

# Using WhatsApp to Practice Essay Writing Skills: Perspectives from Ecuadorian Undergraduate Polytechnic Students

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## Abstract

Through a mixed-methods design, this paper aims to identify the positive impact of using WhatsApp in and outside the classroom to practice writing skills and improve persuasive essays. The study used a questionnaire to obtain learners' feelings, their ideas about the advantages and disadvantages of using the app, and their level of acceptance. Findings conclude that participants have a positive attitude and a high level of acceptance toward the app. The most significant advantage noted is that the application is free, while the long time spent on the chat group is seen as a major drawback.

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## 1 Introduction

English has around four hundred million native speakers worldwide, second only to Mandarin and Spanish. It is, nonetheless, the most widely spoken second language overall. Because of this, when native and non-native English speakers are combined, English is the one language spoken the most over the world. In essence, 67 nations and 27 non-sovereign organizations recognize English as an official language. Also, it is a significant commercial language and the official tongue of several of the most important organizations in the world, including the European Union, NATO, and the United Nations. According to Rodriguez (2016), the number of people who speak English as a first language (L1), a second language (L2), or a foreign language (FL) is over 1.4 billion.

Historically, learning English in Ecuador has been associated with individuals from higher economic backgrounds or those whose parents could afford lessons at private language institutions. Finally, however, there has been a change, though a slow one. This change has taken the last forty years or so in the history of Ecuadorian education.

The policy changes included a shift in the national curriculum. According to Ministerio de Educación (2016), the primary goals for teaching English as a foreign language include improving students' ability to communicate their ideas through the foreign language and showing a passion for language learning from a young age. Students are also to contribute positively to a more linguistically diverse and globally connected world and finish the national curriculum with a B1 level of

English according to the Common European Framework of Reference.

Despite the above, the results are still not as desired. Statistics show that Ecuador has fallen in its position on the Education First English Proficiency Index (EF EPI) of knowledge of English worldwide, going down from position 37 in 2011 with a deficient level of English to 82 in 2022 with a low level of English (Barre & Villafuerte-Holguin, 2021). In the same vein, Cáneppa et al. (2018) explain that significant changes were made in the technique and organization of the English lessons as a result of the teachers' use of different approaches following the government's plans. However, the proposed changes were not enough to meet learners' needs.

The literature discusses several approaches to attaining learners' engagement. One such approach is using mobile phone applications. For example, Farrah and Abu-Dawood (2018) conducted a study demonstrating that most students reacted well to using mobile applications in teaching-learning. The findings also showed that using mobile applications helped students understand and learn more.

Nitza & Roman (2016) conducted research at Ariel University in Israel. The researchers obtained the collaboration of 120 participants who completed a questionnaire. This survey was divided into three aspects. The first section looked at students' opinions about using WhatsApp and how they felt about its influence on the teaching process. The scholars concluded that this tool contributes substantially to student achievement and satisfaction and can be used in degree-granting courses.

Arifani (2019) conducted a quasi-experimental study to compare the writing abilities of EFL learners who were taught using a small group flipped model via writing activities on WhatsApp. The researcher compared the WhatsApp group to another one that was taught using an individual flipped model via WhatsApp with individual writing activities. A writing test was used as a pre and post-test. The study showed that students using the WhatsApp small group flipped model significantly outperformed the other students. The study also discovered that WhatsApp supports collaborative learning in a flipped writing class.

Sari and Putri (2019) studied twenty-eight Indonesian undergraduate students enrolled in a writing course. Data was collected through interviews, observations, and a survey. The results reflect that most students demonstrated positive results using WhatsApp in their writing class. Participants acknowledged that the app is user-friendly and can enhance group interaction during and after class. In addition, it is effective for immediate feedback from the lecturer and can be used to ask for and share writing materials without restriction. Nonetheless, some participants said they had technical issues such as a surplus of chats, a weak signal, and garbage notifications.

Ma'ruf et al. (2019) investigated students' perceptions of using WhatsApp in an English writing class. The researchers used a qualitative case study approach to collect data. They relied upon a questionnaire to identify the factors influencing participants' answers and interviews to further inquire about learners' perceptions. The findings reveal that WhatsApp can be used for peer reviews; the application offers time and location independence, helps build vocabulary, and improves grammar.

Muthmainnah and Azmina (2020) examined writing exercises using the WhatsApp group while students were studying at Home amid the COVID-19 pandemic and their perspectives on it. This is qualitative research, and descriptive data analysis was done. The study was conducted in Indonesia, and 30 students participated. 37% of the participants preferred face-to-face sessions, while 63% of the total students had a favorable opinion of the writing activities they used.

Although the above demonstrates data in the literature, it also indicates that a gap still needs to be bridged. Data comes mainly from Asian sources, but there is relatively little information on the specific subject of this paper originating from Latin American countries and, more specifically, from Ecuador. Thus, this research aims to investigate students' perceptions of using WhatsApp as a tool to practice and improve their writing skills. The following research questions have been posed to guide this investigation.

- RQ1: What are Ecuadorian polytechnic undergraduate students' perceptions of using WhatsApp to practice writing skills to improve their essay writing?

- RQ2: What are Ecuadorian polytechnic undergraduate students' perceived advantages and disadvantages of using WhatsApp to practice writing skills to improve their essay writing?
- RQ3: To what extent do Ecuadorian polytechnic undergraduate students accept WhatsApp as a tool for efficiently practicing writing skills to improve their essay writing?
- RQ4: How significant is the difference in perceptions between men and women?

## 2 Literature review

### 2.1 Theoretical foundations of MALL

The theoretical foundation for Mobile Assisted Language Learning (MALL) is rooted in various pedagogical and cognitive theories that guide its design and implementation. These frameworks emphasize integrating technology with language pedagogy to enhance learning experiences.

Studies highlight constructivist principles, such as situated learning and collaborative learning, which promote active engagement and social interaction among learners. Moreover, cognitivism and the cognitive theory of multimedia learning support using mobile applications to facilitate vocabulary acquisition and comprehension through interactive content.

#### 2.1.1 Situated Learning Theory

Situated learning theory posits that language acquisition is inherently tied to authentic contexts and activities (Clancey, 1995; Kumar, 2021). This perspective emphasizes that thinking and learning are physical skills adapted to the ongoing environment. The theory suggests that human knowledge develops through active engagement with the world, where people create and interpret representations of their experiences (Clancey, 1995). Situated learning has practical applications in various fields, including business process redesign and higher education (Clancey, 1995; Gawande & Al-Senaïdi, 2015). It aligns with social constructivist approaches and emphasizes the importance of context, culture, and authentic activities in the learning process (Kumar, 2021). Researchers have explored strategies for implementing situated learning, particularly in educational settings, to enhance the relevance and effectiveness of knowledge transmission (O'Brien & Battista, 2019; Kumar, 2021).

Moreover, situated learning theory provides a valuable framework for understanding the use of WhatsApp as a tool to practice essay writing skills. WhatsApp can foster a situated learning environment by creating a virtual community where students can engage in real-time discussions, share drafts, and receive feedback. Students can practice their writing skills in a context that closely mirrors the demands of academic writing, allowing them to develop their abilities through authentic interactions and feedback. Additionally, the theory's emphasis on social constructivism highlights the importance of peer collaboration and cultural exchange, which can be facilitated through WhatsApp groups. By analyzing students' interactions and experiences on WhatsApp, researchers can gain insights into the application of situated learning theory to language education.

#### 2.1.2 Collaborative Learning Theory

Collaborative learning emerged alongside cooperative learning, gaining traction in educational discourse during the 1960s and 1970s. Collaborative learning is rooted in theories from Computer-Supported Collaborative Learning (CSCL) and Cooperative Learning (CL), which highlight the necessity of active participation and mutual understanding among learners (Hernández-Leo et al., 2006; Israel & Aiken, 2007).

Recent studies highlight the effectiveness of collaborative learning in diverse contexts (Al-Samarraie & Saeed, 2018). In online education, collaborative learning strategies have been shown to enhance student engagement and knowledge retention, demonstrating their adaptability to modern teaching environments (Chatterjee & Correia, 2019).

This theory aligns with WhatsApp as a tool for practicing essay writing skills, as it provides a platform for students to collaborate on their writing tasks. By forming WhatsApp groups, students can discuss their ideas, share drafts, and provide feedback to each other in a real-time setting. This collaborative approach can lead to deeper understanding, improved critical thinking, and enhanced motivation.

Researchers can gain valuable insights into how collaborative learning theory can be applied to language learning by analyzing students' interactions on WhatsApp. For example, they can examine the types of interactions within the groups, the quality of feedback provided, and the impact of collaboration on students' learning outcomes. This analysis can help to identify effective strategies for fostering collaborative learning environments and improving language teaching and learning.

### ***2.1.3 Cognitivism***

Cognitivism emphasizes the role of mental processes and representations in acquiring language skills. Recent research suggests that cognitive development may constrain implicit statistical learning processes essential for adult language acquisition (Smalle & Möttönen, 2023). The cognitive approach views language as an autonomous system in the mind, challenging behaviorist perspectives (Bolhuis et al., 2023). A communicative and cognitive paradigm for foreign language acquisition proposes a spiral model of cognition, where learners progress through stages from perception to creative reproduction (Vovk, 2017). In digital language learning, cognitive gains can be achieved through techniques that engage multiple senses and align with students' needs (Klimova & Pikhart, 2023). However, working with printed texts may be more effective for cognitive gains than working with electronic texts. These findings highlight the importance of considering cognitive factors in language learning strategies and the potential benefits of combining traditional and digital approaches.

In the context of using WhatsApp for essay writing practice, cognitivism can be applied to understand how students process and use information to develop their writing skills. For example, students may use WhatsApp to access and organize research materials, brainstorm ideas, and draft their essays. Cognitivist principles can also help to explain how students' prior knowledge and beliefs influence their writing processes.

Researchers can gain insights into how cognitive processes are involved in language learning by analyzing students' interactions on WhatsApp. For example, they can examine the types of cognitive strategies that students use when writing essays, the challenges they encounter, and the factors that influence their learning outcomes. This analysis can help to identify effective teaching strategies that support students' cognitive development and improve their language learning abilities.

### ***2.1.4 Cognitive Theory of Multimedia Learning***

The cognitive theory of multimedia learning (CTML) posits that people learn better using words and pictures than from words alone (Noetel et al., 2021). The authors have identified several design principles that enhance learning and manage cognitive load, including captioning, contiguity, and signaling. While immersive virtual reality can increase motivation and interest, traditional slideshows may be more effective for learning outcomes (Parong & Mayer, 2018). Code-switching interfaces based on CTML can improve vocabulary acquisition in ESL students (Immanuel & Hameed, 2023). However, some researchers argue that many studies on multimedia learning lack clear conceptualization and measurement of working memory, relying primarily on general subjective measures of cognitive load (Anmarkrud et al., 2019). To advance the field, future research should focus on improving the measurement of cognitive load and working memory in multimedia learning contexts.

When students use WhatsApp for essay writing practice, they can leverage the app's multimedia capabilities to enhance their learning. For instance, students can share relevant images, videos, and

audio clips within WhatsApp groups to provide themselves with additional visual and auditory stimuli. These multimedia elements can help students better understand and remember information about their writing topics.

Researchers can gain valuable insights into the application of the cognitive theory of multimedia learning by analyzing how students utilize WhatsApp for essay writing practice. By examining the types of multimedia resources students share, the impact of these resources on their learning outcomes, and the factors that influence their preferences for different types of multimedia, researchers can identify effective strategies for incorporating multimedia into language teaching and learning. This can ultimately lead to improved student understanding and retention of information.

## ***2.2 Mobile Assisted Language Learning***

The rise of new mobile technologies that improve learning in portable, authentic, social, and contextual settings has made mobile-assisted language learning (MALL) popular in the Second Language Acquisition (SLA) community (Lin & Lin, 2019; Na-Young, 2022). MALL's most significant advantage comes from its use of tablets or mobile phones, which give learners access to learning a language in a place and time of their convenience (Elaish et al., 2017). This mobility offers language learners opportunities for rich, real-time, and convenient learning, something desktops cannot provide.

According to Kilnova, as cited by Kacetl & Klímová (2019), MALL is considered a subdivision of Computer Assisted Language Learning (CALL), and the scholars mention that an acronym has been created for Smartphone Assisted Language Learning (SPALL) since these devices offer more capabilities than standard mobile phones. In addition, MALL has several characteristics, including accessibility and interactivity of mobile devices, independence in terms of time and place, cooperation with peers and teachers in both formal and informal contexts, and personalized learning, which make it effective (Latif et al., 2019).

Using mobile learning technology outside the classroom benefits students in many ways (Kukulska - Hulme, 2010). These activities make it possible for the learning process to be more closely tied to practical experiences. Additionally, learning outside the classroom via mobile can better utilize the learner's free time (Grant, 2019; Kacetl & Klímová, 2019). By encouraging independent and active learning and transforming educational institutions into 24/7, barrier-free learning centers, m-learning MALL broadens the scope of e-learning even more. Furthermore, according to Loewen et al.'s (2019) research, utilizing a mobile phone and its apps can help students learn a foreign language because of its distinctive properties, such as interactivity, ubiquity, or portability.

## ***2.3 Advantages of MALL***

Scholars have dug into the benefits that MALL has to offer students. One of them is the possibility that it proposes learners facilitate personalized study. In contrast to the rigidity of books, a digital course that is available through mobile devices enables various levels of personalization, from the ones that teachers offer, like reorganizing the agenda or adding new multimedia components, to the ones that students are given, such as being able to customize their workspace (Miangah, 2012).

Additionally, according to Loewen et al. (2019), the accessibility that MALL provides learners is one of its key advantages. Students can access their classes anywhere in the world using their mobile devices. Because of this characteristic, mobile learning is incredibly flexible and may assist content producers in connecting with a much larger audience (Çakmak, 2019).

Another critical benefit of MALL is the degree of motivation it can instill in students (Loewen et al., 2019). Both eLearning and mobile learning use cutting-edge teaching and evaluation strategies, and gamifying the course with interactive assessments and quizzes can motivate students to advance through it. In addition, students can work on interacting with the course content and remembering

key concepts. Thus, a motivated and involved student is likelier to retain the material and feel satisfied after class (Fithriani, 2021).

Finally, there is evidence in the literature of the essential advantage MALL offers learners: apparent mobility (Pérez-Paredes & Zhang, 2022). As students typically carry their cell phones with them, they can study whenever and wherever they choose. This feature of MALL results in the main benefit of online learning. In contrast to formal education, which uses materials the teacher creates, mobile learning is unstructured (Bere & Rambe, 2019). It uses resources not prepared by the teacher and is, therefore, informal, a common component of MALL techniques, albeit not consistently.

#### ***2.4 Disadvantages of MALL***

There are some drawbacks to MALL to consider. The need for students to use a mobile device to access information is one of the numerous advantages of mobile learning in education. However, students are considerably prone to becoming distracted when their mobile phones are on during class (Estrella, 2021). In addition, students may get text messages, emails, and social media notifications, which will distract them from class. Engagement and completion rates may decline due to these distractions (Metruk, 2020).

The literature also records how MALL can allow students to make meaningful online connections. However, in-person connections cannot be processed as the class develops in the digital realm. While some students might flourish in a more solitary and self-paced atmosphere, others might need interpersonal connections to motivate them. When students sign up for a MALL course that calls for sustained commitment, this lack of social interaction may become even more apparent (Puebla et al., 2021).

Another disadvantage in MALL becomes apparent in rural locations and places where the Internet and electricity are not yet widely used. A lack of either resource may pose an issue. A significant problem arises when a person has a device but lacks the electricity or Internet necessary to use it and take advantage of mobile learning. Students must ensure they have fulfilled all the conditions for the most significant mobile learning experience to enjoy the experience.

#### ***2.5 WhatsApp to teach English***

The market has been flooded with apps that claim they can be used to learn a language quickly. A quick search on the Internet resulted in many pages offering advice on the best apps to teach a language. These applications have even found specialized market niches depending on the skill a learner wants to develop. These days, EFL learners can learn a language autonomously and in a personalized way thanks to applications like Busuu, Babbel, Duolingo, FluentU, or Memrise. Nonetheless, teachers are one step ahead of these apps and are using apps integrated into mobile phones that learners use daily, such as Facebook, Instagram, or WhatsApp (Hamad, 2017; Ubaedillah et al., 2021).

According to Ma'ruf et al. (2019), WhatsApp is a part of online networking services available to all users for free. Social networking services are mobile-based applications that make it easier for people worldwide to interact, work together, and share resources (Muthmainnah & Azmina, 2020). Several professors have implemented these technologies into their higher education classrooms owing to SNS's popularity among undergraduate students. Studying the successes of learning a language using WhatsApp, researchers discovered that students rank it as the most well-liked social network besides Facebook and Twitter (Nitza & Roman, 2016). Ranjan et al. (2017) explain that WhatsApp-based M-learning is an excellent supplement to traditional classroom instruction in terms of availability everywhere and collaborative learning. WhatsApp is viewed as a learning resource with enormous potential for assisting students in creating their knowledge while utilizing mobile devices. WhatsApp fosters education programs by helping students communicate more effectively and develop their creativity, critical thinking, and problem-solving abilities (Enakrire & Kehinde, 2022).

### 3 Method

#### 3.1 *Theoretical assumptions*

The fundamental principles that direct a mixed methods investigation comprise its philosophical assumptions (Guba & Lincoln, 2005). According to Creswell & Plano Clark (2018), mixed methods researchers should bring to the examination a worldview formed of the beliefs and assumptions about knowledge that would inform the inquiry.

A paradigm is a set of presumptions and procedures that direct research and consolidate the researcher's views (Doyle et al., 2009). For example, among the several paradigms available to researchers, Denzin and Lincoln (2018) conclude that a constructivist paradigm helps the enquirer comprehend how the individuals within the scope make meaning of their daily lives. This paradigm will direct this investigation to understand the attitudes of the study participants who construct reality by putting forth their meanings and values and, as a result, their realities by communicating with one another.

Ontology is the researcher's perception of the nature of reality (Ansari et al., 2016; Creswell & Creswell, 2018; Doyle et al., 2009). According to Denzin and Lincoln (2018), the relativist ontological position implies the acceptance of various realities, which leaves room for multiple interpretations to emerge throughout an investigation. The diverse viewpoints and perceptions of the study's participants help construct these multiple realities (Creswell & Creswell, 2018). Furthermore, this researcher aimed to view the world from outside the context of the problem under the scope while considering the internal query posed by the study participants.

For Bowleg (2017), epistemology is the justification of knowledge. Furthermore, the relationship between the researcher and the research subject can be used to determine the researcher's epistemological viewpoint (Creswell & Creswell, 2018). Thus, the researcher's epistemological stance influences the investigation's approach and the instruments utilized. Moreover, Guba (1990) establishes that the researcher's epistemological perspective examines the partnership between the researcher and the respondent as they construct a reality-perceiving framework jointly.

Following Ansari et al. (2016), this researcher has selected a middle ground between positivists and phenomenologists, recognizing the value of both schools of thought in thoroughly understanding the subject at hand. Creswell and Plano Clark (2018) outline the various concerns surrounding the development of mixed-methods research. They emphasize that the data are combined in a triangulation design to compare, relate, or validate results (Creswell & Creswell, 2018). This researcher employed a mixed methods design since collecting qualitative and quantitative data will help comprehend the findings.

The quantitative data collection was completed in the first phase, and the semi-structured interviews were conducted after the quantitative phase. Therefore, the implementation of the phases follows a sequential explanatory design. This design typically involves collecting and analyzing quantitative data, followed by qualitative data to explain or elaborate on the quantitative findings (Toyon, 2021). As a result, using this design, the researcher can gather quantitative data on WhatsApp's impact on students' essay-writing skills and then resort to qualitative interviews to delve deeper into the students' experiences and perceptions. Thus allowing for a more thorough investigation of the topic and obtaining valuable insights for educators looking to incorporate WhatsApp into their writing instruction.

#### 3.2 *Participants*

Students registered in the final English subject at a public polytechnic university in Guayaquil, Ecuador, made up the study participants. Every student at the university is required to take English as a subject starting in their first year of study. As a result, English classes are a mixture of study programs and levels. All students enrolled in this final English subject are given a proficiency test to learn their level. Accordingly, 45.9% of students hold a B1 level, 24.8% are placed on the B2

level, 6.7% are registered as having a C1 level, and 22.5% obtained an A1 and A2 level.

Most participants (67.4%) are men, and 55.8% are between 18 and 21. More than half of the participants said they attended a public high school for their secondary education. In addition, 29.1% of respondents who were asked about their study program said they were enrolled in a course at the Faculty of Electrical and Computer Engineering. Finally, 39.6% claimed they spent roughly ten years studying English. Table 1 below shows all the demographic data.

**Table 1. Demographic features**

<b>Demographics</b>	<b>Categories</b>	<b>N=125</b>	<b>%</b>
Gender	Male	84	67.4
	Female	41	32.6
Age	18-21	70	55.8
	22-25	41	32.5
	26-29	9	6.9
	30+	5	4.8
High school	Private	45	36.0
	Public	80	64.0
Faculty	Electricity & Computer Eng.	36	29.1
	Social Sciences & Humanities	33	25.5
	Mechanical Engineering	20	16.3
	Others	36	29.1
Time studying English	1-3 years	42	33.7
	4-6 years	33	26.7
	7-10 years	50	39.6

### **3.3 Sampling strategy**

According to Onwuegbuzie and Collins (2007), designing the sample scheme and size is critical to sampling in a mixed methods study. Convenience sampling, which involves selecting participants who are convenient to choose and willing to engage in the study, was used for this paper's sample strategy. Collins et al. (2007) constructed a Two-Dimensional Sampling Matrix to identify sampling strategies that can result in statistical and interpretively sound generalizations. The authors suggested a small sample size to justify interpretative consistency in mixed methods research. The statistical generalizations produced in this research can then be interpreted consistently.

### **3.4 Data collection tools**

A survey and a semi-structured interview were the instruments used to compile the data for this investigation.

#### **3.4.1 The survey**

The survey was adapted from Sari & Putri (2019). It contained four sections; in the first section, demographic information was obtained to draw the demographic features in Table 1. Section two deals with the advantages and disadvantages of WhatsApp in English classes. The third section asked participants about their perceptions of the educational aspects of the app. Finally, in the fourth section, the researcher aimed to understand participants' acceptance of using WhatsApp as a tool for helping them with their writing skills. The last three sections were measured on a Likert scale where 1 stands for strongly disagree, and 5 stands for strongly agree. The agreement levels to analyze the survey results were considered in the following way. Strongly disagree goes from 1.00 to 1.80, and disagree ranges from 1.81 to 2.60. The neutral zone stands in the range of 2.61 to 3.40. Meanwhile, the agreement area is considered with a mean of 3.41 to 4.20, and finally, strongly agree lies in the



range of 4.21 to 5.

Initially, the survey would be in English; however, it was decided that the items be translated into Spanish to ensure participants could comprehend the survey's questions. Before the survey was uploaded into the cloud using Microsoft Forms, a language department colleague reviewed the questions to ensure they accurately reflected those from the original English questionnaire. This step was taken to ensure face validity. Nonetheless, face validity was not the only measure to establish the tool's validity.

It was also determined how well the tool measures the specified construct or content validity (Creswell & Plano Clark, 2018; Almanasreh et al., 2019). For this study, five experts from other faculties were contacted, and they determined if the question was "important" or "not essential." After computations, a ratio of 0.87 was obtained, which is considered an excellent index by Almanasreh et al. (2019). Thus, this outcome validates the questionnaire.

Additionally, the survey was piloted with fewer students (van Teijlingen & Hundley, 2002; Creswell & Plano Clark, 2018). Participants evaluated the clarity of the survey statements, identifying two key issues. First, three questions were identified as repetitive, and the language used was difficult to comprehend. Therefore, these three questions were eliminated from the original survey. Also, Cronbach's alpha was calculated for the pilot, which resulted in .928, which, according to Tavakol & Dennick (2011), is a good index.

### **3.4.2 The semi-structured interview**

The second data collection tool was the semi-structured interviews. A semi-structured protocol allows the researcher to ask the informants particular questions while also allowing them to explore any new concerns or subjects due to the questionnaire utilized (Thomas, 2006; Creswell & Creswell, 2018).

The researcher created an interview protocol that included six open-ended questions. It was given to some colleagues from the university's academic writing center to read and check to check for face validity. Cohen's Kappa Index (CKI), which represents the degree of accuracy and reliability in a questionnaire, was calculated with their results. This index reached 85.1% and  $k=0.75$ , considered a good strength of agreement. Therefore, it can be said the protocol accounts for face validity.

The researcher's next goal was to evaluate the protocol's content validity. First, the readability of the questions was assessed using Gunning's Fog Index. The initial calculation of 12.73 indicated that the sentence was difficult to read. Modifications were made to the question wording, and a second score of 9.36 was achieved. This second finding explains the questionnaire's content validity.

Finally, this researcher carried out the content validity ratio test (CRV), which Lawshe originally developed. This test verifies an instrument's content. Again, the researcher enlisted five language teachers from the language center to serve as experts. They revised the interview questions and determined whether they were necessary to achieve the objective. Once the calculations were completed, the CVR came out to be 0.612. As a result, the instrument's questions are required, and their content validity has been confirmed.

The informants for the interview were identified using the convenience sampling technique. Following Muellmann et al. (2021), the interview sample size was six. Before the interviews started, respondents were informed about the purpose of the study and their part in it. They were also reminded that they had signed an informed consent form and had the right to revoke it at any time. Additionally, the researcher assured them they would maintain their anonymity because only numbers would be used to identify them when reporting findings. Participants were open to letting their answers be recorded when the researcher asked if they would feel hampered by it before the actual questioning started. Finally, participants had the choice of interviewing in English or Spanish. Three chose to do it in English, while the other twenty-two decided on Spanish.

### 3.5 Treatment procedures

The intervention was designed to be interactive and accessible. It leveraged the features of the WhatsApp platform to facilitate collaborative learning, peer feedback, and ongoing practice. The intervention took place over four weeks and involved structured activities to improve students' writing abilities.

At the beginning of the intervention, participants underwent an initial assessment of their essay-writing skills. Based on the results, students were grouped into pairs, ensuring a mix of writing competencies in each group. This allowed for peer support and diverse perspectives throughout the intervention. Participants received a specific writing prompt via WhatsApp each week to practice their essay writing skills. Students were expected to draft and submit their essays on the app for their peers to provide feedback within a specified timeframe. After submitting their essays, students engaged in peer review sessions. Using WhatsApp's messaging functionality, students exchanged their written pieces and provided constructive feedback. Prompts for feedback ensured that critiques were focused on aspects such as coherence, grammar, and clarity of argument. Weekly synchronous writing workshops were conducted via WhatsApp to enhance collaboration. During these sessions, students discussed their essays in real time, shared ideas, and received immediate feedback from peers and instructors. The workshops fostered a sense of community and allowed students to engage with their writing actively. At the end of each week, students engaged in reflective practice by completing a guided self-assessment via WhatsApp. They were prompted to evaluate their progress, focusing on the skills they felt improved and areas they still needed to develop. At the conclusion of the intervention, students were asked to submit a final essay demonstrating the skills they had acquired throughout the four weeks. This essay served as a summative assessment of their writing abilities, reflecting the improvements observed during the intervention.

## 4 Analysis and results

The analysis of the quantitative section of this research was done using SPSS V.20. First, a descriptive analysis was performed in which the statistics of the responses were identified. As seen in Table 2, the most significant advantage of using WhatsApp in the English classroom is that this app is free of charge ( $M=4.766 / SD=.463$ ), which is followed by its ease of use ( $M=4.751 / SD=.462$ ), and how quickly doubts are cleared through the app ( $M=4.750 / SD=.462$ ). Meanwhile, learners also value that the application gives them a sense of privacy ( $M=4.508 / SD=1.414$ ), unlike other platforms for practicing English (Estrella, 2021). On the disadvantages, participants believe using the class WhatsApp group consumes too much time and wastes time ( $M=3.950 / SD=1.488$ ). Also, they believe that using WhatsApp messages to practice their writing skills results in flooding messages.

**Table 2. Perceived advantages and disadvantages of using WhatsApp.**

	Mean	SD	Variance	Meaning
The WhatsApp Group is simple to use.	4.751	.462	.214	Strongly agree
The WhatsApp Group is an easy learning way.	4.258	.886	.786	Strongly agree
The WhatsApp Group is free of charge.	4.766	.463	.214	Strongly agree
The WhatsApp Group is easily available and downloadable.	4.375	.916	.839	Strongly agree
The WhatsApp Group gives me a sense of privacy.	4.508	1.414	2.000	Strongly agree
I have used the WhatsApp Group as a teaching-learning tool.	4.125	1.407	1.982	Agree
The WhatsApp Group creates message flooding.	3.875	.834	.696	Agree
Using the WhatsApp Group is time-wasting and time-consuming.	3.950	1.488	2.214	Agree

Using the WhatsApp Group makes my eye strain.	3.000	1.609	1.143	Neutral
The WhatsApp Group stresses me when I use it in a group as part of an activity.	4.375	1.187	1.411	Strongly agree
Doubts are immediately cleared in the WhatsApp Chat group.	4.750	.462	.214	Strongly agree

The next section of the survey investigated how students feel about using WhatsApp to practice their writing skills. Table 3 contains the descriptive statistics for the statements consulted to participants.

**Table 3. Students' perceptions of WhatsApp.**

	Mean	SD	Variance	Meaning
The WhatsApp Group is an interesting writing practice platform.	4.125	.991	.982	Agree
The WhatsApp Group provides a conducive environment.	4.250	.707	.500	Strongly agree
Students have a sense of belonging to the group.	4.450	1.035	1.071	Strongly agree
The WhatsApp Group is an appropriate platform for written interaction outside the classroom context.	4.350	.886	.786	Strongly agree
The WhatsApp Group creates interaction with the teacher.	4.205	.925	.857	Agree
The WhatsApp Group is great because we share learning material.	4.625	.517	.268	Strongly agree
The WhatsApp Group is an appropriate platform for practicing English writing outside the classroom.	4.875	.353	.125	Strongly agree
The WhatsApp Group helps to create opportunities for communication.	4.250	.707	.500	Strongly agree
Whenever I make mistakes. I can revise with my classmates to perfect my assignments.	4.500	.755	.571	Strongly agree
My writing doubts are immediately cleared in the WhatsApp group.	4.625	.517	.268	Strongly agree

The total result of this section stands on ( $M=4.391 / SD=0.694$ ). The statement which obtained the highest rates from participants appealed to the appropriateness of WhatsApp as a platform to practice their writing skills outside the classroom ( $M=4.875 / SD=.353$ ). The following statement that attracted more participants as highly agreeable was the one about using the app to share their learning materials ( $M=4.625 / SD=.517$ ). The last two highest mean scores are for how quickly questions can be cleared up using WhatsApp ( $M=4.625 / SD=.517$ ) and the possibility students have to check with their classmates to make corrections on their assignments and improve their final products ( $M=4.500 / SD=.755$ ). Although there are low scores, they also contribute to understanding the level of student acceptance towards WhatsApp. The three lowest scores were attained as follows. WhatsApp is a platform that participants deem attractive for practicing their writing skills ( $M=4.125 / SD=.991$ ). They also consider it a good conductor of interactions with their teacher ( $M=4.205 / SD=.925$ ). Finally, learners think the application can help them create opportunities for communication with their classmates and teacher. ( $M=4.250 / SD=.707$ ).

The last survey section aimed to determine participants' acceptance of using WhatsApp to practice their writing skills. The total mean for this section stood at  $M=4.437$ , with a standard deviation of  $SD=0.771$ . Table 4 shows the complete descriptive statistics for this section.

**Table 4. Students' acceptance of WhatsApp.**

	Mean	SD	Variance	Meaning
I like the WhatsApp Group because it gives me 24/7 access to writing material.	4.250	.707	.500	Strongly agree
I like the WhatsApp Group because it provides availability to the teacher.	4.125	.834	.696	Agree
With the WhatsApp Group, I can practice writing skills anytime and anywhere.	4.250	.707	.786	Strongly agree
I like the WhatsApp Group because it provides a secure environment.	4.625	.517	.268	Strongly agree
I like the WhatsApp Group because it is easy to use.	4.625	.517	.268	Strongly agree
I think using the WhatsApp group because it helps me practice writing.	4.750	1.164	1.357	Strongly agree

As seen in Table 4, the three highest mean scores are divided as follows. First, participants believed the WhatsApp group helped them practice their writing skills ( $M=4.750 / SD=1.164$ ). This statement is followed by the one where learners attest that the application gives them a secure environment ( $M=4.625 / SD=.517$ ), and they also like it for its ease to use ( $M=4.625 / SD=.517$ ). Meanwhile, the three lowest mean scores, although still remaining in the four-score range, meaning there still is an agreement level, are as follows. The lowest mean score is for the statement where learners acknowledge the possibility of always having access to the teacher ( $M=4.125 / SD=.834$ ). This statement is followed by the fact that WhatsApp gives students access to the writing materials of the class all day round ( $M=4.250 / SD=.707$ ). Next is the statement confirming the latter, explaining they can practice their writing skills any moment of the day and anywhere they are. ( $M=4.250 / SD=.707$ ).

A T-test was conducted on the data acquired. Table 5 contains the statistics resulting from the test.

**Table 5. Statistical analysis of responses by gender**

Gender	N	%	M	SD	Mean Standard Error
Male	84	67.4	32.900	34.478	1.600
Female	41	32.6	34.156	35.426	2.582

As seen in table 5, the statistical results of the paired t-test indicated that there is a non-significant small difference between male responses ( $M=32.900 / SD=34.478$ ) and the female answers ( $M=34.156 / SD=35.426$ ) where  $t(15) = 0.835$  and  $p=.416$ . Table 6 shows the results of the t-test.

**Table 6. T-test results**

Parameter	p-value	t	N	Average of differences	SD differences	Normality p-value	A priori power	Post hoc power
Value	0.416	0.835	125	1.187	5.682	0.033	0.464	0.122

Table 6 shows the sample difference between the averages of male and female perceptions of the usefulness of using WhatsApp in the English essay writing class is not big enough to be significant. Although, what this result proves is that the null assumption cannot be rejected. The p-value in the calculations equals  $0.416$  ( $P(x \leq 0.8358) = 0.7918$ ), meaning that the chance of a type I error is too high. Thus, as has already been mentioned, a correct  $H_0$  is rejected.

Furthermore, the test statistic T equals  $0.835$ , located in the 95% acceptance region  $[-2.1314,$

2.1314]. The 5% confidence interval of the male minus female is [-1.840. 4.2157]. Also, it is apparent from these results that the observed effect size  $d$  is a small one, standing at 0.21. This index indicates that the magnitude of the difference between the average of the differences and the expected average of the difference is small, further confirming the above results. Finally, the normality assumption was checked based on the Shapiro-Wilk test ( $\alpha=0.05$ ). It can be assumed that the variables male minus female follow a normal distribution with a  $p$ -value of .033. Therefore, the test is robust for moderate violation of the normality assumption.

As previously explained, the semi-structured interview would triangulate the information obtained from the survey. The interview protocol counted six questions, two to dig more into each questionnaire category. Therefore, the first stage included transcribing the responses the participants gave. To do so, the researcher used the intelligent verbatim transcription method, as explained by Epich et al. (2019). Then a thematic analysis was done following Braun & Clarke (2012).

The first category was the advantages and disadvantages of using WhatsApp to practice writing skills. First, learners explained that they like using WhatsApp in class and outside of it mainly because they use it daily to keep updated with their different groups and do not have to pay for it. For example, participant 3 said, "I use WhatsApp all day to keep in touch with my classmates, mother, and friends. I also have some teachers in my contacts here. The best thing about using WhatsApp for the English class is that I already have it and didn't have to pay anything additional like other learning applications." In the same vein, participant 5 said, "I think that an advantage of using WhatsApp to practice writing to other language learning applications is that you don't have to pay for it, it's free, and because we have wi-fi here in the university, I really don't have to spend any money on it."

The second advantage identified in the survey was how easy the application was to use. Participant 1 explained, "Using WhatsApp is very easy; I use it all the time, and I can manage really well responding to your comments or the quick assignments we had to do, so using it was no problem at all." Respondent 2 also said, "I never had any problem using the app. Again, it is easy, and the things you posted for us to practice were a lot of fun."

The third advantage of the questionnaire was that doubts were cleared quickly using the app. To complement this finding, informant 1 said, "I think that one thing that was great about using WhatsApp was that you replied immediately to any of the questions I posted, and I was never left with any doubts." "I really enjoyed," said respondent 4 "that we had great communication with you, and I was always looking at the questions my classmates asked you; I didn't ask much because I'm shy, and other people asked what I needed to know, and you always answered right away. That was great."

When the researcher inquired about the perceived disadvantages of using WhatsApp for practicing their writing skills, informant 4 was not shy to mention several of them. "One of the things I don't like about WhatsApp is that I have to set the configuration of the app to delete the messages every certain time because there is usually a flood of messages that makes my phone go very slowly. I remember one of my classmates uploaded like fifty different images, and my phone got really heavy."

One of the semi-structured interview questions asked learners about their thoughts on using WhatsApp as a platform to practice writing skills both inside and outside the classroom. Respondent 4 expressed, "at the beginning, I was skeptical. I didn't think it would be a good idea, but with the passing of time and the activities you posted, I started to like writing there, and now I think it is definitely a good idea. So, I would recommend people to do it."

In that same vein, respondent 6 ascertained, "Writing is one the things I don't do very well, and I don't like it. But, seeing the posts you uploaded with information and some videos you put up, I started to feel compelled to the app and the activities. So, in the end, I can say that I like using WhatsApp for my English class mainly for two reasons. Firstly, it is really cool, and your feedback was helpful. Secondly, I didn't have to wait until the next class to know how well or not I had done something, and your reply was immediate."

Also, respondent 1 said, "I like using WhatsApp to practice writing because I can take a look at

what my classmates wrote and compare them with my response. That way, I can see if I am on the right track, or if I am making mistakes, I can make corrections. Besides, you always immediately replied to my posts, and your feedback helped me write a better essay.” Meanwhile, respondent 5 said, “Using WhatsApp to practice writing was a great idea. I had used the app before, but just to keep in touch with my classmates, asking for homework or things like that. So, I learned a few things.”

Finally, during the interviews, informants were asked how easy it was for them to adopt WhatsApp to practice their writing skills for writing essays. Participant 2 said, “It was easy for me to start using the app in the class because I always use it, so it was not new. I knew how it worked and all the different features it has. Of course, I had never used it to practice for a class, so it was a little awkward at the beginning, but then it was OK. I think using a tool we always use in class is a great idea. Besides, I can reply to your comments anytime and anywhere. I don't have to rent one for my computer or at a cybercafé. It is very convenient.”

According to Participant 3, “Using WhatsApp for the English class was really good. I enjoy answering your posts and seeing my classmates' answers before mine. I checked if my ideas were correct. Also, when you posted the tutorials, they were very simple and to the point, so I understood them really fast. I like that after each tutorial, you posted an exercise for us to practice. I learned or re-learned things I knew but maybe had forgotten with time. It is a great idea to use this app in class.

## 5 Discussion

This work aimed to identify learners' feelings about using WhatsApp to practice their writing skills and improve their essay composition. To attain this result, the researcher posed four research questions, which shall be discussed as follows.

The first research question aimed to identify the Ecuadorian polytechnic undergraduate students' perceptions of using WhatsApp to practice writing skills. The answer to this question lies in the descriptive analysis performed and shown in Table 3. The total result for the third section of the survey returned a mean score of ( $M=4.391 / SD=0.694$ ), and according to the agreement levels determined before, strongly agree lies in the range of 4.21 to 5. Thus, learners' perceptions of WhatsApp are highly positive. This result has also been confirmed by the interviews where participants confirmed their feelings, especially if looking at the participant's one reply where he states that he appreciates using WhatsApp to practice writing skills for essay writing. His reasoning behind this answer was two-fold. He first pointed out that he could look at his classmates' work which allowed him to compare it with his own and make any necessary changes to his assignments to make them better. His second argument relates to the speed of feedback to the posts he and his classmates did on the app.

The second research question examined what Ecuadorian polytechnic undergraduate students perceive as advantages and disadvantages of using WhatsApp to practice writing skills and improve their persuasive essays. The answer to this question came from the survey's descriptive analysis and interview answers. Firstly, the total mean and standard deviations were calculated for section two of the survey. The results turned out to be ( $M=4.248 / SD=1,011$ ), which, compared to the table of levels of agreement defined above, learners believe the advantages are more important than the disadvantages. Informants also spoke about the advantages and disadvantages during the interviews. For example, participant 3 mentioned he enjoys using the application because he already has it on his mobile phone and does not have to pay. Meanwhile, another respondent explained that using WhatsApp is relatively simple. She uses it all the time to communicate with friends, family, and classmates, so employing it in the English class caused no hassle. Another advantage identified during the interviews was how quickly the teacher responded to their questions, doubts, and errors via personalized feedback.

The third research question wanted to learn the levels of acceptance that Ecuadorian polytechnic undergraduate students have on using WhatsApp to practice writing skills. The answer to this question comes from the last section of the survey and the responses from the semi-structured interviews.

The total mean score obtained in this section was ( $M=4.437 / SD=0.771$ ). Once these results were compared to the agreement levels, it is apparent that the participants had a high level of acceptance of the tool since the totally agree mean score was in the range of 4.21 to 5. Again, this assertion is also supported by the responses to the semi-structured interviews. Take respondent's two answers for example; she said that using WhatsApp was easy for her. She claims she knew all the device's workings and the software's characteristics to take advantage of them. She also concedes that using it for a class was never a choice. However, it is an excellent plan for her in class. She places esteem in the anytime and anywhere characteristic of the tool.

The fourth research question's goal was to determine if perceptions were significantly different between men and women. The answer to that question was obtained through the descriptive analysis performed on the data. In addition, a T-test was conducted on the data acquired. The statistical results of the paired t-test indicated that there is a non-significant small difference between male responses ( $M=32.900 / SD=34.478$ ) and the female answers ( $M=34.156 / SD=35.426$ ) where  $t(15) = 0.835$  and  $p=.416$ . Furthermore, the sample difference between the averages of male and female perceptions of the usefulness of using WhatsApp in the English essay writing class is not significant enough. However, this result proves that the null assumption cannot be rejected. The p-value in the calculations equals  $0.416 (P(x \leq 0.8358) = 0.7918)$ , meaning that the chance of a type I error is too high. Thus, as has already been mentioned, a correct H is rejected.

Furthermore, the test statistic T equals 0.835, located in the 95% acceptance region  $[-2.1314, 2.1314]$ . The 5% confidence interval of the male minus female is  $[-1.840, 4.2157]$ . Also, it is apparent from these results that the observed effect size d is a small one, standing at 0.21. This index indicates that the magnitude of the difference between the average of the differences and the expected average of the difference is small, further confirming the above results. Finally, the normality assumption was checked based on the Shapiro-Wilk test ( $\alpha=0.05$ ). It can be assumed that the variables male minus female follow a normal distribution with a p-value of .033. Therefore, the test is robust for moderate violation of the normality assumption.

There are several potential future applications for this study's findings. The positive perceptions of WhatsApp suggest that language educators could integrate similar messaging platforms to facilitate real-time collaboration and feedback among students. This could extend to various language skills, not just writing, enabling practices in speaking, reading, and listening through voice notes and shared materials. Also, the rapid feedback received from instructors through WhatsApp highlights a shift toward personalized learning. Future applications may leverage AI to provide tailored feedback based on student writing submissions while still allowing for real-time queries and guidance from instructors through messaging. Educators can gain valuable insights into student engagement and difficulties by analyzing communication patterns and participation within educational messaging platforms, allowing for data-driven curriculum and instructional strategy improvements.

## 6 Conclusions

In the millennial era, students must be active knowledge creators. Therefore, it is essential to offer them an engaging learning environment where they may actively participate in the teaching and learning process. This setting should also foster student and instructor interaction outside of class time. Language learners should be given access to user-friendly instructional learning materials to aid in developing their language skills. The function of the language teacher is to facilitate a conducive teaching and learning process.

This research aimed to identify learners' attitudes toward using mobile phone applications to aid them in practicing the necessary writing skills to write a persuasive essay effectively. Also, the investigation looked at how participants felt about using the WhatsApp application in their writing assignments and defined their level of acceptance of the application. Finally, this paper intended to determine if there is a significant statistical difference in informants' perceptions depending on their gender. Four research questions were posed to guide the realization of these objectives. Through them, it was deemed that a survey and a semi-structured interview were the best data collection

instruments.

The first research question aimed at determining the Ecuadorian polytechnic undergraduate students' perceptions of using WhatsApp to practice writing skills and improve their essay writing. The answer to this question resides in the descriptive analysis performed on the data, which resulted in a mean score of 4.391, which means there is a highly positive perception of the application's use. This result concurs with Ma'ruf et al. (2019) and Sari & Putri (2019).

The second research question sought to find the advantages and disadvantages students perceive from using the mobile application WhatsApp in practicing writing skills and improving their essay writing. Among the benefits, learners mentioned the ease of use (Nitizia & Roman, 2016; Nurazizah et al., 2019) and the fact that they do not have to pay to have the application on their smartphones (Jasrial, 2019). Learners also value the prompt responses to their posts and the feedback given to them (Sari & Putri, 2019; Muthmainnah & Azmina, 2020). Finally, participants deemed the sense of privacy that WhatsApp gives them as positive, unlike many other applications and social networking sites (Estrella, 2021). In contrast, informants also pinpointed the disadvantages of the use of WhatsApp. First, participants think using the application takes much time, and some do not appreciate its usefulness (Maheshwari & Baishya, 2019; Handayani & Aminatun, 2020; Bordas-Beltrán et al., 2021). Another detriment of WhatsApp is the flooding of messages they get (Maphosa et al., 2020; Natto et al., 2020). Finally, participants ascertained the physical disadvantages of using WhatsApp, such as eye or back strain (Akulwar, 2019; Indiran et al., 2022).

The third research question was posed to guide the researcher into determining the acceptance levels of Ecuadorian polytechnic undergraduate students' perceptions towards using WhatsApp to practice writing skills and improve their essay writing. It was found from the descriptive analysis that learners have a high level of acceptance of the application. This finding is corroborated by Muthmainnah, N., & Azmina, B. (2020), Haron et al., 2021, and Mulyono et al. (2021).

The last research question aimed at discovering if there was a significant difference in the perceptions male students had compared to women's perceptions of the usefulness of using WhatsApp to practice writing skills and improve their essay writing. There is a non-significant slight difference between male and female responses, according to the statistical findings of the paired t-test. These results contrasted with Mulyono et al. (2021); Oteyola et al. (2021).

While students actively use WhatsApp in their daily lives, they sadly only utilize it accidentally when learning in groups. University students should be urged to modify their regular WhatsApp usage patterns to engage in more active learning. Students have a positive attitude toward WhatsApp as a teaching and learning tool and know its potential for ubiquitous learning. Thus, including WhatsApp groups in English writing classes is a promising mechanism.

There are some limitations to this study. Although a sample of 125 participants provides substantial data, it may still limit the generalizability of the results. The participants were drawn from a single educational institution, which may not adequately represent diverse educational backgrounds, language proficiency levels, or cultural contexts. Also, the study utilized surveys and interviews to collect qualitative data on participants' experiences. This reliance on self-reported measures can lead to bias, as participants may overestimate their engagement or improvement due to social desirability or personal perceptions of progress. Additionally, the duration of the intervention may have influenced the outcomes. The brief 4-week engagement with WhatsApp for essay writing practice might not be sufficient to observe significant changes in writing skills or habits, limiting the ability to assess long-term benefits or changes in proficiency. Finally, the absence of a control group limits the ability to compare the effectiveness of WhatsApp-based writing practice against traditional methods. Without this comparison, attributing observed improvements specifically to the intervention remains challenging.

Future studies should aim to include a more diverse participant pool by recruiting from multiple educational institutions across different geographic locations and cultural contexts. This would enhance the generalizability of results and provide insights into how various backgrounds and proficiency levels affect the use of WhatsApp in essay writing. Future research could implement a longitudinal design to assess WhatsApp's long-term effects on essay-writing skills. By extending the



duration of the intervention beyond four weeks, researchers could evaluate sustained engagement and its impact on writing proficiency over time, as well as how ongoing use of WhatsApp might influence learners' writing practices. Future research should include control groups to facilitate comparisons between WhatsApp-based essay writing practice and traditional methods, such as classroom instruction or peer-review sessions. This would help ascertain the specific contributions of WhatsApp to writing development and provide more precise insights into its efficacy as a learning tool. Finally, investigating the impact of WhatsApp on specific components of essay writing—such as grammar, structure, creativity, and argumentation—could yield valuable insights. By designing studies focusing on these distinct elements, researchers could develop targeted interventions addressing aspects of writing skills.

Several implications can be derived from the findings of this investigation. First, language department heads can use the knowledge obtained from the conclusions in this paper to further their instructors' awareness of tools that can be used to make their classes enjoyable. Therefore, department coordinators can design teacher workshops with guidelines and examples of incorporating WhatsApp into their courses. Also, teachers of any language have conclusive evidence that learners respond well to using WhatsApp in and outside the classroom to practice writing skills, whether for writing persuasive essays or any other type of writing piece. Thus, they can make their classes much more engaging by utilizing a tool already present in students' lives. Finally, learners have at their hands a gadget that is underutilized as they mainly use it to keep in touch with friends and family, but it can be used to practice a language and, as a result, improve their grades.

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