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Artículo de investigación

Improving the speaking skills of learners of English as a foreign language through WhatsApp voice notes: a mobile-assisted language learning approach

Mejora de las habilidades orales de los estudiantes de inglés como lengua extranjera mediante notas de voz de WhatsApp: un enfoque de aprendizaje de idiomas asistido por dispositivos móviles

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Abstract: WhatsApp voice notes provide opportunities for speaking practice outside the classroom with teacher guidance. This study aimed to analyze the impact of WhatsApp voice notes on the development of speaking skills among Ecuadorian learners of English as a foreign language. A quantitative, applied study with a descriptive-comparative scope was conducted using a one-group pre-experimental design with pretest and posttest assessments. The study included 20 B2-level students. The intervention comprised four individual activities over two weeks, with recordings submitted privately and feedback provided by the teacher. Speaking was assessed in terms of fluency, pronunciation, and communicative confidence, with a maximum score of 15 points; the portfolio was assessed separately on a 10-point scale. Frequencies, means, differences, and relative increases were calculated. The group mean increased from 9.60 to 10.55 out of 15, representing a gain of 0.95 points and a relative increase of 9.90%. Scores increased for 17 students (85%), and 8 (40%) moved to a higher performance category. Fluency showed the largest gain (0.50 points), followed by communicative confidence (0.30 points) and pronunciation (0.15 points). The mean portfolio score was 6.90 out of 10. Overall, the findings indicated favorable changes in speaking performance following the intervention, although the study design did not allow these improvements to be attributed exclusively to the use of WhatsApp voice notes.

Keywords: English as a foreign language, mobile learning, speaking skills, voice notes, WhatsApp.

Resumen: *Las notas de voz de WhatsApp ofrecen oportunidades para practicar la expresión oral fuera del aula con la orientación del docente. El objetivo de este estudio fue analizar el impacto de las notas de voz de WhatsApp en el desarrollo de las habilidades de expresión oral de estudiantes ecuatorianos de inglés como lengua extranjera. Se realizó una investigación cuantitativa, aplicada, de alcance descriptivo-comparativo, mediante un diseño preexperimental de un solo grupo con evaluaciones de pretest y postest. El estudio incluyó a 20 estudiantes de nivel B2. La intervención comprendió cuatro actividades individuales durante dos semanas, con grabaciones enviadas de manera privada y retroalimentación proporcionada por el docente. La expresión oral se evaluó mediante tres dimensiones: fluidez, pronunciación y confianza comunicativa, con una puntuación máxima de 15 puntos; el portafolio se evaluó por separado mediante una escala de 10 puntos. Se calcularon frecuencias, medias, diferencias e incrementos relativos. La media grupal aumentó de 9,60 a 10,55 puntos sobre 15, lo que representó una mejora de 0,95 puntos y un incremento relativo del 9,90 %. Las puntuaciones aumentaron en 17 estudiantes (85 %), mientras que 8 (40 %) avanzaron a una categoría de desempeño superior. La fluidez presentó la mayor mejora (0,50 puntos), seguida de la confianza comunicativa (0,30 puntos) y la pronunciación (0,15 puntos). La puntuación media del portafolio fue de 6,90 sobre 10 puntos. En general, los hallazgos evidenciaron cambios favorables en el desempeño de la expresión oral después de la intervención, aunque el diseño del estudio no permitió atribuir estas mejoras exclusivamente al uso de las notas de voz de WhatsApp.*

Palabras clave*: Aprendizaje móvil, habilidades de expresión oral, Inglés como lengua extranjera, notas de voz, WhatsApp.*

1. Introducción

English as a foreign language involves teaching and learning English in settings where it is not the students' native language. Proficiency in English broadens employment and academic opportunities, supports intercultural communication, and facilitates access to information across different fields of knowledge (Moro, 2024).

In the context of globalization, English has become established as a lingua franca used by speakers of different languages, with particular relevance to education, trade, and business. English language teaching has also incorporated information and communication technologies, enabling more dynamic, interactive, and accessible learning experiences (Salgado et al., 2025).

Speaking skills in English encompass the abilities required for effective oral communication. One key component is coherence, which enables learners to organize and express ideas clearly, logically, and comprehensibly. Other components include pronunciation, which concerns the appropriate articulation of words and sounds, and fluency, understood as the ability to speak with appropriate rhythm, tone, and intonation while avoiding prolonged pauses or frequent interruptions (Rincón-Rincón, 2024).

The integrated development of these components enables learners to produce comprehensible speech and participate actively in communicative situations inside and outside the classroom. Speaking forms part of comprehensive English language learning, alongside listening, reading, and writing; strengthening these skills contributes to the development of communicative competence in everyday use (Rincón-Rincón, 2024).

Oral communication integrates several language skills that enable speakers to convey messages fluently, accurately, and comprehensibly. Oral fluency involves speaking at a natural pace while avoiding hesitation, unnecessary pauses, repetition, and frequent reformulation. Its development requires the coordination of pronunciation, intonation, rhythm, and articulation, as well as factors such as working memory, motivation, language aptitude, and experience in using the language (Rodríguez et al., 2023).

Accuracy concerns the correct use of grammatical structures, vocabulary, pronunciation, and intonation. It enables speakers to convey clear, linguistically appropriate messages and is therefore an essential aspect of communicative English language teaching (Cordoba & Larreal, 2025).

Communicative competence, in turn, encompasses the ability to organize and convey ideas, opinions, and feelings coherently and effectively. Oral communication involves using linguistic resources appropriately to interact, exchange information, and ensure that messages are understood in different situations. Pronunciation, vocabulary, and interaction complement fluency and accuracy. These subskills support clarity of speech, expand learners' expressive resources, and enable effective communicative exchanges in English (Cordoba & Larreal, 2025).

Mobile-assisted language learning (MALL) involves integrating mobile technologies into language teaching and learning. This approach forms part of mobile learning and enables educational activities to take place at different times and in different locations by drawing on device portability and learner autonomy (García et al., 2022).

MALL can support language learning through various resources, including educational applications, online courses, music, and radio. However, its adoption may be constrained by technical difficulties, limited teacher training, and inadequate institutional conditions. Teachers' intention to use

MALL is shaped by their attitudes toward technology, the benefits they perceive, and the influence of students and colleagues. It also depends on facilitating conditions, including the availability of infrastructure, connectivity, devices, and technical support (García et al., 2022).

Actual MALL use does not always align with the intention to adopt it. Some teachers who use it infrequently report a strong willingness to incorporate it, whereas some frequent users express less intention to continue using it. Student participation also influences teachers' decisions to integrate these technologies into their educational practices (Domínguez & Aguilar, 2025).

In this context, WhatsApp is an accessible educational tool that is widely used by students. Its incorporation into academic settings facilitates communication and information exchange between teachers and students, promoting more dynamic interaction inside and outside the classroom. The application also supports collaborative learning and teamwork through group creation and shared activities. Its features allow users to send text, images, videos, documents, and audio recordings, as well as make voice and video calls, expanding its pedagogical potential in both face-to-face and online learning (Melgarejo & Melgarejo, 2022; Cruzata-Martínez et al., 2022).

However, its educational use has certain limitations. Combining social and academic purposes can create distractions, while technical constraints, a lack of communication guidelines, and connectivity problems can reduce its effectiveness (Loor et al., 2022).

WhatsApp can therefore complement teaching and learning when used with clearly defined pedagogical objectives. Its use requires clear guidance, planned activities, and adequate access conditions to realize its benefits and minimize potential difficulties (Loor et al., 2022).

Voice notes can contribute to the development of speaking skills by encouraging students to organize and communicate their ideas clearly and coherently. Their regular use also provides opportunities to practice pronunciation, improve fluency, and participate actively in communicative exchanges with peers and teachers. This strategy can be implemented through small-group activities in which students use voice messages to develop arguments, debate, and present their ideas. Throughout this process, teachers should guide interaction, establish communication guidelines, and promote appropriate language use (Cruzata-Martínez et al., 2022).

Developing speaking skills remains a challenge in English as a foreign language education, particularly when learners have limited opportunities to practice oral communication outside the classroom. WhatsApp voice notes can expand these opportunities, but their integration requires clearly defined activities and assessment criteria. Accordingly, this study examined Ecuadorian students' speaking performance before and after an intervention using this tool, focusing on fluency, pronunciation, and communicative confidence.

The following research question was posed: What changes were observed in the fluency, pronunciation, and communicative confidence of Ecuadorian learners of English as a foreign language following an intervention using WhatsApp voice notes?

The general objective was to analyze the impact of WhatsApp voice notes on the development of speaking skills among Ecuadorian learners of English as a foreign language. The specific objectives were to identify students' speaking proficiency before implementing activities using WhatsApp voice notes; to implement speaking practice activities through WhatsApp voice notes to encourage oral production outside the classroom; and to assess changes in students' fluency, pronunciation, and confidence following the pedagogical intervention.

2. Metodología

The study adopted a quantitative approach and was applied in nature, as it sought to address a specific difficulty in English language teaching. Its scope was descriptive-comparative because scores obtained before and after the voice-note activities were described and compared.

A one-group pre-experimental design with pretest and posttest assessments was used, represented as G: O1 – X – O2. O1 represented the pretest, X the intervention, and O2 the posttest. Given the absence of a control group and random assignment, the findings were interpreted as observed changes rather than evidence of a definitive causal relationship.

Population and Sample

The study population comprised 20 students in the B2 group at NOVA English Academy. All students in this group were included through census sampling. The group was chosen on the basis of availability and access for implementing the intervention; the findings were therefore limited to this educational context.

Students were included if they agreed to participate, had provided the required consent, had access to WhatsApp, and completed both assessments. The intervention included a portfolio of four activities, with completion assessed using the pedagogical rubric. The analysis covered the 20 paired pretest and posttest records.

Variables and Dimensions

The intervention variable was the pedagogical use of WhatsApp voice notes. The outcome variable was the development of speaking skills, assessed in terms of fluency, pronunciation, and communicative confidence (see Table 1).

Table 1

Variables and Dimensions

Variable	Dimension	Indicators
WhatsApp voice notes	Participation	Task submission, frequency, and completion
WhatsApp voice notes	Production	Planning, recording, listening, and improvement
Speaking skills	Fluency	Continuity, rhythm, pauses, and development of ideas
Speaking skills	Pronunciation	Clarity, intelligibility, stress, and intonation
Speaking skills	Confidence	Confidence, autonomy, and willingness to speak

Assessment Method and Instruments

The main method was the assessment of speaking performance. Two equivalent assessments were used with the same analytic rubric.

The pretest consisted of three individual tasks completed through WhatsApp voice notes: a personal introduction addressing everyday English use and situations in which students felt

comfortable or uncomfortable speaking; a description of a typical school day; and an opinion on the usefulness of mobile phones for learning English. Each task was intended to last one to three minutes.

The posttest used the same tasks, instructions, and time limits as the pretest to compare speaking performance before and after the intervention.

Assessment Rubric

The same rubric was used for both assessments. Each dimension was scored from one to five points, giving a total score of three to fifteen points. The brief self-perception scale included in the instrument was excluded from the analysis because no completed responses were available; communicative confidence was analyzed solely on the basis of the assessor's observational ratings (see Table 2).

Table 2

Pretest and Posttest Rubric

Dimension	5 Very high	4 High	3 Medium	2 Low	1 Very low
Fluency	Speech is continuous and natural.	Sustains speech with brief pauses.	Pauses frequently but completes ideas.	Hesitation makes the message difficult to follow.	Cannot sustain continuous speech.
Pronunciation	The message is clear and intelligible.	Makes few errors, without affecting understanding.	Makes frequent errors; the overall meaning is understood.	Errors interfere with understanding.	Most of the message cannot be understood.
Confidence	Speaks confidently and independently.	Communicates with minimal support.	Participates hesitantly or with occasional support.	Shows a lack of confidence and requires frequent support.	Avoids speaking or does not complete the task.

Note. Scores were interpreted as follows: 3–5 points, very low; 6–7, low; 8–10, medium; 11–13, high; and 14–15, very high.

Validation

The assessments, activities, and rubric were reviewed by three experts in English language teaching, educational assessment, and educational technology. The experts assessed their clarity, relevance, coherence, and sufficiency. Their feedback was incorporated before implementation. To support consistency, two teachers independently rated a subset of the recordings and compared their scores.

Pedagogical Intervention

The intervention was organized over two weeks and comprised four individual activities, two per week: Introducing myself, My favorite activity, A useful study habit, and My recommendation. The expected duration of the recordings was one minute for the first two tasks and one to two minutes for the remaining tasks. The WhatsApp group was used for instructions, deadlines, and reminders; recordings and feedback were exchanged through private chats with the teacher. The procedure involved preparing key ideas, recording, listening to one's own production, and re-recording when necessary, while avoiding reading from a complete script.

Data Analysis

The data were analyzed using descriptive statistics. Individual scores, frequencies, percentages, and means were calculated for fluency, pronunciation, and communicative confidence. Change was

calculated by subtracting each pretest score from the corresponding posttest score. The numbers of students whose scores increased, remained unchanged, or decreased were also determined. No normality tests, statistical significance tests, or effect size calculations were performed; the findings were therefore reported as observed changes.

Ethical Considerations

Participation was voluntary and had no bearing on academic grades. Participants' identities were protected, and access to the group and recordings was restricted. Where minors participated, consent was obtained from their legal guardians, together with the students' assent. The audio recordings were used solely for academic and research purposes and were not forwarded beyond the authorized setting.

3. Resultados

The results were organized into three stages: the pretest, the implementation of activities using WhatsApp voice notes, and the posttest. Records from twenty B2-level students at NOVA English Academy, identified by the codes E1–E20, were analyzed. The initial and final assessments measured fluency, pronunciation, and communicative confidence, with a maximum score of 15 points; the activities were assessed separately using a rubric scored out of 10.

Pretest Results

The initial assessment yielded a mean score of 9.60 out of 15, equivalent to 64.00% of the maximum possible score. Scores ranged from 7 to 12, with a standard deviation of 1.39. The distribution was as follows: 2 in the low category (10.00%); 12 in the medium category (60.00%); 6 in the high category (30.00%); and 0 in the very high category (0.00%). Table 3 presents each participant's score across the three dimensions.

Table 3

Individual Pretest Results

Student	Fluency	Pronunciation	Confidence	Total /15	Level
E1	4	4	3	11	High
E2	3	4	3	10	Medium
E3	3	3	3	9	Medium
E4	3	4	3	10	Medium
E5	3	3	3	9	Medium
E6	3	4	4	11	High
E7	2	3	2	7	Low
E8	4	4	4	12	High
E9	3	2	3	8	Medium
E10	3	4	4	11	High
E11	4	2	4	10	Medium
E12	4	4	2	10	Medium
E13	2	2	3	7	Low
E14	4	3	4	11	High
E15	4	2	3	9	Medium
E16	4	3	2	9	Medium

Student	Fluency	Pronunciation	Confidence	Total /15	Level
E17	2	4	4	10	Medium
E18	4	4	3	11	High
E19	2	4	2	8	Medium
E20	4	2	3	9	Medium
Mean	3.25	3.25	3.10	9.60	Medium

Note. Each dimension was scored from 1 to 5 points. Confidence refers to communicative confidence. Total score categories: 3–5, very low; 6–7, low; 8–10, medium; 11–13, high; 14–15, very high.

Fluency and pronunciation shared the highest initial mean, at 3.25 out of 5, equivalent to 65% of the maximum score. Communicative confidence scored 3.10 out of 5 (62%), making it the lowest-rated dimension at the group level. Differences between the means were small, and no dimension reached the maximum score. Comments on grammar and vocabulary in the source document provided pedagogical context, but these were not treated as separately scored dimensions or applied as individual observations to the added records (see table 4).

Table 4

Initial Performance by Dimension

Dimension	Mean /5	Percentage of maximum
Fluency	3.25	65.00%
Pronunciation	3.25	65.00%
Communicative confidence	3.10	62.00%

Implementation of Activities Using WhatsApp Voice Notes

The implemented intervention comprised four individual activities conducted over two weeks, with two tasks per week. The WhatsApp group was used to post instructions, deadlines, and reminders; recordings were to be submitted, and feedback provided, through private chats with the teacher. The sequence progressed from personal introductions to making recommendations, with voice notes expected to last one to two minutes (see table 5).

Table 5

Intervention Activity Sequence

Timing	Activity	Expected oral production	Duration
Week 1	Introducing myself	Personal introduction, interests, daily activities, and English use	1 minute
Week 1	My favorite activity	Description of a favorite activity and explanation of its importance	1 minute
Week 2	A useful study habit	Explanation of a useful habit for learning English	1–2 minutes
Week 2	My recommendation	Recommendation for improving student life	1–2 minutes

The procedure involved preparing key ideas, recording, listening to one's own production, and re-recording when necessary. Teacher feedback included one strength and one specific recommendation for the next activity. This structure provided the pedagogical framework for interpreting portfolio scores, although the rubrics did not allow re-recordings, feedback exchanges, or actual practice time to be quantified separately.

Assessment of WhatsApp Activities

The portfolio assessment considered five criteria: task completion and preparation, fluency, pronunciation, content and coherence, and confidence and interaction. Each criterion was scored out of two points, for a maximum total of ten. This assessment described performance on the planned tasks and was kept separate from the initial and final speaking assessments.

Portfolio scores ranged from 5.50 to 8.50 out of 10, with a mean of 6.90, equivalent to 69.00% of the maximum, and a standard deviation of 0.88. E4 retained a score of 8.50 out of 10, placing this participant among the highest scorers in the dataset. Individual differences showed that performance during the activities was not uniform and helped identify components requiring support. Table 6 presents the five criteria for each student and the group mean.

Fluency and pronunciation shared the highest portfolio mean, at 1.45 out of 2 (72.50%). Task completion and preparation scored 1.38 out of 2 (68.75%), while confidence and interaction scored 1.33 out of 2 (66.25%). Content and coherence had the lowest mean, at 1.30 out of 2 (65%).

Table 6

Results of the Voice-Note Activities

Student	C1	C2	C3	C4	C5	Total /10
E1	1.50	1.00	1.50	1.00	1.50	6.50
E2	1.00	1.50	1.00	1.50	1.50	6.50
E3	1.50	1.00	1.00	1.00	1.50	6.00
E4	2.00	1.50	2.00	1.50	1.50	8.50
E5	1.00	1.00	1.50	1.00	1.00	5.50
E6	2.00	1.00	1.50	1.00	1.50	7.00
E7	1.50	1.00	1.00	1.00	1.00	5.50
E8	1.00	1.50	2.00	1.50	1.50	7.50
E9	1.00	1.50	1.50	1.50	1.50	7.00
E10	1.50	2.00	1.00	1.00	1.00	6.50
E11	1.00	2.00	2.00	1.50	1.50	8.00
E12	1.50	1.50	2.00	1.50	1.50	8.00
E13	1.50	2.00	1.00	1.00	1.50	7.00
E14	1.50	1.50	1.00	2.00	1.00	7.00
E15	1.00	1.00	2.00	2.00	1.50	7.50
E16	2.00	1.50	1.00	1.00	2.00	7.50
E17	1.50	2.00	2.00	1.00	1.00	7.50
E18	1.00	1.50	1.00	1.00	1.00	5.50
E19	1.00	1.00	1.50	1.50	1.00	6.00
E20	1.50	2.00	1.50	1.50	1.00	7.50
Mean	1.38	1.45	1.45	1.30	1.33	6.90

Note. C1: task completion and preparation; C2: fluency; C3: pronunciation; C4: content and coherence; C5: confidence and interaction.

Posttest Results

The posttest yielded a mean of 10.55 out of 15, equivalent to 70.33% of the maximum score, with scores ranging from 8 to 13 and a standard deviation of 1.61. The final distribution was as follows: 0 in the very low category (0.00%); 0 in the low category (0.00%); 8 in the medium category (40.00%); 12 in the

high category (60.00%); and 0 in the very high category (0.00%). Comparison with the baseline assessment showed a shift toward the high category and no records remaining in the low category. However, some participants remained in the medium category, indicating that the increase in the group mean did not imply that all students achieved the same level of performance (see Table 7).

Table 7

Individual Posttest Results

Student	Fluency	Pronunciation	Confidence	Total /15	Level
E1	4	4	4	12	High
E2	4	4	3	11	High
E3	4	3	4	11	High
E4	4	4	3	11	High
E5	3	3	3	9	Medium
E6	4	4	4	12	High
E7	2	3	3	8	Medium
E8	5	4	4	13	High
E9	3	2	3	8	Medium
E10	4	4	4	12	High
E11	5	2	4	11	High
E12	5	4	2	11	High
E13	3	2	3	8	Medium
E14	4	3	5	12	High
E15	4	2	3	9	Medium
E16	4	4	2	10	Medium
E17	2	5	4	11	High
E18	4	5	4	13	High
E19	3	4	2	9	Medium
E20	4	2	4	10	Medium
Mean	3.75	3.40	3.40	10.55	Medium

In the final assessment, fluency had the highest mean, at 3.75 out of 5 (75% of the maximum score). Pronunciation and communicative confidence each scored 3.40 out of 5, equivalent to 68%. Final performance was stronger in fluency, while pronunciation and communicative confidence still showed room for improvement (see table 8).

Table 8

Final Performance by Dimension

Dimension	Mean /5	Percentage of maximum
Fluency	3.75	75.00%
Pronunciation	3.40	68.00%
Communicative confidence	3.40	68.00%

Pretest–Posttest Comparison

The group mean increased from 9.60 to 10.55 out of 15, a difference of 0.95 points and a relative increase of 9.90%. Scores increased for 17 students (85%), remained unchanged for 3 students (15%), and decreased for none of the participants. Eight participants (40%) moved to a higher category, while the remainder stayed at the same level. Relative to the maximum test score, the mean rose from 64.00% to 70.33%, a difference of 6.33 percentage points. Table 9 distinguishes increases in scores from changes in performance categories.

Table 9

Individual Changes Between Assessments

Student	Pretest /15	Posttest /15	Difference	Change in level
E1	11	12	+1	High → High
E2	10	11	+1	Medium → High
E3	9	11	+2	Medium → High
E4	10	11	+1	Medium → High
E5	9	9	+0	Medium → Medium
E6	11	12	+1	High → High
E7	7	8	+1	Low → Medium
E8	12	13	+1	High → High
E9	8	8	+0	Medium → Medium
E10	11	12	+1	High → High
E11	10	11	+1	Medium → High
E12	10	11	+1	Medium → High
E13	7	8	+1	Low → Medium
E14	11	12	+1	High → High
E15	9	9	+0	Medium → Medium
E16	9	10	+1	Medium → Medium
E17	10	11	+1	Medium → High
E18	11	13	+2	High → High
E19	8	9	+1	Medium → Medium
E20	9	10	+1	Medium → Medium
Mean	9.60	10.55	0.95	Medium → Medium

Note. The relative increase for the group was calculated using unrounded means: [(10.55 − 9.60) / 9.60] × 100 = 9.90%. The difference relative to the maximum score is expressed in percentage points.

Fluency showed the largest gain: its mean increased from 3.25 to 3.75 out of 5, a difference of 0.500 points, with improvements in ten records (50%). Communicative confidence increased from 3.10 to 3.40 out of 5, a difference of 0.300 points, with improvements in six records (30%). Pronunciation increased from 3.25 to 3.40 out of 5, a difference of 0.150 points, with improvements in three records (15%) (see table 10).

Table 10

Comparison of Means by Dimension

Dimension	Pretest /5	Posttest /5	Difference	Improved n (%)
Fluency	3.25	3.75	0.500	10 (50.00%)
Pronunciation	3.25	3.40	0.150	3 (15.00%)
Communicative confidence	3.10	3.40	0.300	6 (30.00%)

4. Discusión

The results showed an increase in the mean speaking score among the 20 students following the sequence of WhatsApp voice-note activities. The group mean rose from 9.60 to 10.55 out of 15, equivalent to a difference of 0.95 points and a relative increase of 9.90%. This finding is consistent with the pedagogical approach of Cruzata-Martínez et al. (2022), who emphasize incorporating WhatsApp into communicative activities supported by planning and teacher guidance.

The sequence of four activities conducted over two weeks suggests that integrating structured speaking practice into a familiar communication tool may offer opportunities for oral production beyond the classroom. Tasks involving introductions, descriptions, explanations, and recommendations provided opportunities for students to organize their ideas and communicate them through voice messages. This structure aligns with the mobile learning framework presented by Li (2024), which considers intervention duration and instructional approach relevant to understanding the development of speaking skills.

The baseline assessment identified a relatively balanced profile across the dimensions assessed. Fluency and pronunciation each had a mean of 3.25 out of 5, while communicative confidence scored 3.10 out of 5. These results guided the interpretation of the activities in terms of continuity of speech, message clarity, and confidence during oral production. In this regard, Rodríguez et al. (2023) provide a basis for understanding fluency through the rhythm and continuity of speech in communicative situations.

Fluency showed the largest increase, with a mean difference of 0.50 points and improvements in ten students, representing 50% of the group. This pattern suggests the potential relevance of tasks requiring learners to prepare and develop an oral message with a clearly defined communicative purpose. Preparing ideas, recording, and listening to their own productions may have provided opportunities to review the organization of speech, consistent with the importance that Cruzata-Martínez et al. (2022) attach to planned activities and teacher guidance.

The use of voice notes was also examined in the Ecuadorian study by Oye and Salvador-Cisneros (2022), which focused on voice messages and short videos for oral communication. Both studies considered accessible digital formats as opportunities to extend oral communication practice beyond the classroom. The activities addressed different communicative purposes and linked WhatsApp use to the production of organized messages in English.

Communicative confidence increased from 3.10 to 3.40 out of 5, a difference of 0.30 points, with improvements in six students, equivalent to 30% of the group. This finding indicated an increase in observer-rated communicative confidence, although it did not establish changes in students' self-perceived confidence or autonomy. Private submission of recordings and individual feedback may have contributed to a supportive environment for speaking practice, consistent with the pedagogical perspective of Albogami and Algethami (2022) on WhatsApp and the learning of speaking skills.

Beyond opportunities for oral production, voice notes may also facilitate reflection on students' speaking performance. From a pedagogical perspective, listening to recorded messages can encourage learners to identify aspects of their oral expression that require improvement. This reflective practice can be discussed in relation to Karthika and Selvam (2022), whose work provides a reference point for accessibility, participation, and reflection in learning English through technological resources.

Pronunciation increased from 3.25 to 3.40 out of 5, with a mean gain of 0.15 points and improvements in three students. In the portfolio assessment, this dimension scored 1.45 out of 2 and

shared the highest mean with fluency. These results provided complementary information about students' performance: the assessments documented changes between the two measurement points, whereas the portfolio described performance during the activities. Cordoba and Larreal (2025) help situate these findings within the relationship between pronunciation and clarity in oral communication.

The pattern observed in pronunciation can also be interpreted in light of Metruk's (2024) review of mobile learning and pronunciation instruction. In the activity sequence, recordings incorporated pronunciation into tasks involving introductions, descriptions, explanations, and recommendations. Pronunciation practice was thus integrated into the construction of complete messages and the use of English to communicate experiences and ideas.

The portfolio assessment yielded an overall mean of 6.90 out of 10. Fluency and pronunciation received the highest scores, at 1.45 out of 2 each, while content and coherence scored 1.30 out of 2. This profile revealed differences in performance across the assessed criteria and provided additional information about the preparation, organization, and delivery of messages. This assessment complemented the pretest and posttest results by incorporating criteria related to the process of oral production.

Individual trajectories showed that 17 students, equivalent to 85% of the group, increased their scores, while three retained their initial results. Among individual cases, E3 gained two points and E7 moved from the low to the medium category; E4 scored 8.50 out of 10 in the portfolio. These differences suggest that changes in speaking performance were not uniform across participants, highlighting the importance of considering individual variation alongside group-level improvements.

Although the findings indicated favorable changes in speaking performance following the guided WhatsApp voice-note activities, the single-group design limits the extent to which these gains can be attributed specifically to WhatsApp. Further research could examine whether the gains are sustained over time and whether similar results are observed in other educational settings.

5. Conclusiones

The baseline assessment of the 20 students yielded a mean score of 9.60 out of 15, with scores ranging from 7 to 12. Communicative confidence had the lowest mean (3.10 out of 5), while fluency and pronunciation each scored 3.25 out of 5. These findings identified communicative confidence as the dimension requiring the greatest support and helped prioritize speaking practice focused on continuity and confidence.

The intervention comprised four individual activities using WhatsApp voice notes over two weeks, incorporating preparation of ideas, recording, listening, and private feedback. The portfolio yielded a mean of 6.90 out of 10, with content and coherence receiving the lowest rating (1.30 out of 2). This assessment complemented the pretest and posttest by identifying aspects of oral production, particularly content organization and coherence, that required additional support.

The group mean increased from 9.60 to 10.55 out of 15, a difference of 0.95 points and a relative increase of 9.90%. Scores improved for 17 students (85%), and 8 (40%) moved to a higher performance category. Gains were concentrated in fluency (0.500 points) and communicative confidence (0.300 points), with a smaller change in pronunciation (0.150 points). Overall, the dataset showed a favorable numerical trend, with gains varying across dimensions.

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Transparencia

Conflicto de interés

Los autores declaran que no existen conflictos de interés de naturaleza alguna como parte de la presente investigación.

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Los autores contribuyeron activamente en el análisis de los resultados, revisión y aprobación del manuscrito final.