

A Usability Evaluation of a Digital Malay Language Guidebook for Foreign Learners

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ABSTRACT

This study presents a usability evaluation of a digital Malay language guidebook, *Voices of Malaysia: Speak Like a Local*, which was developed to support foreign learners in acquiring basic communication skills for everyday interactions. Existing Malay language learning materials often emphasize formal grammar while lacking practical application, pronunciation guides, and inclusive features, which may limit their accessibility and relevance for beginner learners. To address these limitations, the guidebook was designed using simple, context-based expressions and incorporates QR codes that provide access to audio pronunciation and visual demonstration of mouth movements. A quantitative approach was used using pre- and post-survey questionnaires given to 36 participants, comprising foreign learners and Malaysian respondents. Descriptive statistical analysis showed a high level of user satisfaction across key usability dimensions, including ease of understanding ($M = 4.58$), clarity of instructions ($M = 4.64$), and usability of QR code features ($M = 4.56$). The guidebook has also received a strong positive response in terms of improving learners' confidence and supporting real-life communication. The findings show that the integration of multimodal features improves user experience and engagement, making the guidebook a practical and user-friendly resource for beginner-level learning of the Malay language. This study contributes to the development of accessible and context-based digital language learning materials, especially for foreign learners in multicultural environments.

Keywords: Malay language learning, digital guidebook, effectiveness, pronunciation support, QR codes

INTRODUCTION

Background of the Study

Language plays an important role in facilitating communication and social integration, especially in multicultural contexts. In Malaysia, the Malay language functions as the national language and is widely used in everyday interactions. For foreign learners and tourists, acquiring basic Malay language skills can significantly enhance their ability to communicate effectively and engage with local communities. Previous studies have shown that learning the local language, even at a basic level, can improve communication confidence and social participation among foreign learners (Yowani & Essien, 2021).

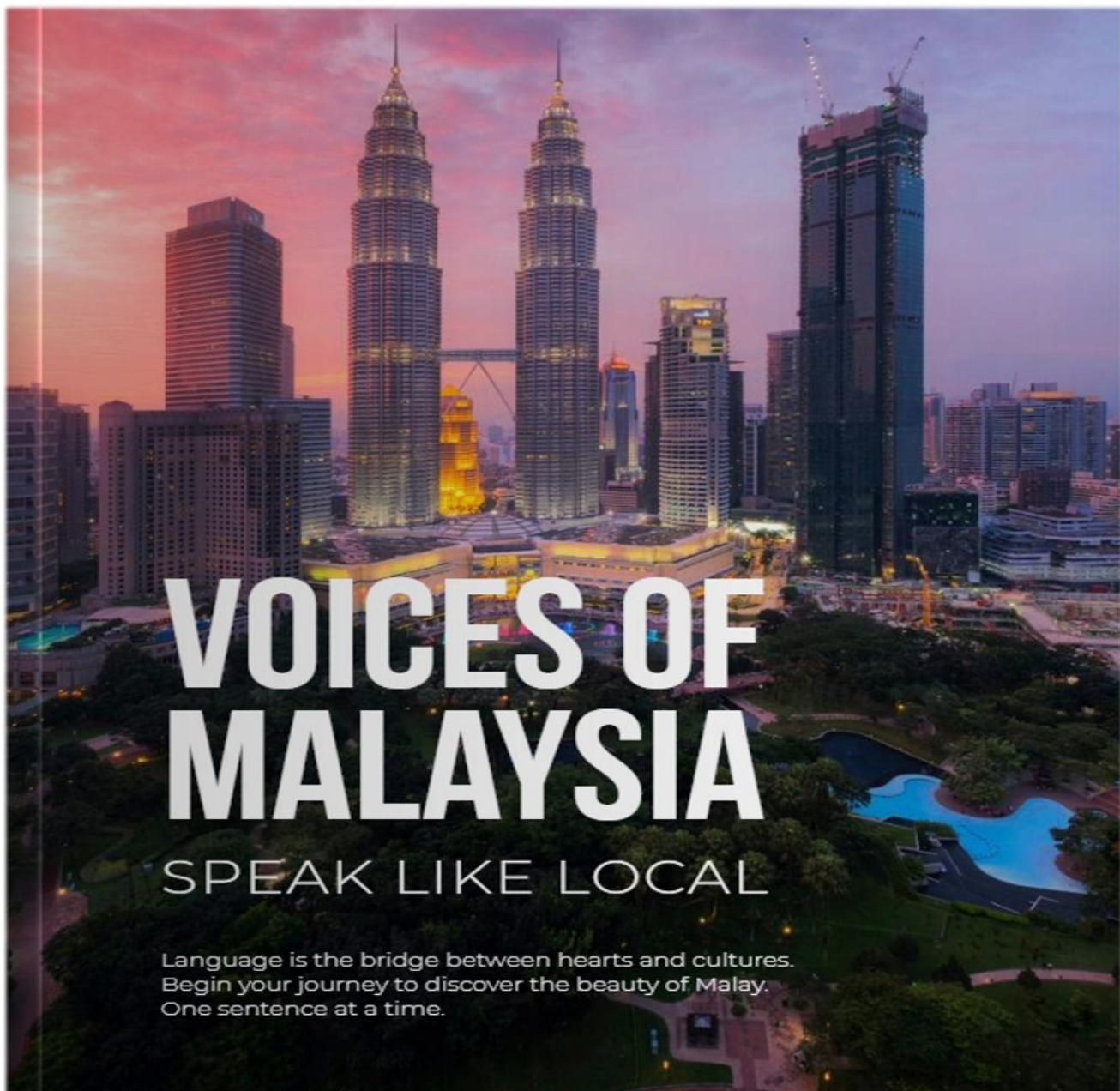
Despite its importance, learning Malay as a foreign language has some challenges. Existing language learning materials often emphasize formal grammar and the use of structured language, which may not align with the practical needs of beginner learners. Such an approach can limit learners' ability to use language skills in real-life situations, such as ordering food, asking for directions, or engaging in simple conversations. Research by Abd Rahman and Abd Rashid (2023) emphasizes that materials that are too focused on grammar can reduce learners' motivation and hinder effective communication in authentic contexts.

Another key challenge relates to pronunciation. While learners may understand vocabulary and sentence structures, they often limit sufficient guidance on accurate pronunciation. This limitation can affect learners'

confidence and willingness to communicate. According to Tan and Chee (2021), the absence of multimodal pronunciation support, such as audio and visual cues, can restrict language accessibility and learning outcomes. Additionally, digital tools, including mobile-based applications, have been shown to enhance language learning by increasing engagement and interactivity (Cho et al., 2020).

Furthermore, many existing language learning resources do not address inclusivity, especially for learners who are deaf or hard-of-hearing. The lack of visual-based learning support limits accessibility and reduces the effectiveness of language teaching for diverse groups of learners. Osman and Abdul Rabu (2022) emphasize that digital learning approaches can support a more flexible and inclusive learning environment by accommodating different needs of learners.

To address these challenges, the researchers developed a digital Malay language guidebook titled *Voices of Malaysia: Speak Like a Local*. The guidebook focuses on the practical use of context-based language and incorporates QR code technology to provide access to audio pronunciation and visual mouth movement demonstrations. This multimodal design aims to enhance usability, support pronunciation learning, and improve the overall user experience for beginner learners. In addition, the guidebook was designed with a visually engaging layout to attract users and promote a more interactive learning experience. The sample of the guidebook is presented in Figure 1:



ASKING FOR DIRECTIONS

When you travel around Malaysia, you'll often need to ask for directions. Don't worry! Malaysians are patient when helping foreigners find their way.

No.	English	Malay
1	Where is the bus station?	Di mana stesen bas?
2	Where is the train station?	Di mana stesen kereta api?
3	Where is the toilet?	Di mana tandas?
4	How do I go to?	Macam mana nak pergi ke.....?
5	Is it far?	Jauh ke?
6	Go straight	Jalan terus
7	Turn left	Pusing kiri
8	Turn right	Pusing kanan
9	Can you show me the way to?	Boleh tunjukkan jalan ke.....?
10	Opposite the road	Di seberang jalan

Table 2.1

Fun Tip About Malaysian Culture:

In Malay culture, it's polite to avoid pointing with your index finger. Instead, people gesture with their thumb while keeping the other fingers folded as it's seen as more respectful.



URL Address:
<https://youtu.be/6XxuchKJ07s?si=ZB3sdyd7zma9Sw>

GREETINGS & INTRODUCTIONS

Malaysia is known for friendliness and greetings are an easy way to make a good first impression!

No.	English	Malay
1	Hello / Hi	Hai
2	Good morning	Selamat pagi
3	Good evening	Selamat petang
4	Good night	Selamat malam
5	How are you?	Apa khabar?
6	I'm fine, thank you.	Khabar baik, terima kasih.
7	What is your name?	Siapa nama kamu?
8	My name is...	Nama saya...
9	Nice to meet you	Gembira berjumpa dengan awak.

Table 1.1



URL Address:
https://youtu.be/PT20b_PtR7a?si=9osmQ8dk82Q8pwwb

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Figure 1

Therefore, this study aims to evaluate the usability of the developed guidebook for foreign learners. Specifically, it examines users' perceptions of clarity, ease of understanding, pronunciation support, and overall user experience in supporting basic Malay communication for everyday use.

The Importance of the Study

This study contributes to the field of foreign language learning by addressing the gap between theoretical language teaching and practical communication needs. Existing language learning materials often emphasize formal grammar rather than functional usage, which may limit learners' ability to use language skills in real-life contexts (Abd Rahman & Abd Rashid, 2023). By focusing on everyday conversational situations, this study supports a more learner-centered and communicative approach that is more appropriate for beginner learners.

In addition, this study highlights the role of digital technology in improving language learning. The integration of QR codes that link to audio pronunciations and demonstrations of visual mouth movements reflects the increasing importance of technology-assisted learning tools. Previous research has shown that QR code-based learning and mobile applications can improve learner engagement, motivation, and overall learning experience (Tan & Chee, 2021; Cho et al., 2020). Therefore, this study contributes to the growing field of digital and mobile-assisted language learning by demonstrating practical applications in the context of Malay language education.

Furthermore, this study emphasizes the importance of inclusivity in language learning by considering the needs of deaf and hard-of-hearing learners. The incorporation of visual pronunciation support aligns with research highlighting the role of multimodal learning environments in improving accessibility and user experience (Tan & Chee, 2021). Digital learning platforms have also been shown to support flexible and inclusive education for learners with diverse needs (Osman & Abdul Rabu, 2022).

The findings of this study can also benefit educators, contest developers, and stakeholders in the tourism sector by providing insights into the design of language learning resources that are practical, accessible, and user-friendly. Basic language proficiency has been shown to increase communication confidence and social interaction among foreign learners, contributing to more meaningful cultural experiences (Yowani & Essien, 2021). Therefore, the guidebook developed in this study has potential applications beyond education, particularly in supporting tourism and cross-cultural communication in Malaysia.

Finally, this study contributes to the development of local educational materials related to promoting the Malay language as an accessible and practical communication tool for international users. In line with latest research on teaching Malay to non-native speakers, the development of context-based and user-friendly learning materials is essential to increase learner engagement and usability (Janan et al., 2024). This supports broader efforts to increase the visibility and usability of the Malay language in global contexts.

Objectives

The objectives of the study are as follows:

1. To evaluate the usability of the digital Malay language guidebook based on foreign learners' perceptions of clarity, ease of understanding, and overall user experience.
2. To assess foreign learners' perceptions of the guidebook's usefulness in supporting real-life communication in Malaysia.
3. To examine the role of QR code-integrated pronunciation support in enhancing user experience.

LITERATURE REVIEW

Malay Language Learning for Foreign Learners

Learning the Malay language plays an important role in facilitating communication and cultural integration for foreigners in Malaysia. As the national language, Malay is widely used in everyday interactions, making mastery of the basics essential for effective communication in social and practical contexts. Research shows that learning a local language, even at a basic level, can significantly improve learners' communication confidence and ability

to participate in social interactions (Yowani & Essien, 2021). This highlights the importance of developing accessible and practical language learning resources tailored to beginners.

However, teaching Malay as a foreign language presents several pedagogical challenges. Traditional instructional approaches often prioritize grammatical accuracy and formal language structures rather than communicative competence. While such an approach may be beneficial for advanced learners, they are often less effective for beginners who need immediate and functional language skills. Abd Rahman and Abd Rashid (2023) argue that grammar-focused materials can reduce learners' motivation and limit their ability to apply language knowledge in real-life situations. This disconnects between classroom learning, and practical use can hinder language acquisition and reduce learner engagement.

Recent studies also emphasize the importance of communicative and task-based approaches in foreign language learning, especially for beginners. Communicative Language Teaching (CLT) has been widely recognized as an effective approach that prioritizes real-life interaction and practical language use over memorization of grammatical rules (Richards, 2020). In this context, learners are encouraged to actively use the target language in meaningful situations, which improves both fluency and confidence. Similarly, Nation and Macalister (2021) highlight that beginner learners benefit more from high-frequency vocabulary and situational language input rather than complex grammatical instruction.

Furthermore, Janan et al. (2024) emphasize that effective teaching of the Malay language for non-native speakers should focus on contextual and communicative approaches. These approaches allow learners to acquire language through meaningful interaction rather than memorization of rules. Therefore, there is a growing need for language learning resources that prioritize real-life communication and practical usage, especially for foreign learners who have limited exposure to the Malay language.

Challenges in Pronunciation and Language Accessibility

Pronunciation remains one of the most significant challenges faced by foreign language learners. While learners may acquire basic vocabulary and sentence structure, they often struggle to come up with accurate pronunciation, which can affect their confidence and willingness to communicate. This issue is particularly relevant in a self-paced learning environment, where learners may not have access to direct feedback from instructors.

In recent years, technology-enhanced pronunciation tools have been shown to significantly improve learners' pronunciation skills and self-confidence. For example, Li (2022) found that integrating audio-visual pronunciation models in language learning environments helps learners better imitate the sounds of native speakers and reduces pronunciation anxiety. This supports the argument that combining auditory and visual input can improve phonological awareness and improve overall speaking performance.

According to Tan and Chee (2021), the limited availability of multimodal pronunciation support such as audio recordings and visual demonstrations can limit learners' ability to develop accurate pronunciation skills. Without proper guidance, learners may develop incorrect pronunciation habits, which can be difficult to correct over time. This highlights the importance of integrating pronunciation support into language learning materials.

In addition to pronunciation challenges, accessibility remains a critical concern in language education. Many existing language learning resources are designed primarily for hearing learners and do not adequately consider the needs of deaf or hard-of-hearing individuals. Osman and Abdul Rabu (2022) suggest that digital learning platforms can improve accessibility by combining flexible and multimodal learning features that meet the needs of diverse learners. Similarly, Tan and Chee (2021) emphasize that visual learning tools, such as mouth movement demonstrations, can improve accessibility and support more inclusive learning environments.

Additionally, the inclusive education framework emphasizes the importance of designing learning materials that accommodate diverse learners, including those with hearing impairments. According to Al-Azawei et al. (2021), a multimodal learning environment that combines visual, text, and interactive elements can improve accessibility

and ensure equal learning opportunities for all learners. This further reinforces the need for inclusive design in language learning resources.

Therefore, addressing both pronunciation and accessibility challenges is essential to improve the overall effectiveness of language learning resources, especially for diverse groups of learners.

Digital and Multimodal Approaches in Language Learning

The integration of digital technologies has transformed language learning by providing a more interactive, flexible, and learner-centered approach. Mobile learning applications and digital platforms allow learners to access content anytime and anywhere, making language learning easier, more convenient and adaptable to individual needs. Studies have shown that digital tools can significantly improve learner engagement, motivation, and learning outcomes (Cho et al., 2020; Osman & Abdul Rabu, 2022).

Recent advancements in digital learning have also highlighted the effectiveness of multimedia learning principles. Mayer (2021) explains that learners understand and retain information more effectively when content is conveyed through both visual and auditory channels. This dual-channel processing supports deeper learning and reduces cognitive overload, making multimedia-enhanced materials especially beneficial for beginner learners.

Cho et al. (2020) found that mobile applications are effective in supporting Malay language learning by providing interactive features that encourage active participation. Similarly, Osman and Abdul Rabu (2022) emphasize that a mobile learning environments allow learners to engage with content at their own pace, which can improve comprehension and retention. These findings show that digital tools play an important role in supporting more effective language learning experiences.

One emerging approach in digital learning is the use of QR codes to connect printed or digital materials with multimedia content. QR codes allow learners to instantly access audio, video, and interactive resources, thus enhancing the learning experience. Tan and Chee (2021) show that QR code-based learning can improve pronunciation accuracy, increase learner motivation, and support more engaging learning environments. By combining visual and auditory input, multimodal learning approaches can cater to different learning styles and improve overall effectiveness.

In addition, blended and mobile-assisted language learning approaches have received increasing attention due to their flexibility and effectiveness. Kukulska-Hulme and Shield (2020) state that mobile learning allows learners to engage with language content in authentic context, thus bridging the gap between classroom learning and real-world communication. This suggests that integrating mobile-accessible features, such as QR codes, can further improve the practicality and usability of language learning tools.

Despite these advantages, many digital learning tools still limit the integration between practical communication, pronunciation support, and accessibility features. This points to the need for more comprehensive and user-centered digital learning resources.

Research Gap

While previous studies have highlighted the importance of communicative language learning, pronunciation support, and digital learning tools, there is limited availability of integrated resources that combine these elements in a single platform. Many existing Malay language learning materials continue to emphasize grammar-based instruction, while digital tools often focus on general language learning without addressing specific real-life communication needs.

Furthermore, limited research has examined the effectiveness of QR code-integrated guidebooks designed specifically for learning the Malay language among foreign learners. Although studies such as Tan and Chee (2021) and Cho et al. (2020) show the benefits of digital and multimodal approaches, there is insufficient evidence on how these features can be combined in a practical, user-friendly format for beginner learners.

In addition, there is a significant lack of emphasis on inclusive design in existing language learning materials, particularly in supporting deaf or hard-of-hearing learners through visual-based learning strategies. This represents an important gap in ensuring equitable access to language education.

Therefore, there is a need to develop and evaluate a digital Malay language learning resource that integrates practical communication, multimodal pronunciation support, and inclusive design features. In addition, limited research has examined the usability of QR code-integrated guidebooks designed specifically for Malay language learning among foreign learners. While previous studies have shown the benefits of digital and multimodal approaches, there is insufficient evidence on how these features can be combined into a user-friendly and accessible learning resource.

This study addresses this gap by conducting a usability evaluation of a digital Malay language guidebook designed to support foreign learners in the context of in real-life communication.

METHODOLOGY

Research Design

A quantitative research design was adopted as it allows for systematic data collection and statistical analysis of user perceptions (Creswell & Creswell, 2018). This study employed a quantitative research design to conduct a usability evaluation of a digital Malay language guidebook for foreign learners. A survey-based approach was used to collect data on users' perceptions of the guidebook's usability and usefulness for real-life communication. The quantitative method was selected as it enables systematic measurement and statistical analysis of user responses, providing objective insights into the usability and user experience of the developed guidebook.

Participants

The study involved a total of 36 participants, consisting of 30 foreign learners and 6 Malaysian respondents. The inclusion of foreign learners aligns with the primary target users of the guidebook, while Malaysian respondents provided additional perspectives on the accuracy and appropriateness of the language content. The participants represented diverse national backgrounds, including American, British, Thai, and Malaysian respondents. The majority of participants were aged between 18 and 25 years (83.3%), indicating that the sample largely consisted of young adult learners. This diverse sample provided relevant insights into the usability of the guidebook across different user groups.

Instrument

Data were collected using a structured questionnaire administered in two phases: a pre-survey and a post-survey. The pre-survey gathered information on participants' initial familiarity with the Malay language and their expectations of language learning materials. The post-survey evaluated users' perceptions after interacting with the guidebook. The questionnaire consisted of close-ended items measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The items were designed to measure key variables aligned with the research objectives, including clarity of content, ease of understanding, usability of QR codes for pronunciation support, overall user experience, and perceived usefulness for real-life communication. This structured instrument enabled the collection of quantifiable data for evaluating the usability of the guidebook. The use of structured questionnaires is widely applied in social science research to collect standardized data from participants (Bryman, 2016).

Procedure

The study was conducted in several systematic phases to evaluate the usability of the digital Malay language guidebook.

First, during the development phase, the guidebook *Voices of Malaysia: Speak Like a Local* was designed and developed. The content focused on practical, context-based communication, including common daily situations such as greetings, ordering food, shopping, and asking for directions. In addition, QR codes were embedded within the guidebook, linking users to audio pronunciation recordings and mouth movement demonstration videos to support multimodal learning.

Next, the pre-survey phase was carried out. Participants were invited to complete a pre-survey questionnaire to assess their initial familiarity with the Malay language, previous learning experience, and expectations regarding language learning materials. This step helped establish a baseline understanding of the participants' needs and background.

Following this, participants proceeded to the interaction phase, where they were given access to the digital guidebook. They were instructed to explore the content independently, including scanning the QR codes to access pronunciation audio and visual demonstrations. This phase allowed participants to experience the guidebook in a realistic, self-directed learning context.

After the interaction phase, the post-survey phase was conducted. Participants completed a structured questionnaire to evaluate their experience using the guidebook. The questionnaire focused on key aspects such as clarity of content, ease of understanding, usability of QR codes, overall user experience, and perceived usefulness for real-life communication.

Finally, the collected responses were compiled and prepared for analysis. This step ensured that all data were organized systematically for subsequent statistical analysis to evaluate the usability of the guidebook. The procedure was designed to simulate a real-world learning experience, allowing participants to interact with the guidebook in an authentic and self-directed manner.

Data Analysis

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 30. Both descriptive and inferential statistical analyses were conducted to evaluate the usability of the digital Malay language guidebook. Descriptive and inferential statistical analyses were conducted to interpret the data, as recommended in quantitative research studies (Field, 2018).

First, descriptive statistics were used to summarize the data, including mean scores, standard deviation, minimum values, and maximum values for each survey item. These measures were used to assess participants' perceptions of usability, clarity, ease of understanding, and overall user experience. The analysis was based on a five-point Likert scale, where higher mean scores indicate more positive user perceptions.

To assess the internal consistency of the usability-related items (clarity, ease of understanding, and QR code usability), a reliability analysis was conducted using Cronbach's alpha. A Cronbach's alpha value above 0.70 was considered acceptable, indicating that the items reliably measure the same construct.

In addition, a correlation analysis was performed to examine the relationships between key variables, including usability, user confidence, cultural familiarity, and recommendation. Pearson correlation coefficients (r) were used to determine the strength and direction of relationships between variables.

Furthermore, a simple linear regression analysis was conducted to explore whether usability predicts users' likelihood of recommending the guidebook. This analysis provided insights into the extent to which usability influences user satisfaction and behavioral intention.

The results were presented in tabular form to provide a clear and systematic overview of the findings. Overall, these statistical techniques allowed for a comprehensive evaluation of the guidebook's usability based on user perceptions.

RESULTS AND DISCUSSION

Descriptive Analysis of Usability

The descriptive analysis revealed high levels of user satisfaction across all usability dimensions. As shown in Table 1, the mean scores for clarity of instructions ($M = 4.64$), ease of understanding ($M = 4.58$), and QR code usability ($M = 4.56$) fall within the “high” category. These findings indicate that participants perceived the guidebook as clear, user-friendly, and easy to navigate.

Table 1. Descriptive Statistics of Usability Variables

Variable	Mean (M)	Std. Deviation (SD)	Interpretation
Ease of Understanding	4.58	0.65	High
Clarity of Instructions	4.64	0.54	High
QR Code Usability	4.56	0.56	High

These results support previous studies emphasizing the importance of simplified and context-based language input in improving comprehension among beginner learners (Janan et al., 2024). The findings also align with Communicative Language Teaching principles, which prioritize meaningful interaction and practical language use (Richards, 2020).

Reliability Analysis

To assess the internal consistency of the usability-related items, a reliability analysis was conducted using Cronbach’s alpha. Cronbach’s alpha was used to assess internal consistency, with values above 0.70 considered acceptable (Tavakol & Dennick, 2011).

Table 2. Reliability Analysis

Construct	Number of Items	Cronbach’s Alpha
Usability	3	0.79

The Cronbach’s alpha value of **0.79** indicates acceptable reliability, suggesting that the items measuring usability (clarity, ease of understanding, and QR code usability) are internally consistent. This supports the validity of the instrument used in this study.

Correlation Analysis

A Pearson correlation analysis was conducted to examine relationships between usability variables and learning-related outcomes. The correlation coefficients are presented in Table 3.

Table 3. Correlation Matrix (Selected Variables)

Variable	Understanding	Clarity	QR	Confidence	Culture
Understanding	1.00	0.53	0.58	0.17	0.35

Variable	Understanding	Clarity	QR	Confidence	Culture
Clarity	0.53	1.00	0.59	0.26	0.18
QR	0.58	0.59	1.00	0.53	0.51
Confidence	0.17	0.26	0.53	1.00	0.64
Culture	0.35	0.18	0.51	0.64	1.00

The findings indicate moderate positive relationships between QR code usability and learners' confidence ($r = 0.53$), as well as between confidence and cultural familiarity ($r = 0.64$). This suggests that multimodal features contribute to both language confidence and cultural understanding. These results are consistent with Tan and Chee (2021), who found that QR-based pronunciation tools enhance engagement and learning outcomes. Similarly, Li (2022) emphasized that audio-visual pronunciation support improves speaking confidence and reduces anxiety.

Regression Analysis

A simple linear regression analysis was conducted to examine whether usability predicts users' likelihood of recommending the guidebook. The regression results are presented in Table 4.

Table 4. Regression Analysis

Variable	R	p-value	Interpretation
Usability → Recommendation	0.21	0.238	Not significant

The results indicate a positive but non-significant relationship between usability and recommendation. This suggests that while usability contributes to user experience, it may not be the sole factor influencing users' intention to recommend the guidebook. This finding aligns with previous research indicating that behavioral intention is influenced by multiple factors, including personal preferences and prior experiences (Cho et al., 2020).

Overall, the findings demonstrate that the digital guidebook provides a high level of usability and positive user experience for beginner learners. The integration of practical communication content and multimodal pronunciation support enhances accessibility and engagement, supporting previous research on digital and mobile-assisted language learning (Osman & Abdul Rabu, 2022).

In addition, the inclusion of culturally relevant content appears to contribute to learners' confidence and familiarity with Malaysian culture, reinforcing the role of language learning in social integration (Yowani & Essien, 2021).

However, despite the strong usability results, the regression analysis suggests that usability alone may not fully explain users' recommendation behaviour. This highlights the need for further research to explore additional factors influencing user satisfaction and adoption of digital language learning tools.

Limitations And Future Research

This study has several limitations. The sample size was relatively small ($n = 36$), which may limit the generalizability of the findings. Additionally, the study relied on self-reported data, which may introduce response bias.

Future research is recommended to involve a larger and more diverse sample and to incorporate experimental or longitudinal designs to examine the long-term impact of digital language learning tools on language acquisition.

CONCLUSION

This study evaluated the usability of a digital Malay language guidebook designed to support foreign learners in acquiring basic communication skills for everyday use. The findings indicate that the guidebook demonstrates a high level of usability, with users reporting positive perceptions in terms of clarity, ease of understanding, and overall user experience. The integration of QR code-based pronunciation support further enhanced the learning experience by improving learners' confidence and engagement.

In addition, the results suggest that the guidebook effectively supports real-life communication and contributes to learners' familiarity with Malaysian culture. The use of context-based content and multimodal features appears to play an important role in facilitating accessible and practical language learning for beginners.

However, while usability was positively evaluated, the findings also indicate that usability alone may not fully determine users' intention to recommend the guidebook, suggesting that other factors may influence user satisfaction and adoption. Despite this, the overall results highlight the value of integrating practical communication, user-friendly design, and digital features in language learning resources.

Practical Implications

The findings of this study have several practical implications for educators, material developers, and stakeholders in language education and tourism.

First, the results highlight the importance of designing language learning materials that prioritize usability and real-life communication rather than focusing solely on formal grammar. Educators and curriculum designers are encouraged to incorporate context-based content that reflects authentic communication situations to better support beginner learners.

Second, the study demonstrates the effectiveness of multimodal learning features, particularly QR code-integrated audio and visual pronunciation support. Material developers can adopt similar approaches to enhance learner engagement, improve pronunciation accuracy, and provide more interactive learning experiences.

Third, the findings emphasize the need for inclusive design in language learning resources. The integration of visual elements, such as mouth movement demonstrations, can improve accessibility for diverse learners, including those who are deaf or hard-of-hearing. This supports the development of more equitable and user-centered educational materials.

Finally, the guidebook has potential applications beyond formal education, particularly in the tourism sector. Providing accessible language resources for tourists can enhance communication, improve travel experiences, and promote cultural understanding. As such, digital language guidebooks can serve as practical tools for supporting cross-cultural interaction in multilingual environments.

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