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Classroom Action Research on Digital Interactive Learning for Arabic Speaking Development in Islamic Junior High Schools

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Abstract

The rapid advancement of digital technology offers new opportunities for transforming language education, yet developing Arabic speaking proficiency (Maharah Kalam) remains a significant challenge in Islamic junior high schools. This study aims to evaluate the effectiveness of interactive digital learning media in enhancing Arabic speaking skills among Grade 8 students at Madrasah Tsanawiyah Darullughah Wadda'wah (MTs Dalwa). Employing a quasi-experimental design, 30 students were purposively selected and divided equally into an experimental group and a control group. The experimental group engaged with AI-assisted pronunciation tools, gamification-based vocabulary learning applications, and augmented reality (AR) conversation simulations, while the control group received traditional textbook-based instruction and teacher-led drills. Data were collected using pre- and post-tests to assess speaking proficiency (covering fluency, pronunciation, vocabulary usage, and grammatical accuracy), complemented by classroom observations and semi-structured interviews with students and teachers. The findings revealed that the experimental group exhibited a statistically significant improvement, with a 32.5% increase in post-test scores compared to a 12.3% improvement observed in the control group. Additionally, qualitative feedback indicated that students experienced higher engagement, reduced speaking anxiety, and enhanced motivation. Despite these positive outcomes, challenges such as technical limitations and the need for structured teacher training were noted. In conclusion, the integration of interactive digital tools in Arabic language instruction can effectively enhance speaking proficiency, bridging the gap between theoretical knowledge and practical communication skills in Islamic educational settings. Further research is recommended to address implementation challenges and explore long-term retention effects.

Keywords: *Interactive Learning Media, Arabic Speaking Proficiency, Gamification, Augmented Reality, AI-Assisted Learning, Madrasah Tsanawiyah.*

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Introduction

The rapid advancement of digital technology has significantly influenced the way languages are taught and learned. In Arabic language education, particularly in Madrasah Tsanawiyah, speaking proficiency (Maharah Kalam) remains one of the most challenging skills to develop due to the lack of interactive and communicative-based approaches (Marlina & khairunnisa Hasugian, 2025; Shofwatul Fu'adah & Kholifatun Hasanah, 2024; Syamsiyah et al., 2023). Many students struggle with fluency, pronunciation, and confidence in using Arabic in real-life situations, which hinders their ability to engage in meaningful conversations (Mahmudah, 2025). Despite the integration of Arabic into the curriculum of Islamic schools, traditional teaching methods remain dominant, emphasizing rote memorization, grammar-focused drills, and passive learning, rather than practical language use. As a result, students often develop theoretical knowledge of Arabic grammar but lack the ability to apply it in oral communication.

Previous studies have highlighted that traditional Arabic language instruction often lacks engaging and interactive elements, leading to low motivation and limited language retention (Jääskä & Aaltonen, 2022; Shadiev & Wang, 2022; Tuma, 2021). These conventional methods fail to provide students with a natural, immersive language environment, making it difficult for them to develop speaking skills with confidence. Without an interactive approach that encourages active participation and real-life practice, students struggle with articulation, vocabulary recall, and spontaneous speech production. This pedagogical gap necessitates the adoption of innovative language learning strategies, such as gamification, augmented reality (AR), and AI-assisted pronunciation tools, to create a more dynamic and engaging learning experience for Arabic learners in Madrasah Tsanawiyah.

Several studies have explored the integration of interactive learning media in foreign language education. Research by Zhang & Yu (2022) demonstrated that gamification-based learning tools significantly enhance motivation and engagement in second language acquisition. Similarly, Yilmaz et a (2022) found that augmented reality (AR) applications improved students' ability to recall and use vocabulary in practical settings. However, few studies have specifically examined the use of interactive digital media in Arabic speaking proficiency within the context of Madrasah Tsanawiyah. This gap highlights the need for further investigation into technology-enhanced Arabic learning environments, particularly focusing on speaking skills.

This study aims to explore the development and effectiveness of interactive learning media in enhancing Arabic speaking skills among Madrasah Tsanawiyah students. The research will address the following key questions: How does interactive learning media impact Arabic speaking proficiency in Madrasah Tsanawiyah students? What are the perceptions of students and teachers regarding

the integration of digital interactive tools in Arabic speaking lessons? What are the challenges and best practices in implementing interactive learning media for Arabic speaking instruction?

This study will focus on Madrasah Tsanawiyah students in a selected school setting. The research will evaluate different types of interactive learning media, such as AI-based applications, gamification, and augmented reality (AR), in improving Arabic speaking proficiency. The scope will be limited to oral communication skills, excluding other aspects like reading or writing. Furthermore, the study will not assess long-term language retention but will focus on immediate improvements in speaking fluency, vocabulary usage, and pronunciation.

This research contributes to the growing body of literature on technology-enhanced Arabic language learning by filling a gap in the application of interactive media to Arabic speaking skills in Madrasah Tsanawiyah. The findings will benefit: Educators, by providing insights into how interactive media can be effectively integrated into Arabic language instruction. Students, by offering a more engaging and interactive approach to improving their Arabic speaking abilities. Policymakers and curriculum developers, by informing future decisions on the incorporation of digital learning tools in Arabic language education.

While previous studies (Hasumi & Chiu, 2024; Jääskä & Aaltonen, 2022; Khan et al., 2023) have demonstrated the effectiveness of digital learning in second language acquisition, most focus on European or East Asian languages. Research on Arabic-speaking skill development through interactive learning media remains limited, particularly in the context of Islamic junior high schools (Madrasah Tsanawiyah).

By positioning this study within the intersection of interactive technology, Arabic language education, and pedagogical innovation, this research bridges the existing gap and proposes a contextualized framework for improving Arabic speaking proficiency in Madrasah Tsanawiyah students.

Method

In this study, a quasi-experimental design with a pre-test and post-test approach is used, integrating quantitative and qualitative data collection methods to evaluate the impact of interactive digital media on Arabic speaking proficiency (Creswell, 2021). A total of 30 Grade 8 students from Madrasah Tsanawiyah Darullughah Wadda'wah (MTs Dalwa) were purposively selected based on the criteria of possessing basic Arabic proficiency, facing challenges in speaking skills, having no prior structured exposure to interactive digital media, and being willing to participate in the study. The students were evenly divided into two groups: an experimental group (15 students) and a control group (15 students).

This study implements an intervention approach that combines several interactive digital tools, differing from previous research that tended to examine

only one type of intervention. The experimental group utilized AI-based pronunciation tools (using ElevenLabs AI) that provide real-time feedback, gamification-based vocabulary learning applications (such as Quizizz) to reinforce vocabulary acquisition through engaging game formats, and augmented reality (AR) conversation simulations (using Mondly AR) to create communication scenarios that closely mimic real-life interactions. This integrative approach is designed to directly connect theory with practice and provide an authentic learning experience.

To measure the effectiveness of the intervention, several data collection instruments were employed. Speaking proficiency was assessed through pre-test and post-test evaluations using a standardized CEFR-based rubric (levels A1–B2) that measures fluency, pronunciation, vocabulary usage, and grammar. In addition, structured classroom observations were conducted twice a week to evaluate student engagement, interaction quality, and error correction patterns. Digital data were also collected via usage logs from the digital tools in the experimental group, providing objective information on participation levels and interaction patterns. To complement the quantitative data, semi-structured interviews and questionnaires were administered to both students and teachers to gather insights regarding their experiences with the interactive digital tools in Arabic language learning (Adeoye-Olatunde & Olenik, 2021; Guimarães & Lima, 2021).

Quantitative data were analyzed using paired t-tests to compare pre-test and post-test scores within each group, supplemented by effect size calculations to assess the practical significance of improvements. Additionally, multivariate analysis was used to determine the contribution of each digital tool to the overall improvement in speaking proficiency. Qualitative data obtained from interviews and observations were analyzed using thematic analysis, enabling the researchers to correlate statistical outcomes with real classroom experiences. This data triangulation approach is an innovation compared to previous studies that typically relied on a single type of data.

To ensure effective implementation of the intervention, structured training sessions were conducted for Arabic teachers prior to the intervention. These sessions aimed to familiarize teachers with each digital tool, integrate them into the existing curriculum, and provide ongoing support and feedback throughout the intervention period. This step not only enhances teacher competency but also increases the fidelity of the intervention—an aspect that has often been a gap in previous research.

All research procedures adhered to ethical considerations, with consent obtained from all relevant parties and the confidentiality of student data ensured. The study was approved by the administration of MTs Dalwa in accordance with established research ethics guidelines. By integrating advanced interactive digital tools, employing a mixed-method approach, and leveraging digital analytics alongside comprehensive teacher training, this study successfully addresses

methodological gaps identified in previous research and offers a more holistic framework for improving Arabic speaking proficiency in a practical and contextual manner.

Result and Discussion

The Impact of Interactive Learning Media on Arabic Speaking Proficiency

The results from the pre-test and post-test indicate a significant improvement in Arabic speaking proficiency among students in the experimental group compared to those in the control group. The mean pre-test score for the experimental group was 62.4, which increased to 82.7 in the post-test, showing a 32.5% improvement. Meanwhile, the control group only exhibited a 12.3% increase, with their scores rising from 60.8 to 68.3. The paired t-test analysis confirmed that the improvement in the experimental group was statistically significant ($p < 0.05$), indicating that interactive learning media had a considerable impact on students' Arabic speaking proficiency.

The most notable improvements were observed in fluency and pronunciation, where students using AI-assisted pronunciation tools and augmented reality-based speaking simulations showed better articulation and confidence. Vocabulary acquisition also improved due to gamification strategies, as students actively engaged with Quizizz and other interactive tools to reinforce their learning.

The findings of this study align with previous research on Kitab Muhawarah as an effective tool for enhancing Arabic speaking proficiency. A study by Muhamad Solehudin et al (2024) demonstrated that structured dialogue-based learning in Kitab Muhawarah significantly improves fluency and pronunciation in Arabic learners. The conversational nature of Muhawarah-based learning parallels the AI-driven and gamification-based methods in this study, reinforcing the importance of contextualized and scenario-based learning environments in fostering speaking proficiency. The structured conversations found in Kitab Muhawarah provide linguistic patterns and repetition, which enhance spontaneous speech production and reinforce vocabulary acquisition (Hanifansyah & Mahmudah, 2024).

One of the most effective strategies for enhancing Arabic speaking proficiency is the use of mnemonic techniques, which facilitate memory retention and linguistic recall. Research by Nur Hanifansyah et al (2024) demonstrated that mnemonic storytelling significantly improves Arabic writing competence by strengthening cognitive associations between words and their meanings. Similarly, in this study, students who engaged with AI-assisted pronunciation tools and gamification-based vocabulary reinforcement showed greater recall of key phrases and improved fluency , indicating that mnemonic-based learning plays a crucial role in reinforcing linguistic structures and enhancing spontaneous speech production. The integration of mnemonic techniques in Arabic speaking instruction ensures that students retain

vocabulary more effectively and apply it in meaningful conversations (Mahmudah et al., 2024).

Perceptions of Students and Teachers on Interactive Learning Media

The qualitative data collected from semi-structured interviews with students and teachers provided further insights into the effectiveness of interactive learning media.

Students' Perspectives

Most students in the experimental group reported feeling more engaged and confident when practicing Arabic speaking using AI-based pronunciation tools and gamification applications. One student stated:

"Before using these interactive tools, I was afraid of making mistakes in pronunciation. The AI pronunciation trainer helped me correct my speech, and now I feel more confident speaking Arabic in class."

Another student highlighted the gamification aspect as a motivating factor:

"The vocabulary games made learning Arabic more fun. I enjoyed the competitive aspect, and it helped me remember words better than just memorizing from a textbook."

However, a few students mentioned technical difficulties as a minor challenge, particularly in using augmented reality applications that required stable internet connections and specific devices.

Teachers' Perspectives

Teachers also observed a positive shift in student engagement and participation. One Arabic teacher noted:

"I noticed that students who were previously hesitant to speak in Arabic became more active in class discussions. The interactive media reduced their anxiety and encouraged them to practice more frequently."

Despite the positive impact, some teachers expressed concerns regarding the integration of digital tools into traditional curricula, suggesting the need for structured implementation guidelines to ensure effective usage.

The role of psycholinguistics in enhancing Arabic speaking confidence is further supported by Solehudin & Nur Hanifansyah (2024), who found that public speaking training through structured psycholinguistic strategies significantly boosts students' confidence and vocabulary usage. Similarly, in this study, students reported that AI-assisted pronunciation tools and gamified speaking tasks helped reduce anxiety and improve self-assurance when speaking Arabic. This reinforces the idea that structured and interactive learning methods are essential in creating a supportive speaking environment, allowing students to gradually overcome linguistic barriers and improve fluency through cognitive reinforcement (Mahmudah & Hanifansyah, 2024).

Challenges and Best Practices in Implementing Interactive Learning Media

Although the study demonstrated the effectiveness of interactive learning media, some challenges were identified during implementation. Technical Constraints: Some students faced difficulties accessing AI-based applications due to limited internet connectivity and device availability. Adaptation Period: Both students and teachers required an adjustment period to familiarize themselves with the interactive learning tools. Need for Teacher Training: Some teachers lacked experience in incorporating AI and gamification-based methods into their teaching.

To address these challenges, the study recommends: Providing offline learning options for students with limited internet access. Integrating structured training sessions for teachers on the effective use of interactive learning tools. Gradual implementation of digital learning strategies alongside traditional methods.

The findings of this study align with previous research on technology-enhanced language learning. Studies by Jääskä & Aaltonen (2022) and Zhang & Yu, (2022) confirmed that gamification and AI-based pronunciation tools significantly enhance motivation and fluency in second language acquisition. Similarly, Yilmaz et a (2022) found that the integration of augmented reality in language learning improved students' ability to recall and apply vocabulary in real-life communication.

However, this study extends previous research by applying interactive learning media specifically in an Islamic boarding school setting (MTs Dalwa), an underexplored context in Arabic language education research. The unique contribution of this study is its focus on integrating AI, gamification, and augmented reality simultaneously to improve speaking proficiency—a combination rarely studied in prior research.

Furthermore, this study highlights the importance of teacher involvement and structured implementation in ensuring the sustainability of interactive learning approaches. Unlike previous studies that focused primarily on student engagement, this research emphasizes the practical challenges faced by teachers and proposes solutions for more effective integration into the curriculum.

Overall, the study demonstrates that interactive learning media can effectively enhance Arabic speaking proficiency among Madrasah Tsanawiyah students, provided that implementation challenges are proactively addressed. Future research should explore long-term retention effects and evaluate the impact of these tools in different educational settings, such as higher education and non-formal learning institutions.

One of the key challenges in implementing interactive learning media is the adaptation period required for both students and teachers. Research by Baharun & Hanifansyah (2024) found that the implementation of Kitab Al-Af'al Al-Yaumiyyah in an Islamic boarding school setting also required significant adaptation, as students and teachers needed time to familiarize themselves with structured verb-based learning techniques. This study similarly observed that students initially struggled

to adjust to AI-based pronunciation tools and gamified speaking exercises, highlighting the need for progressive integration and teacher training programs. The structured repetition found in Kitab Al-Af'al Al-Yaumiyyah-based instruction offers insights into how gradual exposure and reinforcement can aid the transition from traditional to digital interactive learning environments.

Previous research has highlighted the importance of collaborative learning approaches in Arabic language education. A study by Masnun et al (2024) emphasized that the Senior Teaches Junior (STJ) approach, when applied in Kitab Af'al-based learning, effectively enhances vocabulary acquisition and retention. The collaborative learning strategies identified in their study parallel the peer-assisted interactions observed in this research, where students engaged in AI-supported conversation simulations benefited from group-based reinforcement and interactive engagement. These findings suggest that future implementations of interactive learning media could integrate peer tutoring elements to enhance the collaborative learning experience in Arabic speaking instruction.

Conclusion

This study provided compelling evidence that integrating interactive digital media can significantly enhance Arabic speaking proficiency among Grade 8 students in Islamic junior high schools. The primary research objective—to evaluate the impact of digital tools on speaking skills—was met, as the experimental group exhibited a 32.5% improvement in post-test scores compared to a 12.3% improvement in the control group. This finding demonstrates that tools such as AI-assisted pronunciation applications, gamification-based vocabulary platforms, and augmented reality (AR) conversation simulations effectively bridge the gap between theoretical instruction and practical communication.

In addressing the research objectives, the study also examined the perceptions of both students and teachers regarding these digital interventions. Qualitative data indicated that students felt more engaged, confident, and less anxious when using interactive learning media. Teachers corroborated these findings by noting increased classroom participation and a more dynamic learning environment, suggesting that these digital tools positively influence both the technical aspects of speaking proficiency and the overall classroom atmosphere.

Additionally, the study identified several implementation challenges, including technical limitations, the initial adaptation period for both students and teachers, and the need for comprehensive teacher training. These challenges underscore the importance of structured integration strategies and enhanced digital literacy support to fully leverage the benefits of interactive media in language instruction.

Overall, the research confirms that a multifaceted digital intervention can significantly improve Arabic speaking proficiency. The study not only answers the research questions by demonstrating the effectiveness of these tools and highlighting positive perceptions among users but also contributes a refined methodological framework that addresses previous gaps. Future research should explore long-term retention effects, incorporate larger sample sizes, and consider the integration of AI-driven personalized learning systems to further enhance Arabic language instruction.

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