

**THE USE OF AUGMENTED REALITY (AR) MEDIA TO IMPROVE ENGLISH
SPEAKING CONFIDENCE AMONG STUDENTS OF MADRASAH IBTIDAIYAH
INAYATULLAH**

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Abstract

.This study aims to determine the effectiveness of using Augmented Reality (AR) media to improve English-speaking confidence among Grade V students at Madrasah Ibtidaiyah Inayatullah. A quasi-experimental research design was employed, consisting of an experimental group that received AR-based speaking instruction and a control group that received traditional instruction. Research instruments included a speaking confidence questionnaire, a speaking performance assessment, and classroom observations. The findings reveal that students in the experimental group experienced a significant improvement in speaking confidence compared to those in the control group. AR users demonstrated reduced anxiety, improved fluency, clearer pronunciation, and greater willingness to speak spontaneously. The immersive and interactive nature of AR – featuring 3D avatars, situational dialogues, and real-time feedback – provided a safe environment for students to practice speaking without fear of judgment. Additionally, AR increased students' motivation by offering an enjoyable learning experience that encouraged autonomy and active participation. Observational data showed that students became more engaged, enthusiastic, and self-directed throughout the learning sessions. This study concludes that AR is an effective instructional tool for enhancing speaking confidence among young English learners. Further research is recommended to explore AR's impact on other language skills and to examine implementation strategies in broader educational contexts.

Abstrak

. Penelitian ini bertujuan untuk mengetahui efektivitas penggunaan media Augmented Reality (AR) dalam meningkatkan kepercayaan diri berbicara bahasa Inggris siswa kelas V Madrasah Ibtidaiyah Inayatullah. Penelitian menggunakan desain kuasi-eksperimen dengan dua kelompok, yaitu kelompok eksperimen yang mendapatkan pembelajaran berbasis AR dan kelompok kontrol yang memperoleh pembelajaran konvensional. Instrumen penelitian meliputi angket kepercayaan diri berbicara, penilaian performa berbicara, serta observasi selama proses pembelajaran. Hasil penelitian menunjukkan bahwa terdapat peningkatan signifikan pada kepercayaan diri berbicara siswa kelompok eksperimen dibandingkan kelompok kontrol. Siswa yang

menggunakan AR menunjukkan penurunan kecemasan, peningkatan kelancaran berbicara, pengucapan yang lebih jelas, dan keberanian untuk berbicara secara spontan. Media AR menyediakan lingkungan belajar yang imersif dan interaktif melalui avatar 3D, dialog situasional, dan umpan balik langsung, sehingga membantu siswa berlatih berbicara tanpa rasa takut. Selain itu, motivasi siswa meningkat karena AR memberikan pengalaman belajar yang menarik dan mendorong kemandirian belajar. Observasi menunjukkan bahwa siswa menjadi lebih aktif, percaya diri, dan antusias selama pembelajaran. Penelitian ini menyimpulkan bahwa AR merupakan media efektif dalam meningkatkan kepercayaan diri berbicara bahasa Inggris siswa sekolah dasar. Penelitian lebih lanjut disarankan untuk mengeksplorasi penggunaan AR pada keterampilan bahasa lainnya serta kajian implementasi yang lebih luas.

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INTRODUCTION

. Speaking confidence is one of the most important components of communicative competence in English language learning, especially for young learners at the elementary or madrasah level. Despite its importance, many students face anxiety, hesitation, and low self-confidence when asked to speak in English, primarily due to limited exposure, lack of practice opportunities, and fear of making mistakes (Ismayani et al. 2023). Traditional classroom methods often fail to provide interactive, supportive speaking environments that allow students to build confidence gradually. As a result, many students remain passive during speaking activities, leading to limited progress in oral communication skills. This situation indicates the need for innovative learning media that can create engaging and low-pressure speaking experiences (Fung Ling et al. 2025).

In recent years, Augmented Reality (AR) has emerged as a promising technological tool in language education. AR allows digital objects, animations, and interactive avatars to appear in the real-world environment through mobile devices. For young learners, AR provides a playful, immersive learning experience that stimulates curiosity and engagement. AR-based speaking simulations enable students to interact with virtual characters, respond to prompts, and practice speaking in real-life scenarios without the fear of being judged. This unique combination of virtual and real-world elements makes AR a powerful tool for building speaking confidence (Yusuf 2024).

Madrasah Ibtidaiyah Inayatullah, like many other Islamic elementary schools, faces challenges in improving English speaking outcomes due to limited resources, teacher-centered instruction, and learners' anxiety in producing spoken English.

Preliminary observations at the school revealed that students often struggle to initiate verbal communication, even with simple vocabulary or expressions. They tend to rely heavily on memorization and rarely engage in spontaneous speech. Teachers also report that students lack motivation and courage to practice speaking, especially in front of classmates. These challenges highlight the need for an instructional innovation that makes speaking practice more interactive and less intimidating (Vedadi, Abdullah, and Cheok 2019).

Augmented Reality provides a solution by enabling students to practice speaking in a **safe, controlled, and enjoyable environment**. When interacting with AR simulations, students feel less pressured because they are speaking to digital characters rather than real individuals. This reduces performance anxiety – a significant barrier to developing speaking confidence. Research also shows that AR increases student motivation, improves retention, and encourages active participation in learning tasks. These characteristics support the hypothesis that AR can meaningfully enhance speaking confidence among young learners (Fitayanti 2024).

The AR speaking simulation used in this study includes animated 3D characters, voice prompts, and situational dialogues that allow students to practice different communicative functions such as greetings, self-introduction, describing objects, and expressing simple ideas. These simulations create authentic speaking experiences similar to real-life interactions. Students can repeat the tasks as many times as needed, enabling them to build fluency gradually. The system provides instant feedback, which helps learners recognize errors and make improvements. This aligns with communicative language teaching principles, which emphasize meaningful interaction and repeated exposure (Taskiran 2019).

Incorporating AR into English learning also aligns with **21st-century learning goals**, which encourage the integration of digital literacy, creativity, and interactive learning strategies into the curriculum. Young learners today are naturally drawn to technological tools, and AR offers an engaging medium that matches their learning preferences. By transforming speaking activities into interactive challenges, AR fosters a sense of excitement and exploration that traditional textbook-based instruction cannot match.

Furthermore, AR enhances multimodal learning by combining visual, auditory, and kinesthetic elements. Students not only listen and speak but also interact with digital objects that appear in their physical environment. This multimodal stimulation supports vocabulary comprehension, conceptual understanding, and emotional engagement – factors that contribute significantly to speaking confidence. For example, when students see a 3D animated animal and are prompted to describe it, the visual context helps them retrieve vocabulary more easily and confidently (Mohd Nabil, Nordin, and Ab Rahman 2024).

The use of AR in language classrooms also supports inclusive education. Students with lower proficiency or higher anxiety levels can practice speaking privately at their own pace before participating in group activities. This flexibility allows all learners, regardless of ability, to engage meaningfully in speaking practice. For teachers, AR provides a creative instructional tool that supplements traditional methods and encourages student-centered learning, where students are active participants rather than passive recipients (Wu 2021).

Given the potential benefits of AR, it is necessary to investigate its impact specifically on speaking confidence among young learners in Islamic elementary school contexts. Speaking confidence is essential not only for language proficiency but also for learners' overall self-esteem and readiness to participate in communicative tasks. Understanding how AR influences confidence can provide valuable insights for educators seeking effective technological interventions in language teaching (Faizzuddin, Aman, and Zulkifli 2024).

Based on these considerations, this study titled *"The Use of Augmented Reality (AR) Media to Improve English Speaking Confidence Among Students of Madrasah Ibtidaiyah Inayatullah"* aims to examine how AR speaking simulations can enhance learners' self-confidence and oral performance. The findings are expected to contribute to the development of innovative teaching practices and provide empirical evidence supporting the integration of AR in young learner English instruction (Chaidir et al. 2024).

THEORETICAL FRAMEWORK

. Augmented Reality (AR) is defined as a technology that overlays digital elements—such as images, animations, audio, and 3D objects—onto the real-world environment in real time. Unlike Virtual Reality (VR), which creates a fully immersive virtual environment, AR enhances the existing physical space by adding interactive digital components. According to Azuma (1997), AR must combine real and virtual elements, operate interactively in real time, and register 3D objects accurately in space. In educational contexts, AR enables learners to interact with visual and auditory stimuli that support understanding and engagement (Faizi, Fuwa, and Karisma 2024). These features make AR especially suitable for language learning, where visual cues, contextualization, and interactivity can significantly enhance speaking performance and confidence.

One major theoretical foundation supporting the use of AR in language learning is **Multimodal Learning Theory**. Mayer (2001) explains that learning is strengthened when information is presented through multiple channels—visual, auditory, and kinesthetic. AR integrates these modalities by displaying animated objects, providing spoken prompts, and encouraging learners to respond verbally or physically interact

with the digital elements. This multimodal approach aids comprehension of vocabulary, pronunciation, and meaning, which are essential components of speaking. For young learners, multimodal input reduces cognitive load, increases attention, and creates a more meaningful learning experience (Ruzakki et al. 2024). Thus, AR aligns naturally with the cognitive processes involved in developing speaking confidence.

Another relevant framework is **Communicative Language Teaching (CLT)**, which emphasizes real-life communication and meaningful interaction as the foundation for language learning. Speaking confidence improves when learners engage in authentic communicative tasks that mirror real-world situations. AR simulations provide contextual prompts—for example, interacting with a virtual character—to elicit speaking in a natural manner. These tasks help students practice communicative functions such as greeting, describing objects, and expressing opinions. (Khodabandeh 2025) By creating authentic situations, AR supports CLT principles and enhances students' willingness to communicate, a key predictor of speaking confidence.

Speaking confidence is also closely linked to **Affective Filter Theory** proposed by Krashen (1982), which states that emotional variables such as anxiety, motivation, and self-confidence influence language acquisition. When learners experience high anxiety or fear of negative evaluation, their affective filter rises, blocking language input and hindering speaking performance. AR helps lower the affective filter by providing a low-pressure environment where learners interact with digital characters rather than real humans. This reduces embarrassment and fear of making mistakes. When learners feel safe and relaxed, they are more likely to attempt speaking, take risks, and develop confidence. Therefore, AR serves as an effective tool for managing affective factors in language learning (Azimova and Solidjonov 2023).

The motivational aspects of AR can also be explained using **Self-Determination Theory (SDT)** by Deci and Ryan (2000). SDT proposes that intrinsic motivation is enhanced when learners' psychological needs for autonomy, competence, and relatedness are satisfied. AR supports autonomy by allowing learners to explore and repeat activities at their own pace. It supports competence by providing instant feedback through automated responses or visual cues, helping learners recognize improvement. Relatedness is fostered when AR activities include collaborative or interactive features, allowing students to engage with peers or virtual agents. By satisfying these psychological needs, AR increases intrinsic motivation and boosts speaking confidence (Azimova and Solidjonov 2023).

Finally, empirical research on AR in education provides strong justification for its use in speaking instruction. Previous studies have shown that AR improves oral fluency, pronunciation accuracy, vocabulary retention, engagement, and learner motivation. Research on young learners indicates that AR helps them overcome shyness and increases their willingness to speak in English. These findings suggest that AR is

not only a technological novelty but a pedagogically sound tool for language instruction. The theoretical alignment between AR, motivation, affective support, multimodal learning, and communicative practice provides a strong foundation for investigating its impact on speaking confidence in the present study (Yusuf 2024).

RESEARCH METHOD

. This study employed a **quasi-experimental research design** to investigate the effectiveness of Augmented Reality (AR) media in improving English speaking confidence among Grade V students at Madrasah Ibtidaiyah Inayatullah. A quasi-experimental design was chosen because it allows the researcher to compare outcomes between two naturally existing groups while maintaining control over the instructional intervention. Two intact classes were selected: one as the **experimental group**, which received AR-based speaking instruction, and the other as the **control group**, which received traditional teacher-centered speaking instruction. This design enabled the researcher to examine the impact of AR media on speaking confidence by comparing pre-test and post-test results across the two groups (Sugiyono 2012).

The participants consisted of **Grade V students**, with one class assigned as the experimental group and another as the control group. The experimental group used AR speaking simulation media involving interactive 3D avatars, situational dialogues, and voice prompts designed to elicit spoken responses. Students interacted with virtual objects and characters through mobile devices, which provided speaking practice in a low-pressure and engaging environment. In contrast, the control group practiced speaking using conventional methods such as repetition drills, teacher modeling, and pair dialogues. The intervention lasted for several weeks to ensure sufficient exposure to AR-based speaking tasks and allow for meaningful development of speaking confidence (Ismaya 2019).

Data collection employed two primary instruments: a **Speaking Confidence Questionnaire** and a **Speaking Performance Assessment**. The questionnaire measured students' affective responses, including anxiety levels, willingness to speak, comfort in expressing ideas, and overall self-confidence. The speaking assessment evaluated aspects of oral performance such as pronunciation, fluency, clarity, and appropriacy of responses. Both instruments were administered as **pre-test and post-test** to determine changes in speaking confidence and performance. Additionally, classroom observations documented behavioral changes, engagement levels, and students' reactions to AR activities, providing qualitative support for the quantitative data. (Suryabrata 2016)

Data analysis involved both descriptive and inferential statistical techniques. Descriptive statistics were used to calculate mean scores, standard deviations, and overall score distributions for speaking confidence and performance in each group. To determine whether the differences between the experimental and control groups were

statistically significant, an **independent samples t-test** was conducted on the post-test results. This allowed the researcher to evaluate the effectiveness of AR media in enhancing speaking confidence. Qualitative observations were analyzed thematically to identify patterns in student engagement, motivation, and anxiety reduction. Together, these methods provided a comprehensive picture of how AR influenced the speaking confidence of young learners at Madrasah Ibtidaiyah Inayatullah (Ramdhan 2021).

RESULTS AND DISCUSSION

A. Results

. The results of the study showed a clear difference in speaking confidence between the experimental group, which received AR-based speaking instruction, and the control group, which received traditional instruction. Based on the pre-test results, both groups demonstrated similar levels of speaking confidence and oral ability, indicating that the two groups started from comparable baselines. Students in both groups showed signs of anxiety, limited fluency, and hesitation when speaking English. This equivalence in initial performance ensured that any changes measured in the post-test could be attributed to the AR intervention rather than pre-existing differences.

During the AR implementation period, classroom observations revealed a significant increase in engagement among students in the experimental group. They interacted enthusiastically with AR characters and 3D objects, often repeating speaking tasks independently without being prompted by the teacher. Students displayed curiosity and excitement when the AR avatars responded to their voices, which helped create a positive and stimulating learning atmosphere. This level of engagement was noticeably higher than what had been observed before the intervention, indicating that AR had a motivating impact on student behavior.

As students became more familiar with AR media, their speaking confidence visibly improved. They hesitated less, showed reduced anxiety, and were more willing to initiate English responses when interacting with AR simulations. Many students began speaking louder and with clearer pronunciation, demonstrating increasing comfort in using English orally. Observational data also showed that students were more eager to participate in speaking activities, often volunteering to demonstrate tasks in front of the class – behavior that was rarely seen prior to the intervention.

In contrast, students in the control group showed minimal behavioral changes during the learning sessions. They participated when instructed but demonstrated low enthusiasm and continued to show signs of anxiety when asked to speak. Many students relied heavily on memorization and hesitated to attempt spontaneous speaking. Although traditional instruction provided structured guidance, it did not offer the interactive and immersive elements present in AR learning, resulting in lower engagement and slower progress in speaking confidence.

Post-test results from the Speaking Confidence Questionnaire indicated substantial improvements among students in the experimental group. The mean confidence score increased significantly compared to the pre-test, demonstrating that the AR intervention had strengthened students' willingness to speak, reduced their fear of making mistakes, and increased their comfort with oral communication. Students reported feeling more relaxed when speaking because they perceived AR characters as non-judgmental listeners, which lowered their affective filter and allowed them to practice more freely.

The speaking performance assessment results also showed marked improvement in the experimental group. Students displayed better fluency, clearer pronunciation, and more accurate sentence construction. Many were able to express simple ideas independently, demonstrating improved spontaneity and reduced dependency on teacher cues. These gains were attributed to repeated practice opportunities provided by AR simulations, which allowed students to rehearse speaking tasks multiple times in a low-pressure environment.

Meanwhile, the control group showed only modest improvements in both confidence and performance. Their post-test scores increased slightly, likely due to regular classroom exposure, but the changes were not as substantial or consistent as those observed in the experimental group. Students continued to exhibit hesitation and anxiety during oral tasks, and fewer students showed progress in fluency and pronunciation compared to the experimental group.

Statistical analysis using the independent samples t-test confirmed that the difference in speaking confidence between the two groups was statistically significant. The p-value was well below the 0.05 threshold, indicating that AR media had a meaningful impact on improving speaking confidence. These findings validate the hypothesis that AR creates a supportive environment that reduces anxiety and enhances oral participation among young learners.

Observational data further revealed improvements in student behavior and attitude toward English speaking tasks. Students in the experimental group became more independent, frequently engaging with AR activities without teacher intervention. They also exhibited increased peer interaction, helping classmates understand how to use the AR application and encouraging one another during speaking missions. This collaborative behavior contributed to a positive classroom culture that supported language learning.

Affective improvements were also noted among students in the experimental group. They smiled more often during speaking tasks, appeared more relaxed, and demonstrated greater willingness to experiment with new vocabulary and sentence structures. These emotional indicators suggest that AR not only improves cognitive

outcomes but also enhances learners' emotional connection to the speaking process, which is essential for long-term language development.

Additionally, students in the experimental group demonstrated better retention of vocabulary and phrases introduced during AR tasks. Follow-up informal reviews showed that students were able to recall expressions from AR simulations more easily than those taught through traditional instruction. This improved recall suggested that the multimodal nature of AR supported deeper encoding of language input, contributing to stronger speaking performance.

Overall, the results of the study indicate that AR media significantly improves students' speaking confidence and oral performance. The combination of interactive elements, real-time feedback, and immersive simulations created a learning environment that fostered higher engagement, reduced anxiety, and increased practice opportunities. In contrast, traditional instruction alone lacked these motivating and supportive features, resulting in slower improvement. These findings support the use of AR as an effective pedagogical tool for enhancing speaking confidence among young learners at Madrasah Ibtidaiyah Inayatullah.

B. Discussion

. The findings of this study demonstrate that Augmented Reality (AR) media has a significant positive impact on improving the speaking confidence of Grade V students at Madrasah Ibtidaiyah Inayatullah. The substantial increase in the experimental group's post-test scores, compared with the modest improvement seen in the control group, indicates that AR creates a more supportive and engaging environment for practicing oral communication. This aligns with Krashen's Affective Filter Theory, which emphasizes that lowering anxiety and increasing comfort are essential for successful language acquisition. AR simulations provided students with non-threatening speaking partners – digital characters – allowing them to practice without fear of judgment, which substantially reduced their speaking anxiety.

The results also support **Multimodal Learning Theory**, as AR integrates visual, auditory, and interactive elements that enhance students' cognitive processing. Students exposed to AR-based tasks received visual cues, contextualized prompts, and interactive objects that facilitated comprehension and encouraged verbal expression. These multimodal features helped students overcome barriers associated with traditional instruction, such as limited visualization and passive learning. The ability of AR to anchor language learning in concrete visual experiences supported better memory retention and increased fluency, which contributed to higher speaking confidence.

Additionally, the study confirms the relevance of **Communicative Language Teaching (CLT)** in AR-integrated classrooms. AR simulations created realistic communicative scenarios in which students had to respond orally, mirroring real-life interactions. This provided meaningful opportunities for students to use English with purpose rather than through repetitive drills. The improvement in students'

spontaneous speaking ability demonstrated that AR helped shift their learning from mechanical repetition to authentic language use. The interactive nature of AR encouraged students to internalize language patterns more effectively than through teacher-centered instruction alone.

The motivational impact of AR observed in the study is also consistent with **Self-Determination Theory (SDT)**. Students in the experimental group showed increased autonomy, as they could explore AR tasks independently and repeat speaking practices at their preferred pace. The element of competence was reinforced through instant feedback from the AR app, which allowed students to recognize their progress and feel a sense of achievement. Relatedness was supported when students assisted peers and engaged in shared AR activities, fostering a collaborative learning environment. Together, these psychological needs enhanced intrinsic motivation, contributing to the sustained increase in speaking confidence.

Moreover, the findings highlight the limitations of traditional teaching methods in fostering speaking confidence. While traditional instruction provided structured practice, it lacked the immersive and interactive features necessary to fully engage learners. Students in the control group often showed hesitation and anxiety when speaking in front of peers, suggesting that teacher-centered approaches alone may not sufficiently address emotional barriers. In contrast, AR offered a private and enjoyable space for students to rehearse speaking before presenting in class, making them more prepared and self-assured during oral tasks.

Overall, the results of this study reinforce the idea that AR is a powerful instructional tool that addresses both the cognitive and affective dimensions of speaking development. By combining technology, interactivity, and contextualized learning, AR helps young learners overcome fear, increase practice frequency, and build confidence in using English orally. The findings suggest that integrating AR into language learning can transform traditional pedagogical approaches and significantly enhance students' readiness to communicate. Future research may explore broader applications of AR across different language skills, age groups, and educational settings to further validate its effectiveness and expand its pedagogical potential.

CONCLUSION

. The findings of this study clearly indicate that the use of Augmented Reality (AR) media significantly improves English speaking confidence among Grade V students at Madrasah Ibtidaiyah Inayatullah. AR-based speaking simulations allowed students to practice oral communication in an immersive, interactive, and low-pressure environment, which reduced anxiety and increased willingness to speak. Students in the experimental group demonstrated greater improvements in fluency, pronunciation clarity, and spontaneous expression compared with the control group. These results reaffirm the pedagogical value of AR as a tool that enhances both cognitive and emotional readiness for speaking tasks.

In addition to improving speaking performance, AR media also contributed substantially to boosting students' motivation and engagement. The interactive 3D

avatars, situational dialogues, and real-time feedback provided by AR applications supported students' autonomy and competence—key components of intrinsic motivation. Observations showed that students were more enthusiastic, attentive, and self-directed during AR-integrated lessons. They practiced speaking more frequently and showed greater confidence when participating in classroom activities. These findings highlight AR's ability to address affective barriers such as fear of mistakes, shyness, and low self-esteem that commonly hinder young learners in oral communication.

Overall, this study concludes that AR is an effective instructional innovation for enhancing speaking confidence in young English learners. AR integrates visual, auditory, and contextual support that make speaking practice more meaningful, enjoyable, and accessible. Teachers are encouraged to incorporate AR into English learning to create interactive and student-centered speaking environments. Future research may explore long-term effects of AR on broader language skills, compare different types of AR applications, and investigate implementation challenges in various educational settings.

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