THE SMALLTALK2ME AI APP IN ENGLISH SPEAKING SKILLS: AN ACTION RESEARCH AMONG HIGHER EDUCATION STUDENTS IN LOJA, ECUADOR

LA APLICACIÓN DE INTELIGENCIA ARTIFICIAL SMALLTALK2ME EN LA DESTREZA COMUNICATIVA ORAL EN INGLES: UN INVESTIGACIÓN ACCIÓN EN ESTUDIANTES DE EDUCACIÓN SUPERIOR EN LOJA, ECUADOR

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The Smalltalk2Me AI app in English Speaking Skills: An Action Research Among Higher Education Students in Loja, Ecuador

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ABSTRACT

This study explores the impact of the SmallTalk2Me application in improving English speaking skills among higher education students in Loja, Ecuador. Using an action research approach, the study aimed to assess how this artificial intelligence app influences key aspects of oral proficiency, including fluency, pronunciation, grammar, and vocabulary development. Participants engaged in well-designed activities to incorporate the SmallTalk2Me app into their learning routines, providing opportunities for authentic interaction and real-time feedback. Data was collected through pre- and post-intervention assessments, observations, participant reflections, and a questionnaire. Results indicate significant improvements in students' oral performance, mainly in pronunciation and fluency, along with improved confidence in oral communication. Despite these positive results, challenges were identified related to technical issues and initial user familiarity with the application. This research highlights the potential of artificial intelligence-powered apps to support English learning and recommends further studies to explore their long-term impact and integration into diverse educational contexts.

Keywords: smalltalk2me app, english speaking skills, higher education

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La Aplicación de Inteligencia Artificial Smalltalk2Me en la Destreza Comunicativa Oral en Ingles: Un Investigación Acción en Estudiantes de Educación Superior en Loja, Ecuador

RESUMEN

Este estudio explora el impacto de la aplicación de inteligencia artificial SmallTalk2Me en la mejora la competencia comunicativa oral en Ingles entre los estudiantes de educación superior en Loja, Ecuador. Utilizando un enfoque de investigación-acción, el estudio tuvo como objetivo evaluar cómo esta aplicación de inteligencia artificial influye en aspectos clave de la competencia oral, incluida la fluidez, la pronunciación, la gramática y el desarrollo del vocabulario. Los participantes participaron en actividades bien diseñadas para incorporar la aplicación SmallTalk2Me en sus rutinas de aprendizaje, brindando oportunidades de interacción auténtica y retroalimentación en tiempo real. Los datos se recopilaron a través de evaluaciones previas y posteriores a la intervención, observaciones, reflexiones de los participantes y un cuestionario. Los resultados indican mejoras significativas en el desempeño oral de los estudiantes, principalmente en pronunciación y fluidez, junto con una mayor confianza en la comunicación oral. A pesar de estos resultados positivos, se identificaron desafíos relacionados con problemas técnicos y la familiaridad inicial del usuario con la aplicación. Esta investigación destaca el potencial de las aplicaciones impulsadas por inteligencia artificial para apoyar el aprendizaje del inglés y recomienda estudios adicionales para explorar su impacto a largo plazo y su integración en diversos contextos educativos.

Palabras clave: aplicación smalltalk2me, habilidades para hablar inglés, educación superior

INTRODUCTION

Mastering English to communicate students' ideas and thoughts effectively plays a vital role in their daily class activities. Dávila et al. (2024) emphasizes that speaking is crucial for interaction in a globalized world, as it serves as a primary way to communicate. However, developing speaking skills requires a supportive environment where students can confidently practice without fear or hesitation, as these skills pose a significant challenge for learners (Samiya, 2024).

As well as in Ecuador, many higher education students in the English language learning process struggle to achieve the level of speaking proficiency necessary for effective communication using the English Language in their daily lives. Besides, students have low motivation to express opinions or ask questions due to their limited language abilities. Additionally, the lack of resources in public universities hampers the implementation of innovative teaching methods that could foster meaningful interactions between students and teachers. As a result, students fail to reach the language proficiency standards outlined by the Common European Framework of the References for the Language (Dwi & Wahyuningsih, 2024). When students interacted among themselves in oral learning activities, many challenges were revealed such as fear of making mistakes, and low confidence because of their poor fluency (Yuksel et al., 2023). These issues arise partly due to insufficient opportunities for oral production during daily classes. Nowadays, the lack of electricity that Ecuador is suffering during these times, engages teachers to improvise the didactic resources and develop their activities with the minimum materials, in which provides an overview of the challenges that the educational context is facing.

Various methods, including questioning, dialogues, role-plays, interviews, and conversations, have enhanced students' speaking abilities. Among these, the SmallTalk2Me app has shown promise in encouraging student interaction and participation in learning activities (Klimova et al., 2023). Speaking is one of the most challenging skills for non-native speakers to develop, largely because students lack the confidence, vocabulary, and pronunciation skills to express their ideas effectively. In addition, fear of errors hinders progress, as does the limited use of innovative teaching and learning strategies based on technology or artificial intelligence like the SmallTalk2Me app, which could support fluency and coherence development.

Research indicates the SmallTalk2Me artificial intelligence app can enhance speaking skills by

fostering interaction and providing immediate feedback. For example, Fitria et al. (2021) highlights that artificial intelligence apps such as the smalltalk2M2 app help improve fluency, coherence, pronunciation, grammar, and vocabulary. With the incorporation of the SmallTalk2Me app, higher education students benefit from instant, personalized feedback that enhances their performance, making it a valuable resource for encouraging active language application (Kholis, 2021).

This study acknowledges the transformative role of the SmallTalk2Me app in language learning, particularly in improving speaking skills. As technology resources evolve educators, students, and universities are exploring innovative strategies to face teaching and learning limitations such as limited authentic speaking practice and personalized feedback (M. Opyr, 2021). To thoroughly investigate this issue, reviewing existing literature and empirical studies about the SmallTalk2Me app is an important aspect of developing this study. For instance, Fitria (2021) demonstrated the Smalltalk2Me app's effectiveness in utilizing speech recognition to provide personalized feedback and practice opportunities. Following, Wu et al. (2024) the smalltalk2Me app reported positive outcomes as a result of its use in conversational classroom activities to enhance communication skills.

Based on findings obtained from this study, it is notable the valuable contributions of the Smalltalk2Me app because of its integration as a learning strategy in class to enhance speaking skills among higher education students at a public university in Loja. As long as the present study proposes as the main research question; How does the smalltalk2Me app enhance English speaking skills improvement?, and the following two research questions: What is the effectiveness of the Small-talk2Me app in enhancing higher education students' speaking skills? and What are the students' experiences regarding the Small-talk2Me app in improving speaking skills?.

METHODOLOGY

This study adopts an action research design with a mixed-method approach, integrating qualitative and quantitative methods to apply the intervention proposal. Nassaji (2020) states that this design seeks to understand and explore rather than to explain and manipulate variables. It is contextualized and interpretive, emphasizing the process or outlines of development rather than the invention or outcome of the research.

The research focuses on implementing the SmallTalk2Me app as a learning strategy to enhance English-

speaking skills among higher education students at a public university in Loja. The sample was integrated by 38 students who were rolled in cycle 2 with A2 English level. The action research was based on the steps proposed by Burns (2019) aimed to enhance speaking skills, the process began with the planning phase, in which the researcher identified the issue, and posed the question How does the Smalltalk2Me app enhance English speaking skills improvement?, and designed an intervention plan. During the action phase, pre-and post-tests were conducted, and a rubric was employed to assess students' speaking abilities. In the observation phase, the Smalltalk2Me app's effectiveness was reflected through field notes and questionnaires. Lastly, the reflection phase focused on interpreting quantitative and qualitative data using statistical analysis, presenting findings, and offering conclusions and recommendations to address the research sub-questions. This study utilized a quasi-experimental design to investigate the effects of interventions, subsequent Putra et al. (2022) explanation that such designs are suitable for educational research involving nonrandom group assignments.

On the other hand, Jalbani et al. (2023) highpoint that quasi-experimental studies reflect real-world conditions, enhancing understanding of intervention impacts. Instruments like pre-tests and post-tests, as described by Gazali and Saefuloh, (2023) were integral in measuring changes in student outcomes. As applied research, the study focused on practical problem-solving and generating actionable findings, consistent with Schoonenboom (2012) states the relevance of applied research for decision-making and policy development. Therefore, this study adopts a descriptive-explanatory methodology, which involves detailing the intervention process and exploring the factors driving observed outcomes. The descriptive component focuses on systematically recording students' speaking performance and use of the app, while the explanatory part investigates its effect on learning outcomes (Ghafar, 2023). This integrated approach not only evaluates the intervention's success but also adds to the theoretical understanding of using technology in language learning.

RESULTS

This section presents the findings obtained from the pretest, posttest, and questionnaire administration. These research instruments were utilized to assess students' progress in speaking skills, including fluency, pronunciation, vocabulary, and grammar because of integrating the Smalltalk2Me app. Additionally, a Likert-scale questionnaire with 5 options such as "Strongly Agree," "Agree," "Disagree," and "Strongly Disagree" was used to gather students' experience with the smalltalk2Me app application. This section also explains how the research questions were answered.

Research question 1: What is the effectiveness of the Small-talk2Me artificial intelligence app in enhancing higher education students' speaking skills?

Table 1 Pretest and Posttest Results

Criteria	Pretest	Posttest
Fluency (2.5)	0,91	1,96
Pronuncation (2.5)	1,03	2,15
Grammar (2.5)	1,09	1,90
Vocabulary (2.5)	1,04	1,95
Total means	**4,07**	**7,96**

Elaborated by Celi and Bustos, 2024

Table 1 compares the results before and after implementing the SmallTalk2Me app in formative assessment activities designed to enhance speaking skills, focusing on fluency, pronunciation, grammar, and vocabulary. The data reveals notable improvements, with "pronunciation" achieving the highest score of 2.15. In the same way, students scored 1.90 in "grammar" and 1,95 in "vocabulary" after using the Smalktal2Me app, portraying its effectiveness in improving performance. However, the scores could be higher than those if the intervention time should be longer than this. However, the results demonstrate that students encountered the required learning outcomes, surpassing the Ministry of Education's grading benchmark of 7/10. The researcher observed that the SmallTalk2Me app effectively supported students in enhancing their English-speaking skills dynamically and engagingly, helping maintain their interest and motivation in learning activities designed for integrating the strategy.

Research question 2: What are the students' experiences with the Small-talk2Me app in improving speaking skills?.

Table 2 *Questionnaire Results*

	Questions	SA	A	D	SD
1	Did you find the SmallTalk2Me app enjoyable in the learning activities to improve speaking skills?	60%	25%	15%	----
2	Are you happy with the learning activities facilitated by the SmallTalk2Me app in the classroom?	58%	37%	3%	2%
3	Do you think the activities with the SmallTalk2Me app have enhanced your communication skills with your classmates?	57%	43%	----	---
4	Do you consider that the learning activities were effective in your real practice?	60%	35%	5%	-
5	Do you think the small-talk2Me app application has improved your pronunciation and fluency?	54%	39%	5%	2%
6	Do you think, you have improved your vocabulary and grammar by integrating the small-talk2Me app in learning activities?	60%	30%	7%	3%

Elaborated by Celi and Bustos, 2024

The results show that higher education students generally had a positive response to the SmallTalk2Me app for improving various aspects of their speaking skills. Many participants, especially those who strongly agreed or agreed, found the Smalltalk2Me app effective in boosting their fluency, pronunciation, grammar, and vocabulary to enhance all communicative skills. Activities like role-playing, question-and-answer sessions, debates, discussion, and peer discussions were particularly highlighted as helpful in building their speaking confidence. Additionally, most students were satisfied with the learning activities created by the app, noting significant improvements in pronunciation. However, some students felt that the app did not have a major impact on their speaking skills, especially in fluency criteria.

Despite the positive feedback, there were areas where the SmallTalk2Me app could be improved deeply. Some students reported that the app was generally effective, but certain activities were less engaging or impactful. A small group of students did not find the app effective in enhancing their fluency. These findings suggest that although SmallTalk2Me is a valuable app for language learning, there is potential for further refinement of its activities to better cater to the needs of all learners.

DISCUSSION

Comparing this study's results with findings from previous research is a valuable experience to understand the strategy function and impact on the students' learning. It aims to address the main research question and sub-questions, as well as identify the limitations faced during the intervention plan and offer recommendations for future research. The primary research question was: How does the Smalltalk2Me app enhance English speaking skills improvement?, The results from the pre-and post-tests indicate that the integration of the SmallTalk2Me app positively impacted students' speaking skills, particularly in pronunciation. These findings align with Salamanti et al. (2023) who suggested that the SmallTalk2Me app helps students speak more naturally by enhancing their pronunciation and fluency. Momenanzadeh et al. (2023) also supported this, in their study entitled "English as a Foreign Language Preservice Teachers' Technological Pedagogical Content Knowledge: A Quantitative Comparative Study", the integration of technology fosters speaking ability and boosts students' self-confidence in grammar and vocabulary. Despite these positive outcomes, there were some limitations, such as the lack of electricity, and intermittent internet connectivity, which hindered more intensive practice during classes. As a result, the researcher recommends future studies implement more extensive intervention time or sessions to provide students with better speaking practice.

Regarding the first sub-question: What is the effectiveness of the Small-talk2Me artificial intelligence app in enhancing higher education students' speaking skills?. The app's effectiveness was evident in the improvement of students' pre-test (4.07) and post-test (7.96) scores, with a difference of 3.83 points, surpassing the National Grading Scale's benchmark of 7 points. The post-test results showed improvements in fluency (1.96), pronunciation (2.15), grammar (1.90), and vocabulary (1.95). These findings confirm that the SmallTalk2Me app had a positive impact on speaking skills, in line with Kang (2022) the repetitive nature of the app enhanced fluency and pronunciation. These results were also revealed in the research carried out by Neenaz et al. (2023), who highlighted the app's ability to boost students' speaking skills and confidence, particularly through group work. Similarly, Iorliam and Ingio (2024)found that the app helped integrate real-world experiences into the classroom, promoting more natural English conversation.

The second sub-question: What are the students' experiences with the SmallTalk2Me app for improving speaking skills? Data from the questionnaire and field notes revealed that most students had a positive perception of the app, particularly in enhancing their pronunciation. Students appreciated that the activities were engaging and different from repeating and memorizing methods. Dávila et al. (2024)mentions that students in their learning activities enjoyed working with the SmallTalk2Me app and believed it should be continued in future classes. However, limitations included issues with the internet connection, which restricted practice time, and students' deficient language proficiency, which made it difficult for them to engage effectively in discussions, dialogues, and role-plays.

Furthermore, prior studies using similar artificial intelligence apps with university students had smoother interventions due to the students' higher proficiency levels. Despite the positive results obtained, this study presents certain limitations that should be considered. Firstly, the sample size was limited to a single university in the Loja, which could restrict the generalizability of the findings to other educational contexts. Additionally, the time assigned for the intervention plan was relatively short, which may not have allowed for the observation of long-term improvements in students' speaking skills. Another potential limitation is the unfairness of restricting the interaction between students and researchers during the implementation process, which may have influenced participants' motivation or performance levels. Furthermore, although the technological app provided immediate feedback, its focus on specific aspects such as pronunciation and vocabulary may have left other areas underdeveloped, such as emotional expression or spontaneous language use. Finally, future research should consider a broader and more longitudinal approach, as well as include additional contexts and variables, to gain a more comprehensive understanding of the impact of smalltalk2Me as a learning strategy to develop speaking skills.

CONCLUSIONS

Before the intervention, students faced notable difficulties in English speaking skills, such as hesitation, repeated grammatical mistakes, limited vocabulary, poor pronunciation, and low fluency, as the results demonstrated in the pre-test score 4,07. These challenges revealed shortcomings in classroom learning activities and student engagement in spoken English skills.

Integrating the Smalltalk2Me app allows for significant advancements in students' oral communication reflected in the average post-test score of 7.96.

This app helped improve fluency, pronunciation, grammar, and vocabulary offering authentic conversational experiences that encouraged deeper engagement with the language and practical usage. Furthermore, the app provided a supportive environment that reduced anxiety, boosting students' confidence and enthusiasm for speaking learning activities developed in class. Higher education students described the interactions with the app as innovative, motivating, and enjoyable, particularly because they appreciate the immediate and personalized feedback on pronunciation and grammatical structure. This dynamic and engaging approach not only elevated their language proficiency but also increased their active participation and commitment to learning the language.

BIBLIOGRAPHIC REFERENCES

Burns, A. (2019). Action Research in English Language Teaching: Contributions and Recent Developments. In *Springer International Handbooks of Education: Vol. Part F1628* (pp. 991–1005). Springer Nature. https://doi.org/10.1007/978-3-030-02899-2_52

Dávila Macías, A. M., Armijos Solano, D. O., Palma Perero, L. M., Roca Panimboza, J. A., & Lucas Soledispa, C. J. (2024). The Potential of Artificial Intelligence to Improve Speaking Skills in a Second Language (English) Fluently. *Ciencia Latina Revista Científica Multidisciplinar*, *8*(3), 3826–3836. https://doi.org/10.37811/cl_rcm.v8i3.11592

Dwi Elia, R., & Wahyuningsih, S. (2024). *The Use of Artificial Intelligence in Assessing and Improving Public Speaking Skills: EFL Students' Voices in Indonesian Secondary school*. https://doi.org/10.24090/celti.2024.1046

Fitria, T. N. (2021). Siri (Apple), and Cortana (Microsoft). 3) Smart Content, 4) Presentation Translator. 5) Global Courses, for example. *Proceeding Seminar Nasional & Call For Papers*, *2*. https://www.blackboard.com/teaching-learning/learning-

Fitria, T. N., Riyadi, J. S., Makamhaji, W., & Sukoharjo, K. (2021). *THE USE TECHNOLOGY BASED ON ARTIFICIAL INTELLIGENCE IN ENGLISH TEACHING AND LEARNING*. https://doi.org/10.24235/eltecho.v%vi%i.9299

Gazali, E., & Saefuloh, H. (2023). Development of an Arabic Receptive Proficiency Test Instrument Based on the Common European Framework of Reference for Languages. *Al-Ta'rib : Jurnal Ilmiah Program Studi Pendidikan Bahasa Arab IAIN Palangka Raya*, *11*(2), 293–308.

https://doi.org/10.23971/altarib.v11i2.6721

Ghafar, Z. N. (2023). Evaluation Research: A Comparative Analysis of Qualitative and Quantitative Research Methods. *Middle East Research Journal of Linguistics and Literature*, *3*(02), 25–32. https://doi.org/10.36348/merjll.2023.v03i02.003

Iorliam, A., & Ingio, J. A. (2024). A Comparative Analysis of Generative Artificial Intelligence Tools for Natural Language Processing. *Journal of Computing Theories and Applications*, *1*(3), 311–325. https://doi.org/10.62411/jcta.9447

Jalbani, A. N., Ahmad, A., & Maitlo, S. K. (2023). A Comparative Study to Evaluate ESL Learners' Proficiency and Attitudes towards English Language. *Global Language Review*, *VIII*(II), 446–455. https://doi.org/10.31703/glr.2023(viii-ii).36

Kang, H. (2022). *Effects of Artificial Intelligence (AI) and Native Speaker Interlocutors on ESL Learners' Speaking Ability and Affective Aspects*. http://journal.kamall.or.kr/wp-content/uploads/2022/6/Kang_25_2_01.pdfhttp://www.kamall.or.kr

Kholis, A. (2021). Elsa Speak App: Automatic Speech Recognition (ASR) for Supplementing English Pronunciation Skills. *Pedagogy : Journal of English Language Teaching*, *9*(1), 01. https://doi.org/10.32332/joelt.v9i1.2723

Klimova, B., Pikhart, M., Polakova, P., Cerna, M., Yayilgan, S. Y., & Shaikh, S. (2023). A Systematic Review on the Use of Emerging Technologies in Teaching English as an Applied Language at the University Level. In *Systems* (Vol. 11, Issue 1). MDPI. https://doi.org/10.3390/systems11010042

M. Opyr, S. (2021). Opyr_M_Artificial_intelligence_for_learning. *International Scientific Journal «Grail o f Science»*.

Momenanzadeh, M., Mashhadi, A., Shooshtari, Z. G., & Arús-Hita, J. (2023). English as a Foreign Language Preservice Teachers' Technological Pedagogical Content Knowledge: A Quantitative Comparative Study. *Journal of Research in Applied Linguistics*, *14*(2), 161–172. https://doi.org/10.22055/RALS.2023.44207.3100

Nassaji, H. (2020). Good qualitative research. In *Language Teaching Research* (Vol. 24, Issue 4, pp. 427–431). SAGE Publications Ltd. https://doi.org/10.1177/1362168820941288

Neenaz, A. E., Dr, I., Crompton, H., & Crichton, R. (2023). *Artificial intelligence and English language teaching: Preparing for the future*. https://doi.org/10.57884/78ea-3c69

Putra, R. M., Solekhah, S., Agustina, D. D., & Sobirov, B. (2022). Action Learning Strategy to Enhance Students Speaking Skill: A Classroom Action Research. *Anglophile Journal*, *2*(1), 37. https://doi.org/10.51278/anglophile.v2i1.269

Salamanti, E., Park, D., Ali, N., & Brown, S. (2023). Efficacy of Collaborative and Multimodal Learning Strategies in Enhancing English Language Proficiency Among ESL/EFL Learners: A Quantitative Analysis. *Research Studies in English Language Teaching and Learning*, *1*(2). https://doi.org/10.62583/rseltl.v1i2.11

Samiya, M. (2024). *The Role Of Using Artificial Intelligence-Murf Application For Promoting Speaking Skill Of Iraqi EFL College Students*.

Schoonenboom, J. (2012). *The Fundamental Difference Between Qualitative and Quantitative Data in Mixed Methods Research*. http://www.qualitative-research.net/

Wu, L., Li, K., Yu, M., & Lin, Y. (2024). Application of Artificial Intelligence in Teaching English as a Foreign Language: Progress, Challenges, and Trends. *English Language Teaching and Linguistics Studies*, *6*(4), p215. https://doi.org/10.22158/eltls.v6n4p215

Yuksel, D., Soruç, A., Horzum, B., & McKinley, J. (2023). Examining the role of english language proficiency, language learning anxiety, and self-regulation skills in emi students' academic success. *Studies in Second Language Learning and Teaching*, *13*(2), 399–426. https://doi.org/10.14746/ssllt.38280