	⠎⠠⠞⠠⠁⠠⠞⠠⠞	⠎⠠⠞⠠⠁⠓⠓	⠠⠞⠠⠞⠠⠞⠠⠁⠠⠎ ⠠⠁⠠⠞⠠⠞⠠⠌⠠⠞⠲⠓
	⠠⠁⠠⠞⠠⠞⠠⠁⠠⠊⠲⠲	⠠⠁⠠⠞⠠⠞⠠⠁⠠⠊⠲⠲	⠓⠁⠠⠞⠠⠎⠠⠞⠠⠁⠠⠍⠠⠞⠲⠲
	⠠⠞⠠⠁⠠⠊⠠⠞⠠⠎⠠⠁⠓⠠⠞⠠⠁⠠⠊⠓⠠⠞	⠠⠞⠠⠁⠠⠊⠠⠞⠠⠎⠠⠁⠓⠠⠞⠠⠁⠠⠊⠓⠠⠞	⠠⠁⠠⠎⠠⠞⠠⠁⠠⠍⠠⠞⠠⠎⠠⠁⠓⠠⠞⠠⠁⠠⠊⠓⠠⠞ ⠠⠞⠠⠞⠲⠲
TT	⠠⠞⠠⠁⠠⠞⠠⠁⠠⠞⠓⠲⠲	⠠⠞⠠⠁⠠⠞⠠⠁⠠⠞⠓⠲⠲	⠓⠁⠠⠞⠠⠓⠠⠁⠠⠞⠠⠁⠠⠞⠲⠲ ⠠⠞⠓⠠⠞⠲⠲
	⠠⠞⠠⠞⠠⠞⠠⠊⠠⠞⠠⠃⠠⠞	⠠⠞⠠⠞⠠⠞⠠⠊⠠⠞⠠⠃⠠⠞	⠠⠁⠠⠎⠠⠞⠓⠠⠞⠠⠞⠠⠞⠠⠊⠠⠞⠠⠁⠠⠞
	⠠⠁⠠⠞⠠⠓⠠⠊⠠⠞⠓⠲⠲	⠠⠁⠠⠞⠠⠓⠠⠊⠠⠞⠓⠠⠁⠠⠞⠓⠲⠲	⠓⠁⠠⠞⠠⠓⠠⠁⠠⠞⠠⠁⠠⠞⠲⠲ ⠓⠠⠁⠠⠞⠲⠲
	⠠⠊⠠⠞⠓⠠⠞⠠⠁⠠⠞⠓⠠⠞⠓⠓⠓	⠠⠊⠠⠞⠓⠠⠞⠠⠁⠠⠞⠓⠠⠞⠓⠓⠓	⠠⠁⠠⠞⠠⠊⠠⠞⠲⠲⠠⠞⠠⠁⠠⠞⠓⠠⠞⠓⠓⠓
PK	⠓⠠⠞⠠⠁⠠⠞⠠⠁⠠⠞	⠓⠠⠞⠠⠁⠠⠞⠠⠁⠠⠞	⠓⠁⠠⠞⠠⠎⠠⠞⠠⠁⠠⠍⠠⠞⠲⠓ ⠓⠠⠞⠲⠲
	⠠⠞⠠⠞⠠⠞⠠⠊⠲⠲	⠠⠞⠠⠞⠠⠞⠠⠊⠲⠲	⠠⠁⠠⠞⠓⠠⠞⠲⠠⠞⠠⠁ ⠠⠞⠠⠎⠠⠞⠠⠞⠲⠲⠠⠞⠲
	⠠⠎⠠⠞⠠⠞⠠⠞⠠⠊⠲	⠠⠎⠠⠞⠠⠞⠠⠞⠠⠊⠲	⠠⠁⠠⠞⠓⠠⠞⠲⠠⠞⠓⠠⠞⠠⠁⠠⠍⠠⠞⠲⠠⠞⠲
	⠠⠎⠠⠞⠠⠞⠠⠁⠠⠍⠠⠞⠠⠁⠠⠞⠓⠠⠞⠠⠁	⠠⠎⠠⠞⠠⠞⠠⠁⠠⠍⠠⠞⠠⠁⠠⠞⠓⠠⠞⠠⠁	⠠⠁⠠⠞⠲⠠⠞⠲⠠⠞⠠⠁ ⠠⠞⠲⠠⠞⠠⠍⠲⠠⠞⠲⠲
	⠠⠎⠠⠞⠠⠞⠠⠁⠠⠍⠠⠞⠠⠁⠠⠞⠓⠠⠞⠠⠁ ⠠⠞⠠⠊⠠⠞⠠⠃⠓	⠠⠎⠠⠞⠠⠞⠠⠁⠠⠍⠠⠞⠠⠁⠠⠞⠓⠠⠞⠠⠁ ⠠⠞⠠⠊⠠⠞⠠⠃⠓	⠠⠁⠠⠞⠲⠠⠞⠲⠠⠁⠠⠞⠲⠠⠞⠠⠁⠠⠞⠓⠠⠞⠠⠁ ⠠⠞⠠⠁⠠⠞⠓
PL	⠠⠎⠠⠞⠠⠁⠠⠞⠠⠁⠠⠞⠠⠁ ⠠⠞⠠⠊⠠⠞⠠⠍⠠⠞⠊	⠠⠎⠠⠞⠠⠁⠠⠞⠠⠁⠠⠞⠠⠁ ⠠⠞⠠⠊⠠⠞⠠⠍⠠⠞⠊	⠓⠁⠠⠞⠲⠓⠠⠞⠠⠁⠠⠞⠠⠁⠠⠞⠲⠓ ⠠⠞⠠⠊⠠⠞⠠⠍⠲⠠⠞⠲⠲

continued

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

	⠠⠍⠁⠗⠓⠁⠃⠁	⠠⠍⠁⠗⠓⠁⠃⠁	⠠⠍⠁⠗⠓⠁⠃⠁ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇
	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇
	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇
	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇
MM	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇
	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ 10
	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇
	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇
	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇
	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇
	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇	⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇ ⠠⠁⠇⠠⠁⠇⠠⠁⠇⠠⠁⠇

Introduction and Greetings (IG), Residence (R), Occupation (O), Tourism (TL), Food and Beverages (FB)
Source: Data analysis (Ijlal Saja, 2025)

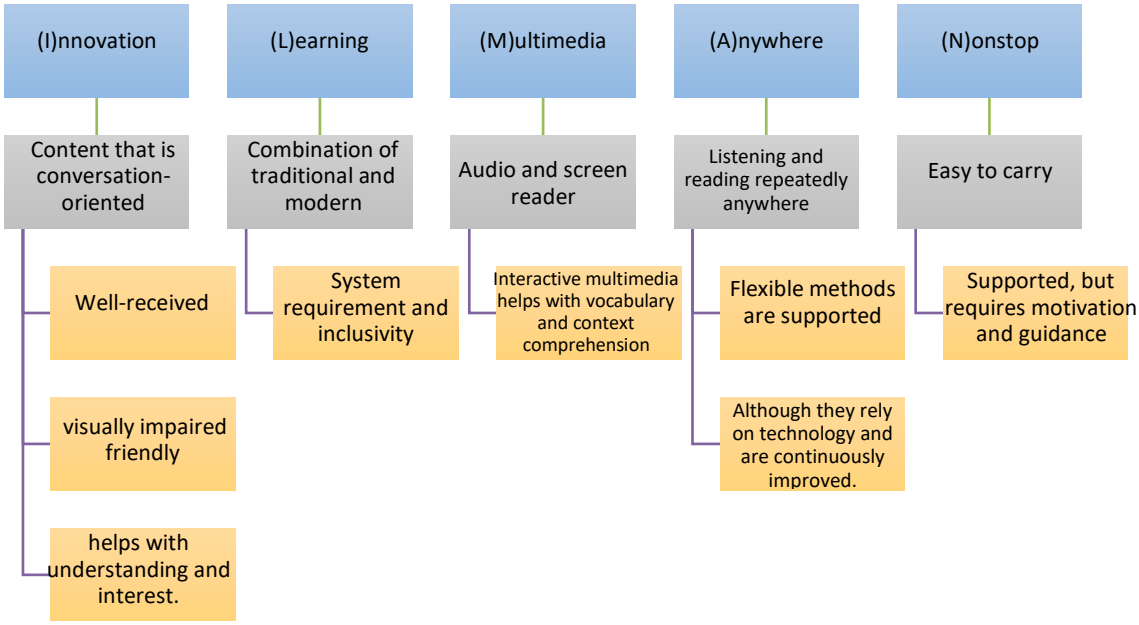
The results from Table 2 showed that innovative approaches to Arabic as a foreign language support visually impaired learners with Arabic Braille. If individuals who are blind are constrained from using audio and digital screen readers, they can use the Brille Arabic innovation.

Figure 3 in the context of multimedia and anywhere, the use of Brille (Braille display) emerges as one of the key pillars (rf= 40%). For instance, I1 emphasized, *"Now we have electronic Braille displays… they help with reading and editing"*, while I3 added, *"Braille display helps me to review at home"*. These statements highlight that Brille is not merely an assistive tool, but rather a vital medium that enables flexible learning to take place both at home and in the classroom. Moreover, the integration of Brille with audio files and screen readers further enriches the learning experience, making it more interactive and accessible. This was reinforced by I7 (rf= 20%), who noted that *"Audio files would also be helpful"*, indicating that combining audio resources with Braille enhances comprehension and vocabulary acquisition. At the same time, Brille contributes to the Nonstop element of ILMAN, as its portability allows students to continue learning

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

without relying entirely on printed materials. However, this continuity still requires sustained motivation and guidance from teachers (rf= 40%), as reflected in I5's remark, *"If given the chance to learn Arabic, I would never give up"*, and I8's observation, *"You have to teach slowly, like teaching Year 1 students ABC."*

Figure 3. The Innovation of ILMAN Concept



Source: Data analysis (Ijlal Saja, 2025)

In short, articipant stories (such as the applicability of Braille display for reading (I1), homework revision at home (I3), audio material significance (I7) and ongoing motivation (I5 & I8) enhanced further the authenticity and inclusivity of the model for Arabic language learning. The results also support Asmilyia's (2022) study, but this study focused on communicative Arabic for VI.

CONCLUSION

In conclusion, from the three groups of results, the most salient themes identified vary according to their scope. In the first domain (Σf=63), access to learning materials as an issue was reported with the highest relative frequency of 20.6%, suggesting that inadequate Braille material is a serious impediment. In the second facet (Σf = 33), learning Arabic is highly religious based on memorisation and talaqqi dominated (27.3%); highlighting that ALL among blind students is still more of religion components. In parallel in the three set (Σf=5), note is taken at the use of Braille display and teacher support that both held out for a highest frequency 40% showing how assistive technology and teacher stimulation remains one of key factors in flexible learning. The ILMAN innovation concept developed in this study provides a practical solution to existing challenges through an inclusive, flexible, and technology-oriented approach. This is expected to assist visually impaired learners in developing spoken Arabic communication skills. Nevertheless, the study acknowledges certain limitations, such as the relatively small respondent sample size. Furthermore, the effectiveness of this approach still requires further investigation, despite the availability of data on ILMAN from the

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

perspective of participants. Hence, future research is recommended to focus on strategies for developing the speaking skills of visually impaired learners in Arabic language communication through ILMAN.

ACKNOWLEDGMENT

Highest appreciation is extended to the Ministry of Higher Education (MOHE) for funding this study through the Fundamental Research Grant Scheme for Early Career Researchers (FRGS-EC), File No.: 600-RMC/FRGS-EC 5/3 (002/2024), and sponsor code: FRGS-EC/1/2024/SSI01/UITM/03/2.

REFERENCES

Abdul Aziz, N. A., & Muhammad Hafiz Salleh, N. J. (2024). Need Analysis On The Development Of Tahfiz Al-Quran Learning Model For Students With Visually Impairment. Global Business and Management Research: An International Journal, 16(2s), 431–440. https://www.gbmrjournal.com/pdf/v16n2s/V16N2s-56.pdf

Ahmad Yusoff, N. F., Abas, U.-H., Mat Ali, A. A., Jamaluddin, Z., & Mohd Raus, N. (2025). Fuzzy Delphi Method: Designing A Tadabbur Al-Quran Model In Arabic Vocabulary Learning For Hearing-Impaired Muslim Adults And Assisted With Augmented Reality Technology. International Journal of Learning, Teaching and Educational Research, 24(5), 250–268. https://doi.org/10.26803/ijlter.24.5.13

Al-Watban, A., & Al-Salman, A. (2019). An Arabic Self-Learning Braille Application For Visually Impaired People. 2nd International Conference on Computer Applications and Information Security (ICCAIS 2019).https://doi.org/10.1109/CAIS.2019.8769570

Alanazi, A. S., & Benlaria, H. (2024). Understanding The Landscape: Assistive Technology And Work Challenges For People With Disabilities In Saudi Arabia. Humanities and Social Sciences Communications, 11(1), 1–14. https://doi.org/10.1057/s41599-024-04023-z

Albulayhi, A. (2022). A Constructive Model To Demonstrate The Relationship Between The Effectiveness Of Training Programs, Assistive Technology, And The Working Environment For Workers With Visual Impairment. Information Sciences Letters, 11(6), 2219–2230. https://doi.org/10.18576/isl/110629

Almelhes, S. A. (2024). Gamification For Teaching The Arabic Language To Non-Native Speakers: A Systematic Literature Review. Frontiers in Education, 11(1), 1–11. https://doi.org/10.3389/feduc.2024.1371955

Alzubaidi, M. A., Otoom, M., & Ahmad, N. S. (2021). Real-Time Assistive Reader Pen For Arabic Language. ACM Transactions on Asian and Low Resource Language Information Processing, 20(1). https://doi.org/10.1145/3423133

Andreou, G., & Argatzopoulou, A. (2025). Neurodevelopmental Disorders And Foreign Language Learning: A Systematic Review Of Educational Interventions. Review Journal of Autism And Developmental Disorders. https://doi.org/10.1007/s40489-025-00512-2

Asmilyia, M. M., Ahmad Yunus, M. N., Wan Sabri, W. M., & Nurdiana, B. (2022). Problem Solving For Learning Disabilities In Malaysian Muslim Blind

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

Community. International Journal Of Islamic Thought, 21(1), 34–42. http://doi.org/10.24035/ijit.21.2022.222

Awang Ali, M. A., & Md Ghalib, M. F. M. (2024). Developing Virtual Reality (VR) Technology In Learning Arabic Grammar: An Insight On Needs Analysis For Arabic-VR Application. Ulum Islamiyyah, 36(3), 15–25. https://doi.org/10.33102/uij.vol36no03.601

Awang, A., Abdul Rani, I. F., & Kway, E. H. (2024). Special Needs Education For The Visually Impaired In Malaysia. Southeast Asia Early Childhood Journal, 13(2), 122–131. https://doi.org/10.37134/saecj.vol13.2.9.2024

Braun, V., & Clarke, V. (2012). Thematic Analysis: A Practical Guide. Sage Publications.

Bryman, A. (2008). Social Research Methods. Oxford University Press: United Kingdom.

Che Mat, A. (2014). Model Of Translating Preposition (MTP) Of Arabic Into Malay. Mediterranean Journal Of Social Sciences, 5(23), 2420–2424. https://doi.org/10.5901/mjss.2014.v5n23p2420

Creswell, J. W., & Poth, C. N. (2018). Qualitative Inquiry And Research Design: Choosing Among Five Approaches (4th Ed.). Sage Publications: United Kingdom.

Domagała-Zyśk, E., Sedláčková, J., & Karpińska-Szaj, K. (2025). Learning foreign languages: experiences of persons with disabilities and special educational needs and their teachers. Frontiers in Education, 10, 1663389.

Douglas, G., McLinden, M., McCall, S., Pavey, S., Ware, J., & Farrell, A. M. (2011). Access To Print Literacy For Children And Young People With Visual Impairment: Findings From A Review Of Literature. European Journal Of Special Needs Education, 26(1), 25–38. https://doi.org/10.1080/08856257.2011.543543

Effendi, R., Nurul Wahdah, Kamaludin, Sadikin, A., Asmawati, Sardimi. (2023). Application of Audiolingual Method in Active Arabic Language Learning For Visually Impaired Students. Al-Ta'rib : Jurnal Ilmiah Program Studi Pendidikan Bahasa Arab IAIN Palangka Raya, 11(2), 309-320. https://doi.org/10.23971/altarib.v11i2.7544

Effendi, T., Thurston, A., & MacKenzie, A. (2024). A Systematic Evidence Synthesis Of Disability And Inclusive Pedagogy In Initial Teacher Training In English As A Foreign Language. International Journal Of Educational Research Open, 7(100350), 1-13. https://doi.org/10.1016/j.ijedro.2024.100350

El Ghoul, O., Ahmed, I., Othman, A., Al-Thani, D. A., & Al-Tamimi, A. (2020). An Overview Of The New 8-Dots Arabic Braille Coding System. In K. Miesenberger, R. Manduchi, M. C. Rodríguez, & P. Penáz (Eds.), Computers Helping People With Special Needs. ICCHP 2020. Lecture Notes In Computer Science (Vol. 12376, pp. 339–345). Springer. https://doi.org/10.1007/978-3-030-58796-3_40

Francis, J. J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P., & Grimshaw, J. M. (2009). What Is An Adequate Sample Size? Operationalising Data Saturation For Theory-Based Interview Studies. Psychology & Health, 25(10), 1229–1245. https://doi.org/10.1080/08870440903194015

Gayathiri, S., Kavin Kumar, R., Prithika Sri, V., & Ravi Prasanth, M. (2024). Interactive Tactile Book Framework For Visually Challenged Community. 2024 3rd

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

International Conference On Applied Artificial Intelligence And Computing (ICAAIC), 975–979. https://doi.org/10.1109/icaaic60222.2024.10574917

Jabatan Kebajikan Masyarakat. (2025, Januari). Laporan Tahunan Jabatan Kebajikan Masyarakat 2022[Annual Report Of The Department Of Social Welfare 2022]. Jabatan Kebajikan Masyarakat. https://www.jkm.gov.my/uploads/content-downloads/file_20250616095815.pdf

Jabatan Tenaga Kerja Semenanjung Malaysia. (2022, September). Statistik Pekerjaan Dan Perburuhan Siri 31 Bil. 1/2022[Employment And Labour Statistics Series 31 No. 1/2022]. Jabatan Tenaga Kerja Semenanjung Malaysia. https://jtksm.mohr.gov.my/sites/default/files/2024-01/eBook%20iStatistik%20bil%203%20_2022.pdf

Jafri, R., Althbiti, S. M. M., Alattas, N. A. A., Albarakati, S. M., & Almuhawwis, S. A. A. (2022). Tac-Trace: A Tangible User Interface-Based Solution For Teaching Shape Concepts To Visually Impaired Children. IEEE Access, 10, 131153–131165. https://doi.org/10.1109/ACCESS.2022.3228455

Jamal, A. T., Aljojo, N., Al-Ghamdi, M. S., Hindi, B. A., Al-Ghanmi, M. K., Al-Jahdali, S. Y., Karam, B. M., & Abualaja, T. F. (2020). The Akeffa Tutor Application: A New Arabic Writing System. International Journal Of Interactive Mobile Technologies, 14(2), 62–83. https://doi.org/10.3991/ijim.v14i02.11727

Kementerian Pendidikan Malaysia. (2013). Pelan Pembangunan Pendidikan Malaysia 2013–2025[Malaysia Education Blueprint 2013–2025]. Kementerian Pendidikan Malaysia. https://www.pmo.gov.my/wp-content/uploads/2019/07/Pelan-Pembangunan-Pendidikan-2013_2025.pdf

Kementerian Pendidikan Malaysia. (2023). Garis Panduan Pengajaran Bahasa Asing untuk Pelajar Orang Kurang Upaya (OKU)[Guidelines for Foreign Language Teaching for Students with Disabilities (PWD)]. Kementerian Pendidikan Malaysia. https://bpn.mypolycc.edu.my/images/PDF/BUKU%20GARIS%20PANDUAN%20PELAKSANAAN%20PROGRAM%20EKSKLUSIF%20PELAJAR%20ORANG%20KURANG%20UPAYA%20OKU_JPPKK.pdf

Krisi, M., Nagar, R., & Knoll, N. (2022). Psychological factors involved in the acquisition of a foreign language among students with visual impairments. British Journal of Visual Impairment, 40(2), 196–208.

Macrine, S. L., Heji, H., Sabri, A., & Dalton, S. (2015). Cross-Cultural Adaptation Of A Developmental Assessment Tool For Arabic Children With Visual Impairments. International Journal Of School And Educational Psychology, 3(4), 256–266. https://doi.org/10.1080/21683603.2015.1082523

Marshall, B., Cardon, P., Poddar, A., & Fontenot, R. (2013). Does Sample Size Matter In Qualitative Research?: A Review Of Qualitative Interviews In Is Research. Journal Of Computer Information Systems, 54(1), 11–22. https://doi.org/10.1080/08874417.2013.11645667

Mohd Noh, N. F. (2015). Bahasa Melayu (BM) Screen Reader For Visually Impaired Internet Users [Tesis Sarjana Muda, Universiti Teknologi PETRONAS]. UTP Institutional Repository. https://utpedia.utp.edu.my/id/eprint/15937/1/Nur%20Fadhilah_16334.pdf

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

Mokhtar, A. M., Noor, A. Y. M., & Dahnil, D. P. (2022). Problem Solving For Learning Disabilities In Malaysian Muslim Blind Community. International Journal Of Islamic Thought, 21(1), 24–34. https://doi.org/10.24035/ijit.21.2022.222

Mustafa, A., Opoku, M. P., Hamdan, A., Safi, M., & Mohamed, E. M. (2024). Perceived Effectiveness Of Assistive Devices And Technologies Among Students With Visual Impairment In The United Arab Emirates. British Journal Of Special Education, 51(1), 50–59. https://doi.org/10.1111/1467-8578.12488

Noman, M., Shehieb, W., & Sharif, T. (2019). Assistive Technology For Integrating The Visually-Impaired In Mainstream Education And Society. In 2019 Advances In Science And Engineering Technology International Conferences (ASET). https://doi.org/10.1109/ICASET.2019.8714353

Patton, M. Q. (2015). Qualitative Research & Evaluation Methods: Integrating Theory And Practice. SAGE Publications: United Kingdom.

Sabaruddin, S. N. A., Ishak, H., Hussin, H., & Remly, M. R. (2022). Quranic Memorization Learning Practice For The Vision Impairment Student In Darul Quran. International Journal Of Academic Research In Business And Social Sciences, 12(5), 99–110. http://dx.doi.org/10.6007/IJARBSS/v12-i5/13096

Saja, I., Sopian, A., Ramli, S. M., & Razak, A. Q. (2022). Keberkesanan Google Meet dan Youtube dalam Penguasaan Bahasa Arab Secara ODL Semasa Pandemik COVID-19[The Effectiveness of Google Meet and YouTube in Mastering Arabic through ODL during the COVID-19 Pandemic]. Islamiyat. https://doi.org/10.17576/ISLAMIYYAT-2022-4401-10

Seidman, I. (2019). Interviewing As Qualitative Research: A Guide For Researchers In Education And The Social Sciences (5th Ed.). Teachers College Press: London.

Shodiq, M. J., & Na Ziihah, R. A. (2024). Development Of Arabic Language Learning Media With The Content-Based Instruction For Students With Disabilities In Inclusive Schools. Arabi: Journal Of Arabic Studies, 9(2), 153–164. https://www.researchgate.net/publication/388568433_Development_of_Arabic_Language_Learning_Media_with_The_Content-Based_Instruction_for_Students_with_Disabilities_in_Inclusive_Schools

Villalba, K., Jimeno, M., Robles, H., Vergara, L., Sinning, C., Lizcano, L., Hurtado, B., & Nieto, W. (2024). Eyeland: A Visually-Impaired Accessible English Learning Application Using A Design-Based Research Framework. IEEE Access, 12, 142275–142290. https://doi.org/10.1109/ACCESS.2024.3444741

World Health Organization. (2022). World Report On Vision. World Health Organization. https://www.who.int/publications-detail-redirect/9789241516570

Yin, R. K. (2018). Case Study Research And Applications: Design And Methods (6th Ed.). SAGE Publications: United Kingdom.

Young, K., & Rooney, D. (2023). Developing Soft (Employability) Skills And Work Experience Opportunities To Prepare Students With Intellectual Disability For Open Employment. British Journal Of Special Education, 50(4), 427–439. https://doi.org/10.1111/1467-8578.12484

Yuslam, Y., Harimi, A. C., & Anggraeni, A. J. (2023). Arabic Learning In New Normal Era For Students With Visual Impairment At Inclusive Madrasah. Aphorisme: Journal Of Arabic Language, Literature, And Education, 4(1), 10–24. https://doi.org/10.37680/aphorisme.v4i1.2392

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)

Zakiyah, F., Sugiono, S., & Mustofa, T. (2021). Arabic Learning Experience For Students With Visual Impairments: Study On Challenges And Opportunities In State Islamic Universities In Indonesia. Ijaz Arabi: Journal Of Arabic Learning, 4(3), 707–721. https://doi.org/10.18860/ijazarabi.v4i3.12038

Copyright © 2026, This is an open access article under the CC BY-SA 4.0 license
(https://creativecommons.org/licenses/by-sa/4.0/)