



Development of English Speaking skills through the pedagogical use of WhatsApp

Desarrollo de la destreza del Speaking en el idioma Inglés con el uso pedagógico de WhatsApp

LARA OLIVO, Lenin I. 1; YUMI GUACHO, Lorena M. 2; PADILLA PADILLA, Nelly M. 3 y PADILLA PADILLA, Yajaira N. 4

Received: 01/08/2019 • Approved: 15/01/2020 • Published 31/01/2020

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ABSTRACT:

This research project examines how WhatsApp can positively impact English teaching, specifically the skill of speaking. A statistically significant difference was found in the knowledge level of a group of 44 students, as measured through a test and a questionnaire. The results also demonstrated that the absolute majority of students rated as positive the following pedagogical components: Learning, Communication, Content, Method, Operability, Attractiveness, and Satisfaction.
Keywords: Speaking, English, WhatsApp.

RESUMEN:

La investigación analiza los beneficios de la aplicación WhatsApp en la enseñanza del idioma Inglés, de forma particular en la destreza del speaking ya que estadísticamente se comprobó el incremento del nivel de conocimientos en 44 estudiantes del nivel A2 de Inglés medido a través de un test y en una encuesta, de los resultados se desprende también que la absoluta mayoría califican como un nivel bueno los componentes pedagógicos tales como: Aprendizaje, Comunicación, Contenido, Método, Operabilidad, Atractividad, y Satisfacción.
Palabras clave: Speaking, Inglés, WhatsApp.

1. Introduction

This research study examined the impact of an educational intervention based on the pedagogical use of WhatsApp on English speaking skills for students enrolled in second-level A2 English at the Escuela Superior Politécnica of Chimborazo (Higher education), a prestigious Ecuadorian university. The research was based on theoretical knowledge of the two research variables: the dependent variable, speaking, and the independent variable, WhatsApp application.

Our research was motivated by the fact that teachers at Escuela Superior Politécnica de Chimborazo do not widely use technological tools when teaching, a problem that has been identified in a number of studies carried out at the institution, including a study by Veloz (2012). Likewise, one of the authors of this present study, Lara (2011) developed a diagnostic for English teaching technological tools, whereby it was found that almost all teachers (97.14%)

demonstrated low levels of knowledge and practice, unable to use a single technological application for educational purposes.

Likewise, in the thesis of Quilumba (2015) presents a problem tree in their thesis which outlines the reasons why conventional techniques are favored over other more innovative educational techniques for developing speaking skills, finding the following: application of conventional methods, weak knowledge of active-participatory strategies, academic processes focused on explaining grammatical structures, and oral expression activities that are unrelated to the everyday reality of students' lives.

The potential consequences of this problem include limited active student participation in the development of speaking skills, repeated application of oral expression activities, reduced level of oral production in the acquisition of the English language and restricted development of oral production activities that promote the personal and cultural interests of students.

Thus, an imperative need was identified to utilize educational technology and take advantage of its endless potential to solve educational problems across all domains and in particular, to enhance communication skills, which must be a focus of language teaching. For this research study, the specified research area is the development of speaking through English language teaching-learning.

This study is based on the pedagogical use of WhatsApp to improve speaking for Level A2 students in the Faculty of Computer Science and Electronics at the Escuela Superior Politécnica of Chimborazo. The use of information and communication technologies or ICT's "refers to a set of processes and products that are the result of the use of new tools arising from the field of information technology, information media, and communication channels, and which relate to information storage, processing, and digital transmission" (Avogrado, 2007).

According to Cabero (2004), we are currently experiencing new information and knowledge revolution, with human development and empowerment revolving around ICT's. Of particular interest to us is the enormous impact of ICT's on the teaching-learning process across different education systems and in all fields.

The use of mobile technology such as smartphones, iPods, iPads, and tablets, which are personal devices, are very useful when it comes to learning a second language, as they can be used by students to record their conversations, wherever they are, whenever they are connected to the internet. This makes it easy for teachers to review the submitted audio and provide students with adequate feedback (Demouy & Kukulska-Hume, 2010).

UNESCO (2008) states that "To live, learn and work successfully in an increasingly complex, information-rich and knowledge-based society, students and teachers must use digital technology effectively. In an educational context, Information and Communication Technologies (ICT) can help students acquire the necessary skills to become problem solvers, among other capabilities."

Also, UNESCO (2011) report notes: "A space has now been opened up in education which is named as "educational technology", with origins in two branches: Pedagogy and Didactics. These branches are part of a field defined at UNESCO as Education Science, which is not solely limited to the artifacts produced by information technology."

The infinite possibilities of mobile devices must now be recognized, particularly Smartphones and applications such as WhatsApp, which have become part of daily life, no more so than for young people. The time has come for teachers to stop prohibiting the use of cell phones in class, and instead move towards embracing technology and taking advantage of mobile devices to motivate students to use them for educational purposes.

The arguments presented above demonstrate the social utility of this research. The WhatsApp teaching guidelines will be published in Booklet or manual format and be made freely available through an online link so that English teachers can use this tool to develop their students' English language speaking skills, which in turn will positively impact the development of other skills.

WhatsApp was chosen by reserchers due to its accessibility and ease of use on a global level, is an excellent option as a learning tool. Cremades, Maqueda, and Onieva (2016), cited in del Castillo (2017), describe WhatsApp as an evolved mode of written communication, characterized by the ability to enrich speech with audiovisual content and icons. From this point of view, the possibilities of WhatsApp are endless. By using appropriate methodological strategies, it is possible to create different activities that promote the development of both written and oral skills.

Moreover, WhatsApp was used to encourage students to participate in more enjoyable communication. Other authors have mentioned that when the tools that they are using motivate

students learning, they will enjoy and feel passionate about what they are learning. Thus, teachers have the responsibility to encourage students using technological tools (Mahmoud and Tanni, 2014).

The researchers are all located at the university where the study took place, so the necessary resources were accessible, making the planned research possible.

Considering the foresaid, the main problem the research addressed was: How does WhatsApp impact the development of English language speaking skills in level A2 students in the Faculty of Computer Science and Electronics at the Escuela Superior Politécnica of Chimborazo?

2. Methodology

2.1. Research and study type.

The methodology of this research study is qualitative-quantitative: qualitative because it examines the social phenomenon related to the use of WhatsApp and its impact on speaking in terms of phonology, semantics, and syntactics, within the subfield of Linguistics. Quantitative, because it examines the relationship between the research variables by comparing and analyzing data via statistical methods. The study specifically measures the correlation between the dependent variable (Speaking) and the independent variable (WhatsApp). The relationships were quantified, and a hypothesis test was carried out using the Student's T-test.

2.2. Study methods

There were two research techniques applied, previously validated by experts. Firstly, test applied before and after the educational intervention to measure speaking-related knowledge for A2 level English learning, secondly a questionnaire, which was applied at the end of the research period to evaluate the pedagogical components of WhatsApp.

2.3. Population

The research population consisted of 88 students; 44 students in the experimental group, who were subject to the educational intervention. The results from this group were compared with the control group, which consisted of a similar number of students who attended conventional classes, in other words, without the use of WhatsApp. Students were assigned into experimental and control groups by the research professors at the time of enrollment; therefore, the sample is non-random and non-probabilistic, both groups have similar characteristics and were chosen for accessibility, being students assigned to researchers, as previously outlined.

2.4. Process

Based on the literature review and knowledge and experience related to the research area, a knowledge test for the variable 'Speaking' was designed and submitted to a validation process by three experts, in the first case in the area of language teaching and in the second, information technology. Observations and suggestions were provided, and the final instruments were prepared.

The speaking test was applied to the experimental and control groups before and after the educational intervention, in order to identify student knowledge on a 44-point scale and establish the relationship between variables. The WhatsApp pedagogical questionnaire was only applied to the experimental group in order to analyze the differentiated educational experience.

The data were tabulated and processed based on operational tools, using Microsoft Excel, to present frequency distribution, percentages, and descriptive measures in table format. The Student's t-test was used to test the hypothesis, where the theoretical and calculated t delineated the acceptance/rejection region for the null hypothesis: "The use of WhatsApp does not influence English speaking knowledge for ESPOCH students."

The diagnostic phase included the planning, execution, and evaluation of training sessions based on modules for each topic, with the following components: Topic, Skill(s), Learning Style, Time and Period, Objectives, Materials, Technological Resources, Required Applications, Prior knowledge Needed, Possible Difficulties and Limitations.

Six lesson plans were developed based on the TOEIC test (Test of English for International Communication) and three lesson plans (7, 8 and 9) based on the KET exam (Key English Test), as per level A2. The lesson plans were prepared using tables with specific information and requirements for the different speaking activities in the TOEIC and KET exam (2016).

The lesson plans were designed under TOEIC and KET parameters, with their corresponding rubrics and evaluation guides. A workbook was prepared alongside the lesson plans, detailing the processes corresponding to the speaking activities included in the lesson plans. Lesson plan 7 was implemented under KET parameters and corresponding rubrics and evaluation guides. A workbook was prepared alongside the lesson plans, for the part corresponding to the 13 speaking questions included in the lesson plans.

3. Results

3.1. Research Instruments

The research instruments used to test the variables were operationalized. For the independent variable (WhatsApp), this was the questionnaire that was applied at the end of the intervention. For the dependent variable (speaking) two instruments were used: a Rubric and a Test, applied before and after the intervention, to test the working hypothesis. The Rubric used in the study was extracted from the TOEIC Speaking Test. The Rubric was evaluated through a Test, with a series of questions aimed at testing the variable indicators.

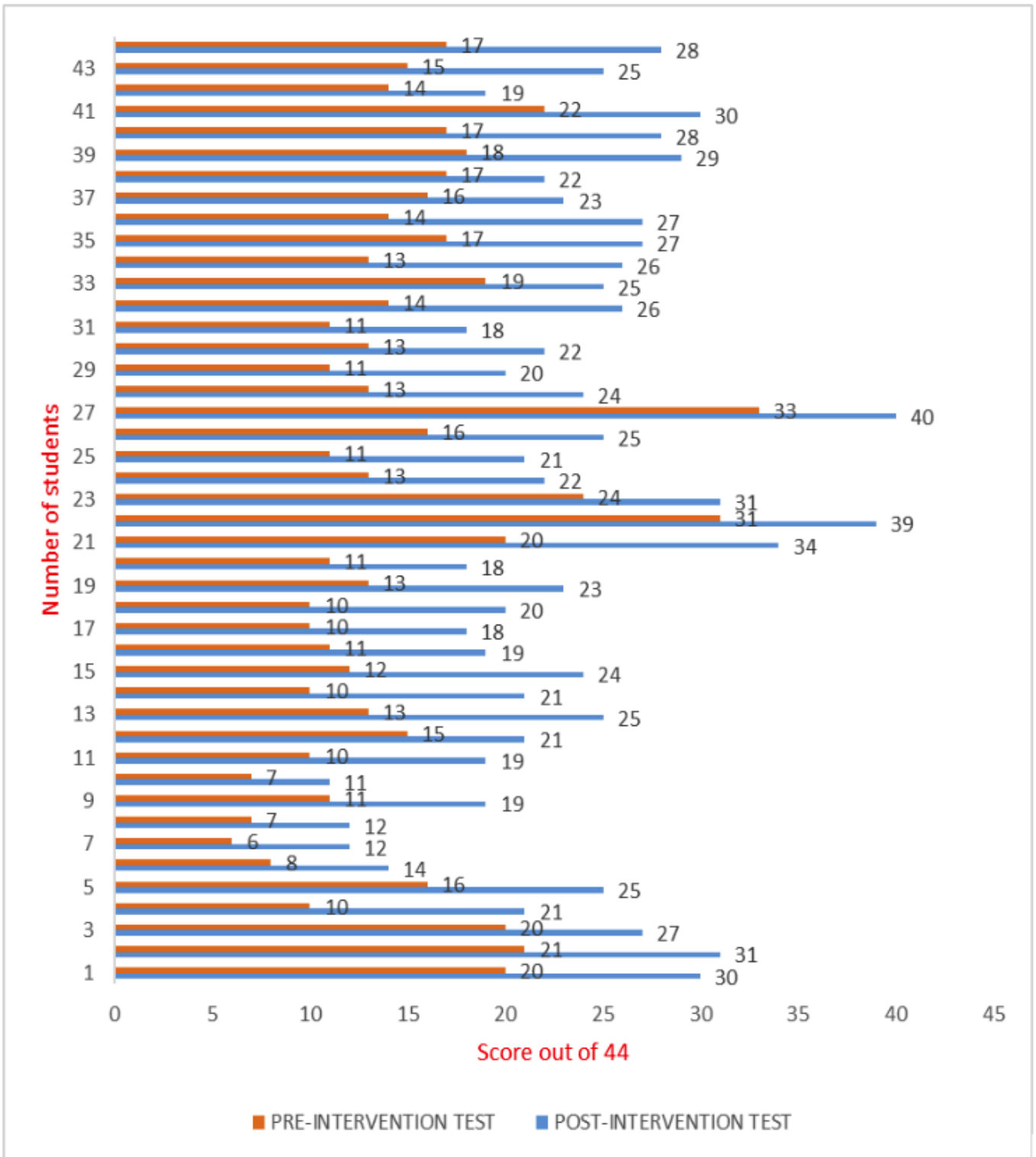
Once the data had been processed, they were analyzed based on the parameters included in the Rubric applied to the students to measure the dependent variable (Speaking), aimed at testing the variable indicators.

3.2. Knowledge level before and after the intervention

The results for the control group (Figure 1) and the experimental group (Figure 2) concerning the level of knowledge of the different speaking variables (pronunciation, intonation and stress. Grammar, vocabulary, cohesion, the relevance of content, completeness of content) are presented in summary form below:

Figure 1

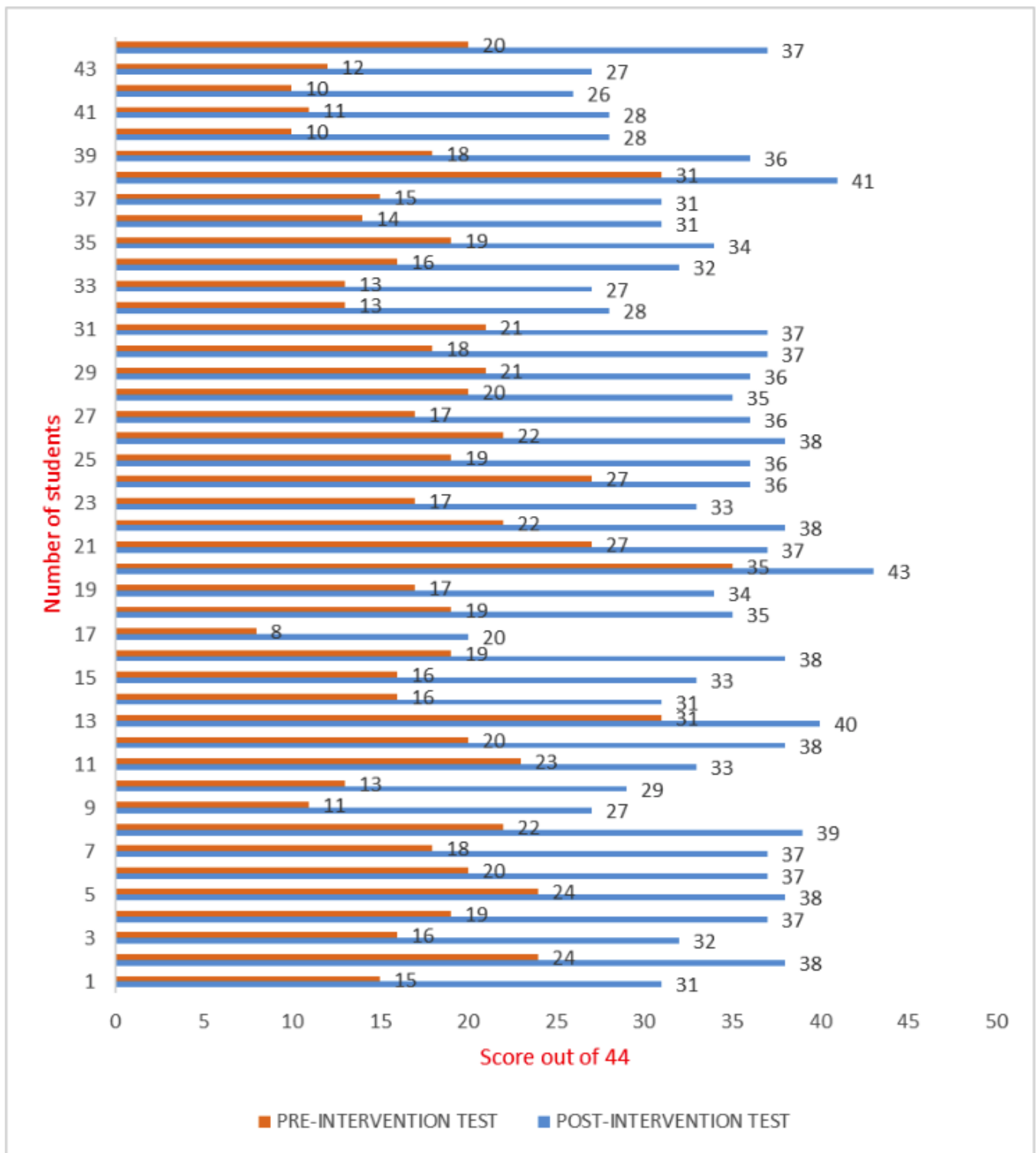
Descriptive statistical data obtained in the Control Group in the Pre-test speaking evaluation.



Source: Pre-test and Post-test
Prepared by: The authors

In the evaluation of the Control Group; that is to say, in the classes that were not exposed to the pedagogical use of WhatsApp as shown in Figure 1, the results of the speaking knowledge pre-test before the intervention for the 44 students averaged, 14.77 out of a possible 44 points with a standard deviation of 5.66. After the intervention, which consisted of regular English classes, this average increased to 23.66 out of a possible 44 points, with a standard deviation of 6.27. The final grades corresponded to the scores given to tasks as follows: Read a text aloud (question 1-2), Describe a picture (question 3), Respond to questions (questions 4-6), Respond to questions using information provided (questions 7-9), Propose a solution (question 10), Express an opinion (question 11) and evaluation criteria such as pronunciation, intonation and stress, grammar, vocabulary, and cohesion, relevance of content and completeness of content.

Figure 2
Descriptive statistical data obtained in the Experimental Group in the Pre-test speaking evaluation.



Source: Test
Prepared by: The authors

When the evaluation test was applied to the 44 students in the experimental group, the group exposed to the pedagogical use of WhatsApp, a variation in the results is clearly evidenced. The data presented in Figure 2 show that before the intervention, pre-test results on speaking skills were on average, 18.61 out of a possible 44 points with a standard deviation of 5.80. After the intervention, which included the pedagogical use of WhatsApp in English classes, this average increased to 33.98 out of a possible 44 points, with a standard deviation of 4.72.

The student's t-test was applied to the above data. With a significance level of 0.05 and a directional hypothesis, the null hypothesis is not accepted when the result is found within the rejection region. The scores on the post-intervention knowledge test are significantly higher. The working hypothesis, "The use of WhatsApp influences English speaking knowledge for ESPOCH students" is accepted.

3.3. Evaluating the pedagogical use of WhatsApp

A questionnaire was given to the students who benefited from the WhatsApp educational intervention for improving speaking skills. The aim of the questionnaire was to evaluate usability through different pedagogical components. The resulting data indicate that the majority of students rated each of the following components as positive: Learning, Communication, Content, Method, Operability, Attractiveness, and Satisfaction.

Regarding the frequency of WhatsApp use, 94.9% of students reporting using the application daily, 87.2% prefer WhatsApp for study, 48.7% for entertainment, and 43.6% for leisure. The learning activities most favored by students were as follows: Read a text aloud (69.25%), Describe a picture (53.8%) and Respond to questions (43.6%).

3.4. Discussion

The research question is accepted based on the study findings, in which WhatsApp was found to positively impact the development of English speaking skills for students enrolled in level A2 English in the Faculty of Computer Science and Electronics at ESPOCH.

The population in this study consisted of 88 students: 44 students in the Control Group from the School of Software, Electronics and Automation and 44 students in the Experimental Group, from the School of Software and Telecommunications, with an average age of 20.5, from Riobamba, Ecuador.

According to Vaca & Martínez (2017, p.45) in their paper 'Mobile instant messaging: WhatsApp and its potential for developing oral skills', state: "Communication via mobile phones, constitute a solid framework for the acquisition of a second language."

The most important findings in this study were that students experienced significant learning through the WhatsApp application, resulting in improved speaking levels. Students used this application to work with their peers, which meant that students used WhatsApp to communicate with each other, ask for help and solve problems related to linguistics, such as pronunciation, intonation and word and sentence stress. Students felt confident and motivated to both develop their Speaking skills and to use their mobile devices to improve their English.

The teachers also contributed to the process by responding to students' questions and doubts, which was possible thanks to ongoing student monitoring. In terms of the words and phrases used in the recordings, the students made no pronunciation mistakes in subsequent practices.

The authors agree with García's (2017) position that technology is progressing and being implemented across all social spheres, including knowledge, which has generated an urgent need to update teaching strategies and techniques. Teachers and researchers in the field of foreign language teaching are now obliged to discover and implement innovative technological options and resources that promote more effective results.

Considering the positive impact of WhatsApp on speaking skills, authors such as Saran, Seferoglu, & Cagiltay (2009) have demonstrated that students feel more motivated and have less anxiety when they develop stronger speaking skills, an important psychological factor that can allow students to engage in more meaningful learning. Other authors have mentioned that when students learning is motivated by the tools that they are using, they will enjoy and feel passionate about what they are learning.

These results are related to what Han & Keskin (2016) argue about the experience of using WhatsApp, which is that it significantly affects language acquisition, reducing anxiety when speaking English as a foreign language. All of the authors mentioned above conclude that both the use of technology with mobile devices and specifically the use of WhatsApp, considerably influences the development of speaking skills. This is also consistent with what we found in our study.

In our research findings, there is an important difference between the Control Group and the Experimental Group, with increased scores in the latter group, as a result of the development of speaking skills through the pedagogical use of WhatsApp.

The methodology used in the study was based on nine lesson plans were developed with clear instructions provided as per Lara, & Veloz (2019) in their book *WhatsApp in higher education teaching: English syntax development booklet*, to ensure there was a positive impact on English language speaking skills in Level A2 students at ESPOCH.

In the survey given to students to seek feedback about WhatsApp, students were asked to comment on how they felt about the WhatsApp activities integrated into their lessons. In

response, some students indicated that they were feeling motivated to continue using the application to improve their speaking as a complementary class activity for the future. Harmer (2004) emphasizes that, in order to implement communication activities, teachers need to identify a strategy that motivates students to communicate.

Regarding the use of WhatsApp, the methodology and the educational intervention, these were in accordance with the *Common European Framework of Reference for Languages: Learning, Teaching, Evaluation* (2002). Researchers state that students continue to make basic systematical errors due to the English level (A2). For example, they tend to confuse verb tenses, make syntax errors, forget to maintain concordance as well as pronunciation, stress and intonation where L1 predominates over L2, however, it is usually clear what the person is trying to say.

The key findings in this research imply that students in the experimental group obtained significant learning in speaking using WhatsApp as a complementary classroom activity, with an average score of 33.98 out of 44 points compared to the traditional class which had an average score of 23.66 out of 44. It is vital that teachers develop an improvement plan using the study methodology and WhatsApp to obtain meaningful learning.

According to Harmer (2001) teachers need to encourage students to speak, and for this, they have to use a communicative approach that avoids focusing solely on grammar and vocabulary. Nevertheless, this author places more importance on the meaning of language. In other words, activities that involve students in real communication, where achieving a communicative task is more important than the precision of the language being used. Harmer also emphasizes that, in order to implement communication activities, teachers need to identify a strategy that motivates students to communicate. In this study, WhatsApp was used to encourage students to participate in more enjoyable communication.

Nevertheless, despite the research that demonstrates the advantages of mobile devices, the authors in this study agree that there may also be some disadvantages. For example, in the study by Zhang et al (2011), it was found that the use of mobile devices caused students to be distracted and forgetful. A similar study by Hayati et al (2013) indicated that the use of mobile devices can lead teachers to take a passive role in the classroom. It is worth noting that teacher-based interaction is better and more effective than the use of mobile devices alone.

The limitations found in this study were that students could be distracted by using mobile devices to access social networks or read messages. As Morduchwicz (2013) says about digital languages, textual exchange is fast and spontaneous, no longer an exchange of information but rather an object of consumption, in some cases becoming addictive, and a very common and permanent interconnection between people of all ages, but especially among the young.

Other identified limitations included students forgetting their devices and device battery life, as well as the time needed to run speaking activities, as a high level of flexibility is needed in this regard. In order for students to perform the activity properly, the teacher has to plan for speaking activities with twice the allocated time, at least for the first activities.

Another potential limitation was that classroom space may not be appropriate, since some students chose to leave the class to perform the speaking activities, due to the fact that all the students began recording their voice messages at the same time, creating noise interference in the message recordings.

Further research could focus on developing other linguistic skills (listening, speaking, reading, writing) at other English levels using the WhatsApp application.

4. Conclusions

After having thoroughly analyzed the theoretical framework and the results obtained in this research project, the following conclusions were reached:

The pedagogical components of WhatsApp were rated positively by the majority of students who took part in the research. Learning, communication, content, and method were the criteria rated in the pedagogical analysis. Learning was evaluated as positive according to the following three elements: students considered that their prior knowledge helped them to complete the tasks, there were messages and help options and documentation were sufficient, informative, brief and concrete, which made it possible to use the application. The communication was rated as positive overall: the messages were attractive, easy to understand, and information was exact and non-excessive. The content was also rated as positive, with attractive, meaningful content, that most importantly was beneficial for learning. The method was also rated positively; this component

relates to how the material is organized in terms of presentation and time, as well as how organized the activities were.

The components used to evaluate the application, in general, were operability, attractiveness, and satisfaction. It was concluded that WhatsApp is operational because the students found it easy to send and receive information, the functions were simple to use, generating confidence and capacity for self-learning and above all the application indicates the time established for each activity, which helps to improve language fluency. The application interface is an aesthetically pleasing combination of colors and backgrounds and combines the use of texts and graphics. This combination helps students to understand better and navigate the application. Finally, students rated the application as satisfactory since the application is reliable, comfortable, and relaxing to use. Students thus affirmed through their feedback that they would like to frequently use WhatsApp in class, as it is a current and innovative application.

The pedagogical use of WhatsApp positively influences student knowledge concerning English speaking skills. With 94.9% of students reporting daily use of the application, and only 5.1% indicating that they use the application weekly, the impact of using WhatsApp for educational purposes is significant due to the daily contact that students maintain with this useful tool. WhatsApp has the potential to generate significant learning, as well as contribute to achieving educational objectives and facilitate a dynamic and participatory environment that motivates students and captures their attention. The application of the student's t-test statistical instrument resulted in the working hypothesis being accepted: "The use of WhatsApp influences English Speaking knowledge for ESPOCH students."

There was a significant improvement in the development of speaking skills for students in the experimental group. After being evaluated in the Post-test, this group's score and performance increased against the control group

The educational proposal was based on the design and implementation of a Brochure that develops English language speaking skills through the didactic use of WhatsApp, making it possible to meet the following set objectives: improve English speaking skills for level A2 students enrolled at the ESPOCH; offer English teachers a simple guide with WhatsApp activities and resources; harness the application's educational potential in the classroom, with the firm intention of promoting innovative technologies to teachers and students to improve English language skills (speaking in this case); recognize the usefulness of mobile devices in the field of education, due to their ability to capture student interest in the subject material.

The activities detailed in the brochure effectively complement face-to-face classes as they are based on an A2 level test where students must demonstrate that they are able to use English in everyday situations to seek and provide basic information, thus demonstrating an ability to understand and use everyday language that is familiar to them, to meet their basic communication needs.

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1. Master in Linguistics and Didactics of Foreign Language Teaching. Master in Educational Technology. Expert in E-Learning Process. English teacher at the Faculty of Computer Science and Electronics. Escuela Superior Politécnica of Chimborazo (ESPOCH). Email: lelara@esepoch.edu.ec
 2. Master in Linguistics and Didactics of Foreign Language Teaching. English teacher at the Faculty of Computer Science and Electronics. Escuela Superior Politécnica of Chimborazo
 3. Master in Linguistics and Didactics of Foreign Language Teaching. English teacher at the Faculty of Computer Science and Electronics. Escuela Superior Politécnica of Chimborazo.
 4. Master in Linguistics and Didactics of Foreign Language Teaching. English teacher at the Faculty of Computer Science and Electronics. Escuela Superior Politécnica of Chimborazo.
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Revista ESPACIOS. ISSN 0798 1015
Vol. 41 (Nº 02) Year 2020

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