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Can AI-Based Teacher-Bots (T-Bots) Enhance Students' Speaking Skills? A Case Study of "My AI" on Snapchat in Moroccan Higher Education

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Abstract
This study investigates the impact of artificial intelligence on language learning, focusing specifically on using "My AI" (T-Bot) within the Snapchat app to enhance speaking accuracy and fluency among master's students at the Polydisciplinary Faculty in Taza, Morocco. The central research question explores whether AI-integrated tools can significantly improve speaking performance in EFL contexts compared to traditional learning methods. The study aims to assess the effectiveness of AI-supported conversational practice in developing learners' oral proficiency. Its significance lies in addressing the limited research on AI in Moroccan higher education, particularly in language instruction. A quasi-experimental mixed-methods approach was adopted, involving an experimental group interacting with My AI over 12 weeks and a control group using conventional methods. Pre- and post-tests based on CEFR criteria were administered, and quantitative data were analyzed using statistical tests to measure gains in accuracy and fluency. Qualitative data, including peer discussions and rater evaluations, were examined using Miles and Huberman's (1994) framework. Results demonstrated a statistically significant improvement in the experimental group's speaking performance, supported by high inter-rater reliability and a large effect size. The study concludes that AI tools such as My AI can serve as effective supplements to traditional language instruction and recommends their integration into higher education curricula to enhance communicative competence.

Keywords: Accuracy, AI-based teacher-bots (T-bots), fluency, my AI in Snapchat app, Morocco, poly-disciplinary faculty in Taza, speaking skills

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Introduction

Undoubtedly, artificial intelligence is advancing at a rapid pace, leaving a significant mark on various sectors, education being one of the most notably affected. In the classroom, AI is reshaping traditional teaching approaches by offering more adaptive and personalised learning experiences (Warschauer & Healey, 1998; Holmes, 2019). With the help of AI-powered tools like teacher-bots and conversational agents, learners are now able to engage in interactive simulations that closely resemble real-life conversations. These tools are particularly effective in supporting speaking skill development, an area many students struggle with due to limited classroom interaction, delayed feedback, and the anxiety that often accompanies oral performance (Horwitz et al., 1986). In Morocco, where English is increasingly in demand due to globalisation and the expansion of international academic and professional opportunities (Ennaji, 2005; R'boul, 2024), such AI-based tools offer significant promise. However, the current reality presents a paradox: while 67% of Moroccan educators report using AI tools in some form, only 38% feel confident in applying them effectively in their teaching (El Moudden & Lamkhanter, 2024). This gap signals the urgent need for accessible, culturally responsive AI tools that can be smoothly integrated into local educational environments. One tool that appears to meet these needs is Snapchat's My AI, a mobile-based conversational agent that provides students with a lightweight and accessible platform for practising spoken English. This is especially valuable for learners in under-resourced or rural regions where stable internet connectivity is not always guaranteed (El Moudden & Lamkhanter, 2024). In such contexts, mobile AI tools are not just innovative; they are essential. Beyond accessibility, Morocco's multilingual reality also plays a role. Students constantly navigate between Arabic, French, and English, which complicates the development of oral fluency in English. Tools like My AI, which offer low-stakes, personalized practice opportunities, may help students overcome these challenges and build confidence in their communicative abilities (Vančová, 2023). Although interest in AI-enhanced learning tools is growing, there is still a lack of empirical research examining the impact of conversational AI like My AI on speaking performance. Much of the existing literature tends to focus on AI's role in improving writing or reading skills, leaving its effect on speaking largely underexplored, particularly in higher education settings.

Hence, this study addresses the following research question and hypothesis: How does the use of Snapchat's My AI (T-Bot) impact the speaking accuracy and fluency of master's degree students compared to traditional learning methods?

It is hypothesised that students who use My AI will show significantly greater improvement in speaking accuracy and fluency than those who rely on conventional classroom instruction**,** as a result of the interactive, feedback-driven, and accessible nature of the AI tool.

By examining learner engagement and outcomes, this research offers insights not only into the practical potential of AI in language learning but also into how such tools can be made culturally and technologically relevant in the Moroccan context. It contributes to broader

discussions on ethical, equitable, and effective integration of AI in language education across the Global South.

Literature Review

Global AI Trends in Language Learning

Artificial intelligence technologies are revolutionising the field of language instruction by providing dynamic tools that address diverse learning needs. AI-based aids such as teacher-bots (T-bots) and conversational agents offer personalised learning, real-time feedback, and cross-platform accessibility (Holmes, 2019). These technologies enhance the language learning process by tracking progress, adapting to individual proficiency levels, and delivering targeted practice (Vančová, 2023). In contrast to traditional methods such as the grammar-translation approach, which often emphasises rote learning over communication, AI enables learners to develop speaking skills through interactive, real-world simulations (Warschauer & Healey, 1998). These low-pressure environments are especially beneficial for reducing language anxiety. Despite these advantages, several scholars caution against the limitations of AI systems. One significant concern is cultural insensitivity; many AI tools are trained on datasets that reflect dominant Western norms, making them less effective or even alienating in non-Western contexts (Pennycook, 2010). Moreover, while AI provides quick corrective feedback, it may lack the nuance and contextual understanding of human instructors, particularly for more sophisticated language errors (Qiao & Zhao, 2023). Empirical studies have nonetheless shown promising outcomes. Jinming and Daniel (2024) found that conversational AI technologies improved learners' speaking fluency and boosted their confidence by offering frequent opportunities for oral practice. Similarly, Qiao and Zhao (2023) noted that T-bots significantly increased student engagement and motivation. These findings reinforce the importance of integrating AI tools thoughtfully into pedagogy, balancing their benefits with awareness of their shortcomings.

AI in the Moroccan Context

The application of AI in Moroccan education is gaining momentum, especially as digitalisation becomes a national priority. According to El Moudden and Lamkhanter (2024), 67% of Moroccan educators report using AI tools, yet only 38% feel confident about integrating them effectively. This disparity indicates a need for accessible, context-sensitive AI platforms. Traditional EFL instruction in Morocco has long relied on the grammar-translation method, where focus is placed on memorisation and grammatical accuracy rather than communicative fluency (R'boul, 2024). In contrast, AI tools offer a paradigm shift by supporting student-centred learning and fostering authentic communication. An emerging body of Moroccan research highlights the role of AI-based applications like ChatGPT in higher education. Studies conducted at Moroccan universities suggest that students use ChatGPT for academic writing support, especially in English-medium assignments, enhancing both writing fluency and lexical range (Ait El Mekki & Amrani, 2024). However, concerns persist about ethical use, overreliance, and potential linguistic inaccuracies. Efforts to "Moroccanize AI" have also begun to surface, with initiatives calling for the development of AI tools trained on local data that reflect Morocco's multilingual reality, Arabic, Amazigh, French, and English. These efforts are intended to address cultural mismatch and to develop tools more aligned with learners' sociolinguistic contexts (Benhima, 2023). Moreover, MarMooc, Morocco's national MOOC platform, has emerged as a viable alternative to international e-learning tools like Rosetta Stone. MarMooc hosts several AI-

integrated language learning courses and is designed with local infrastructure and linguistic diversity in mind, offering greater accessibility, especially in rural areas where internet bandwidth is limited.

While global studies have explored the effectiveness of AI tools in language learning, context-specific research is scarce in Morocco, particularly about AI-enhanced speaking skills. Most existing studies emphasise reading and writing, leaving a gap in understanding how AI-driven tools like Snapchat's My AI can support oral fluency, accuracy, and learner confidence in Moroccan higher education. Furthermore, few studies address how culturally adapted AI platforms could overcome linguistic and infrastructural challenges specific to the Moroccan context. This study aims to fill this gap by examining the pedagogical impact and sociocultural relevance of My AI at the Polydisciplinary Faculty of Taza.

Speaking Skills in Language Learning

Speaking skills are essential to language learning because they allow students to interact successfully in both professional and academic settings. Speaking English fluently is now required to engage in global discourse in an increasingly interconnected world, opening doors to international cooperation, work, and education (Crystal, 2003). Effective oral communication shows a learner's capacity to communicate ideas, express emotions, and participate in meaningful conversations in addition to their command of syntax and vocabulary. For many language learners, however, speaking is still a major obstacle to overcome. The lack of possibilities for genuine speaking outside of the classroom, especially in situations where English is not the first or second language, is one of the main obstacles (Richards, 2008). When speaking in English, students frequently feel nervous and unconfident because they are afraid of making mistakes or of being judged by their peers (Horwitz, et.al 1986). Furthermore, the dynamic aspect of spoken engagement is frequently neglected or underemphasized in traditional classroom settings due to their emphasis on writing and grammar (Burns & Seidlhofer, 2019). The development of useful communication skills has traditionally been hampered in Morocco by the educational emphasis on memorization and grammar translation techniques (Ennaji, 2005). The sociocultural milieu, where students might not have as much exposure to English speakers or real conversational situations, makes this difficulty even more difficult. Innovative strategies are needed to overcome these obstacles, like incorporating AI-based tools to give students engaging and encouraging speaking practice environments.

Technological Adoption in Moroccan Higher Education

Around the world, e-learning is becoming a more and more common way for teachers and students to receive training. As a result, a number of Moroccan universities have started offering online courses. On this side, Abdelmalek Essaâdi and Sidi Mohamed Ben Abdelah Universities are working on a project named "MarMooc," which is supported by the European Union and aims to produce MOOC and SPOC at the national level. (Meriem & Youssef, 2020). Seen as such, and due to the necessity to modernize teaching methods and tackle a variety of linguistic and sociocultural issues, the incorporation of technology and artificial intelligence into Moroccan

higher education has accelerated recently. To enhance teaching and learning, Moroccan institutions have embraced digital platforms, e-learning tools, and AI-driven technology more and more. To improve language acquisition and increase students' access to knowledge, for example, programs supporting blended learning models and the usage of educational apps have been put into place. A case in point is the ROSETTA STONE platform, which is widely adopted by all universities in Morocco to help students learn foreign languages at their own pace (El Hazzat et al., 2024). In Morocco's multilingual environment, AI-based techniques such as conversational AI and machine translation systems are especially helpful. The confluence of Arabic, Berber, French, and English in the nation's linguistic landscape calls for flexible and inclusive technical solutions. Artificial intelligence tools present chances to close language gaps and advance English proficiency, which is becoming more and more important for success in school and the workplace (Malmous & Zaidoune, 2025). However, sociological and linguistic factors must also be considered while implementing AI at Moroccan colleges. Many pupils struggle with digital literacy and unequal access to technology, particularly those from rural locations. Furthermore, the acceptability and efficacy of AI-driven content are significantly influenced by its cultural suitability. To guarantee that they connect with users and promote meaningful engagement, language learning resources must take into consideration Morocco's distinct linguistic reality and sociocultural norms (El Ferouali & Ouhadi, 2023). Despite these obstacles, Moroccan students' growing use of smartphones and social media platforms offers a viable way to take advantage of AI-driven apps like Snapchat's My AI. These resources offer the possibility of scalable, context-sensitive language learning solutions and fit in with students' digital habits. (Alami & El Idrissi, 2022)

Finally, this literature review emphasizes how AI-based technologies have the potential to revolutionize language instruction, especially in improving speaking abilities. The difficulties of conventional learning settings are addressed by AI tools such as teacher-bots, which provide creative, customized, and scalable solutions. The incorporation of these technologies in Morocco is in line with the nation's multilingual environment and the rising need for English language skills. But for adoption to be effective, cultural and linguistic specificities must be addressed, accessibility must be guaranteed, and pupils' digital literacy must be promoted. These observations offer a solid starting point for investigating the precise effects of AI tools, like Snapchat's My AI, on language acquisition at the Poly-disciplinary Faculty of Taza.

Methodology

This study adopts a quasi-experimental mixed-methods design to examine the impact of Snapchat's My AI (T-Bot) on the speaking accuracy and fluency of master's degree students at the faculty poly-disciplinary in Taza, Morocco. By combining both quantitative and qualitative data collection, the study aims to provide a comprehensive understanding of the intervention's effects. Pre-test, post-test, and follow-up assessments allow for the measurement of both immediate and long-term improvements in speaking performance. Comparing the experimental group (using My

AI) with the control group (without My AI) provides empirical evidence on the effectiveness of AI-integrated learning tools for language proficiency improvement.

Participants

The study was conducted at the Polydisciplinary Faculty of Taza, Morocco, and involved a total of 120 master's students enrolled in four academic disciplines: Geography, Law, History, and Economics. To ensure balanced representation across gender and fields of study, a stratified sampling technique was employed. Students were selected from institutional enrolment records, and the sample was organised to proportionally reflect the diversity of the broader student population. Participants were then divided into two groups based on their engagement with AI tools. The experimental group consisted of 84 students who reported regular use of the "My AI" feature on Snapchat for language-related interactions. The control group included 36 students who did not use any AI-based language learning tools. Prior to data collection, all participants received information about the purpose and procedures of the study and provided their informed consent voluntarily.

Research Procedures

Pre-intervention Phase

Before the intervention, all participants completed a standardised speaking proficiency test based on the CEFR. The test measures accuracy (grammatical and lexical precision) and fluency (speech rate and hesitation patterns), with scores ranging between A1 and A2 levels. Responses are recorded and rated by two independent raters, ensuring reliability through Cronbach's Alpha.

Intervention Phase

Over 12 weeks (one academic term), the experimental group use My AI for 1 hour daily. Activities include free chatting on 12 curriculum-aligned topics such as Health, Technology, and Jobs. Tri-weekly virtual meetings foster peer discussion, and these meetings are recorded via Zoom and analysed for oral participation, focusing on accuracy and fluency. Independent ratter reports from these discussions form the qualitative component of the study.

Post-Intervention Phase

After the intervention, both groups complete a post-test identical to the pre-test. The face-to-face speaking assessment is rated by trained examiners to ensure consistency. A follow-up test is conducted six weeks later to assess the retention of language gains.

Data Collection Instruments

Speaking Proficiency Tests: Pre-test, post-test, and follow-up assessments aligned with CEFR standards.

Zoom Meeting Recordings: Four recorded peer discussions to analyse oral participation and engagement.

Ratter Evaluation Reports: Independent assessments of speaking accuracy, fluency, and interactional competence.

Data Analysis

Quantitative data is analysed using Paired Sample T-tests to assess within-group differences for the experimental group, and Independent Sample T-tests to compare post-test results between groups. Repeated Measures ANOVA evaluate changes over time, and Cohen's d assesses effect size. Cronbach's Alpha ensures rather consistency.

Qualitative data is analysed using Miles and Huberman's (1994) Framework for Qualitative Data Analysis, which consists of three key stages: data reduction, data display, and conclusion drawing/verification. This framework provides a systematic approach to categorising and interpreting the data collected from the ratter evaluations and Zoom meeting recordings. (Creswell & Plano Clark, 2018).

Results

Results of the Qualitative Data

This section summarises the statistical analysis comparing the experimental and control groups' speaking performance before and after the My AI intervention, using descriptive statistics, t-tests, effect size, and inter-rater reliability.

Table 1. *Descriptive statistics*

Group	Test	N	Mean	Std Dev	Min	Max
Experimental	Pre-Test	84	29.48	4.76	16.90	39.26
Experimental	Post-Test	84	70.13	4.68	60.41	82.32
Control	Pre-Test	36	30.20	4.34	22.43	43.60
Control	Post-Test	36	45.63	5.92	34.87	64.26

The experimental group showed a significant improvement in speaking performance, with mean scores increasing from 29.48 (pre-test) to 70.13 (post-test). In contrast, the control group's scores rose modestly from 30.20 to 45.63, highlighting the effectiveness of the My AI intervention in enhancing speaking skills.

Participant quotes

Thematic analysis revealed several key insights into students' experiences with My AI. Most notably, students reported a **boost in speaking confidence,** thanks to the non-judgmental and private nature of the AI tool. As one participant put it, *"My AI corrected my pronunciation without embarrassment."* This allowed learners to take more risks and speak more freely.Students also valued the flexibility and accessibility of the tool, especially those with limited time or internet access. One student remarked, *"I could practice English anywhereeven while waiting for the bus. It feels like I have a tutor in my pocket."*In terms of language improvement, many students noted better fluency, clearer sentence structure, and increased vocabulary. One learner shared, *"I started*

using more academic words in class discussions after chatting with My AI regularly." However, some participants mentioned limitations, including repetitive or overly simple answers. One student commented, *"Sometimes the conversation felt fake or robotic."* Despite this, the majority described My AI as a helpful and motivating tool that made speaking practice more engaging and less stressful.

Table 2: *Paired samples test (Experimental Group: Pre-Test vs. Post-Test)*

Pair	Mean Difference	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Pre-Test vs. Post-Test	40.66	6.08	0.66	62.67	83	0.000

The significant difference between pre-test and post-test scores in the experimental group ($t = 62.67$, $p = 0.000$) confirms that the improvement was not due to chance. This suggests that using My AI had a substantial positive impact on the participants' speaking accuracy and fluency.

Table 3: *Independent Samples Test (Experimental vs. Control Group Post-Test)*

Levene's Test for Equality of Variances	t-test for Equality of Means	
F	Sig.	
2.85	0.094	

The significant difference between the post-test scores of the experimental and control groups ($t = 22.04$, $p = 0.000$) indicates that the experimental group outperformed the control group. This result demonstrates the clear effectiveness of the My AI intervention compared to traditional methods.

Table 4: *Effect Size (Cohen's d)*

Statistic	Value	Interpretation
Cohen's d	8.61	Very Large Effect

The extremely large effect size ($d = 8.61$) signifies that the My AI intervention had a powerful and meaningful impact on the experimental group's speaking improvement, beyond statistical significance.

Table 5: *Inter-Rater Reliability (Cronbach's Alpha)*

Statistic	Value	Interpretation
Cronbach's Alpha (α)	0.92	Excellent Consistency

The high inter-rater reliability coefficient ($\alpha = 0.92$) shows excellent consistency between raters, ensuring that the assessment of speaking performance was objective and reliable.

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Results of the qualitative data

This section presents the qualitative findings derived from the analysis of the four Zoom meeting reports. To systematically interpret and categorize the data, the researchers utilized Miles and Huberman's (1994) Framework for Qualitative Data Analysis, which outlines a three-stage process: data reduction, data display, and conclusion drawing/verification. This methodological approach enabled me to extract key themes, visualize data trends, and draw insightful conclusions regarding the progression of participants' speaking proficiency throughout the study. The following sections will outline the processes of data reduction, display, and the conclusions drawn from the analysis.

Data Reduction: Simplification of Data

Key Themes Identified:

Fluency: Reported as minimal at the start with frequent hesitations and long pauses, improving progressively across the meetings to a more confident and natural flow by the fourth meeting.

Pronunciation: Pronunciation difficulties were present from the start, including mispronunciations, flat intonation, and incorrect stress patterns, but these issues showed improvement, with participants gradually becoming clearer and more accurate.

Vocabulary: Initial limited vocabulary, mainly basic and repetitive, with a marked increase in variety and complexity over time. Participants began to experiment with more descriptive and topic-relevant words.

Grammar: A consistent theme of grammatical errors across all reports, including tense, subject-verb agreement, and sentence structure. Improvement was observed, with fewer errors in later meetings and more complex grammatical structures attempted.

Interaction: Initially minimal, participants began to engage more with each other over time, showing growth in turn-taking, responding to each other's ideas, and using follow-up questions in later meetings.

Data Display: Visualization and Structuring

Table 6. *Progressive Development of Speaking Skills Across Four Zoom-Based EFL Sessions*

Theme	Zoom Meeting 1	Zoom Meeting 2	Zoom Meeting 3	Zoom Meeting 4
Fluency	Frequent hesitation, long pauses, fragmented speech	Slight reduction in hesitation, some smoother transitions	More fluid speech, better idea connection	Confident, natural speech, minimal hesitation
Pronunciation	Mispronunciations, flat intonation, incorrect stress	Improvement in familiar words, self-corrections	Better clarity, occasional self-correction	Clear, intelligible pronunciation, few errors
Vocabulary	Limited, repetitive, basic words	Introduction of a few new topic-related words	Broader vocabulary, descriptive expressions	Rich, diverse vocabulary, idiomatic expressions

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Grammar	Numerous errors (tense, subject-verb agreement)	Slight improvement, errors persist	Improvement in accuracy, fewer errors	Accurate, minimal errors, complex structures
Interaction	Minimal, monosyllabic responses	Some response to peers, awkward turn-taking	Active listening, use of follow-up questions	Highly dynamic, effective turn-taking, collaboration

Data Display Insights:

- Improvement in fluency is observable across the four meetings, with participants starting from hesitant speech and progressing toward confident communication.
- Pronunciation shows notable improvement, with self-corrections and better intonation by Meeting 3.
- Vocabulary use reflects a clear trend toward more advanced and varied language, with the final meeting showcasing topic-specific terms and idiomatic expressions.
- Grammar accuracy improves with each meeting, with errors decreasing as the participants engage in more complex sentence structures.
- Interaction moves from minimal to highly dynamic, with participants becoming more collaborative and responsive as they progress

Conclusion Drawing/Verification

The analysis suggests a significant improvement in participants' speaking proficiency throughout the four meetings. The following conclusions can be drawn:

- Initial Struggles: At the beginning, participants exhibited common struggles faced by second language learners, including hesitation, limited vocabulary, frequent grammatical errors, and poor interaction. These issues were particularly evident in fluency and pronunciation.
- Gradual Development: Throughout the sessions, participants showed gradual but noticeable progress, particularly in fluency, pronunciation, and interaction. By the third meeting, participants became more engaged, fluent, and confident, attempting longer, more connected responses. The grammar and vocabulary improvements were subtler but still significant.
- Final Progress: By the fourth meeting, participants demonstrated substantial progress in all areas: fluency, pronunciation, vocabulary, grammar, and interaction. The use of complex grammatical structures and the ability to engage in natural discussions reflected an advanced stage in their speaking performance. The participants were able to use language creatively and respond effectively in a more collaborative manner.

Discussion

The integration of both quantitative and qualitative data in this study provides a comprehensive understanding of the impact of Snapchat's My AI on students' speaking accuracy and fluency. The findings from both approaches are highly complementary and offer a robust picture of the improvements observed in the experimental group. As stated above, this study set out to explore the impact of Snapchat's My AI on the speaking accuracy and fluency of master's

students, compared to traditional learning methods. The findings indicate that students who engaged with the AI tool substantially improved in both dimensions of speaking. The experimental group's average scores nearly doubled after the intervention, while the control group showed only modest gains. These results confirm the hypothesis: consistent use of an interactive, AI-supported tool can significantly enhance oral communication skills in a university EFL context. These improvements are not only reflected in the quantitative data but are also reinforced by qualitative insights. Students reported increased fluency, better pronunciation, and more confidence while speaking. One participant remarked, "*My AI corrected my pronunciation without embarrassment,*" illustrating how the tool provided a low-pressure, judgment-free space for language practice. This aligns closely with sociocultural theory, which emphasises the importance of interaction in a safe, supportive environment for language development. Furthermore, the findings point to the role of AI in fostering learner autonomy and self-regulation. The on-demand nature of chatbot interactions allowed students to take charge of their learning outside class hours. Many used the tool regularly and voluntarily, demonstrating independent learning behaviours. This echoes earlier studies (e.g., Holmes, 2019; Jinming & Daniel, 2024), which found that T-bots can increase motivation, especially when learners can monitor and adjust their performance in real-time. The students' ability to self-correct and reflect on feedback highlights AI's capacity to support autonomous learning, particularly in oral communication, an area traditionally overlooked by AI-assisted instruction. In addition to these pedagogical advantages, the study also surfaces key contextual challenges, most notably, digital literacy gaps among Moroccan educators. Although 67% of teachers report using AI tools, only 38% feel confident implementing them effectively (El Moudden & Lamkhanter, 2024). This reflects a broader need for professional development programs that not only introduce AI-based tools but also train teachers to integrate them meaningfully alongside classroom instruction. Another important implication is the potential of blended learning models, where AI tools are used for routine practice, and human teachers provide more nuanced, complex feedback. While My AI helped students improve pronunciation, vocabulary, and fluency, human instructors remain essential for addressing pragmatic language use, cultural subtleties, and deeper syntactic refinement—areas where AI still falls short (Qiao & Zhao, 2023). Equity concerns also emerged in relation to infrastructure and access. Students from rural areas benefited from the mobile compatibility of My AI but still faced challenges related to data costs and internet reliability. To ensure the full potential of such tools is realized, policymakers should consider subsidizing mobile data plans or expanding digital infrastructure, especially in underserved regions. Overall, this study not only demonstrates that AI-enhanced tools like Snapchat's My AI can meaningfully improve speaking skills in Moroccan higher education but also underscores the importance of designing contextually relevant, inclusive, and blended approaches to technology integration. When implemented thoughtfully, AI can empower learners, complement teachers, and help bridge persistent gaps in access and quality across the educational system.

In conclusion, merging the quantitative and qualitative findings reveals a strong alignment between statistical improvements and observed behavioural changes. The significant increase in speaking accuracy

and fluency from the pre-test to the post-test is not only supported but also explained by the qualitative observations of improved vocabulary, grammar, pronunciation, and overall speaking confidence. This convergence of results provides a comprehensive understanding of how Snapchat's My AI contributed to the enhancement of speaking skills, showcasing its effectiveness in promoting both measurable and observable improvements in language learning.

Implications

The findings of this study contribute to the theoretical understanding of technology-enhanced language learning, particularly in the context of AI-powered language tools like Snapchat's My AI. This study supports and extends existing theories on second language acquisition (SLA), particularly those that focus on the role of technology in improving communicative competence. It provides empirical evidence that AI can play a significant role in enhancing both fluency and accuracy in speaking, two key aspects of language proficiency. From a theoretical perspective, the study aligns with Vygotsky's Sociocultural Theory (SCT), which emphasizes the importance of interactive learning in language development. By offering personalized, real-time feedback, My AI facilitated a learning environment where students could practice speaking with immediate correction, fostering their Zone of Proximal Development (ZPD). The improvement in students' speaking skills can be attributed to this scaffolded learning experience, as the AI acted as a tutor providing corrective feedback and promoting self-regulation, thus aligning with SCT's emphasis on guided interaction. Furthermore, the findings have implications for theories related to task-based language teaching (TBLT). The AI-based intervention used in this study can be seen as a form of task-based learning, where students engaged in speaking activities that required real-time problem-solving, correction, and language production. The AI's responsiveness and the opportunity to repeat tasks allowed students to internalize corrections and improve their speaking accuracy and fluency over time. This integration of technology with TBLT frameworks highlights the potential for AI to offer rich, meaningful practice opportunities that support the development of practical language skills. Additionally, the study affirms the interlanguage theory, which suggests that language learners develop a transitional form of language (interlanguage) as they progress toward fluency. The consistent interaction with My AI could have helped students move closer to their target language norms by providing targeted correction of errors that are common in the interlanguage phase, particularly those related to pronunciation, grammar, and vocabulary. Practically, the results of this study suggest that AI-powered tools like Snapchat's My AI can offer valuable support in language learning, particularly in improving speaking skills. This has several important implications for language teaching practice, especially in the context of large classrooms or settings where individual feedback may be limited. One of the most significant practical implications is the ability of AI to provide personalized, adaptive feedback that addresses each learner's specific challenges. In traditional language classrooms, teachers may not always have the resources or time to offer personalized feedback to every student. My AI, however, can continuously adapt its feedback to the learner's progress, offering a tailored learning experience that supports individual development. This

suggests that integrating AI tools in language classrooms could bridge the gap between the need for personalized instruction and the reality of resource limitations. The study also indicates that AI can foster increased student engagement and motivation, which is essential for language learning. The ability to practice speaking in a low-pressure environment, receive immediate feedback, and track progress over time likely helped students build confidence. This level of engagement is crucial for improving fluency and accuracy in speaking, as learners are more likely to continue practicing and refining their skills when they feel supported and encouraged. Teachers can use AI tools to augment their teaching by providing students with opportunities for autonomous practice outside of class. This can free up class time for more interactive activities, where teachers can focus on higher-level language skills such as debate, advanced grammar, or writing. AI tools also reduce the time teachers spend on corrective feedback, enabling them to concentrate on more strategic aspects of language teaching. The scalability of AI-based learning tools is another practical advantage. Unlike traditional methods, which may be limited by class size or time constraints, AI can provide continuous, accessible learning opportunities. This is especially valuable in situations where language learners may not have access to a language-rich environment outside of the classroom. AI tools can offer a constant, interactive platform for students to practice and improve their speaking skills, anytime and anywhere. The use of AI fosters autonomy in learners, which is crucial for language development. With personalized feedback and opportunities for practice, students are encouraged to take charge of their own learning. The AI system empowers students to engage with the language actively, independently identifying areas for improvement and applying corrections without relying solely on a teacher's intervention. This self-directed learning is an essential skill for lifelong language acquisition. AI tools can also be integrated into formative assessments. Teachers can use data generated by My AI to monitor student progress continuously, track areas of difficulty, and design targeted interventions. This data-driven approach to assessment allows for more precise identification of specific learning needs, ensuring that teaching strategies are more aligned with individual students' progress.

In conclusion, the theoretical and practical implications of this study highlight the promising role of AI technologies like Snapchat's My AI in language learning. By integrating AI into language classrooms, educators can enhance the learning experience, increase engagement, and provide more personalised feedback, ultimately improving students' language proficiency in an efficient and scalable manner.

Conclusion

This study has demonstrated that AI-powered tools like Snapchat's *My AI* can significantly enhance speaking accuracy and fluency among EFL university students. Through the integration of both quantitative and qualitative data, the research provides compelling evidence that students who regularly interacted with the AI experienced marked improvements in their oral performance, gaining confidence, expanding vocabulary, and producing more accurate and fluent speech. These findings not only confirm the effectiveness of conversational AI in language learning but also support theoretical frameworks such as Vygotsky's Sociocultural Theory, self-regulated learning,

and interlanguage development. The AI's real-time, adaptive feedback created a low-pressure environment for meaningful, autonomous practice, fostering learner engagement and gradual language refinement. Yet, the study also revealed structural and contextual limitations. Challenges related to digital literacy among educators, unequal access to technology, and the limitations of AI in handling complex linguistic input highlight the need for thoughtful, blended approaches. AI should be seen as a powerful complement to, not a replacement for, human instruction. Instructors remain essential for offering nuanced, culturally grounded feedback and facilitating deeper language learning. To maximise the potential of AI tools in Moroccan education, systemic support is needed, including teacher training and policies to improve digital infrastructure, particularly in rural areas. Providing subsidised data plans and integrating AI use into professional development initiatives could ensure more equitable and effective adoption. Overall, this research contributes to the growing body of knowledge on AI in education, offering practical insights and theoretical grounding for how chatbots can support oral language development. When implemented thoughtfully, AI can democratize access to language practice, enhance student autonomy, and enrich the overall learning experience.

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