



Using the WhatsApp Application as a Technological tool to Improve the Teaching and Learning of the English Language During Natural Disasters or Health Emergencies



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Abstract

The research is based on the use of the WhatsApp application as a technological tool to improve the teaching and learning of the English language during natural disasters or health emergencies. The objective was to determine the use of the WhatsApp application as a technological tool in the English teaching-learning process during national emergencies. He adopted a quantitative approach. The level of research was descriptive and explanatory. The techniques used were a survey of teachers and a knowledge test of students to evaluate results. When evaluating the students on what level of knowledge they achieved during the proposed exercise, the data indicated that 10% did not reach the required learning, but they are close to achieving the required learning 20%, mastered the required learning by 50% or 20% achieve the required learning. When evaluating the use of the WhatsApp application during natural disasters or health emergencies in students, it is evident that when an emergency occurs, face-to-face classes are interrupted, which produces a delay in the teaching-learning process in students.

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1 Introduction

Natural disasters or health emergencies are a recurring problem and often occur without warning. Global warming has unbalanced the balance of nature, in such a way that disasters, floods, forest fires or diseases are becoming more frequent every day, presenting scenarios that make the continuity of educational processes difficult and obstructing. Based on the experiences obtained due to the floods and consequently the health emergency generated, various ways emerged to continue the educational process. In some cases, digital platforms or virtual classrooms were put into practice. However, the WhatsApp application was the most economical and practical alternative to achieve educational objectives because a majority segment of students are familiar with the application, therefore, it is possible to generate synchronous and interactive communication.

As a consequence of the new environmental reality, it is imperative to point out the need to develop meaningful learning based on virtual environments. However, it is not a question of simply introducing its use in the educational field; but in essence, to transform the teaching-learning process, developing appropriate strategies that plan, direct and evaluate the conditions in which learning occurs. On the other hand, it is worth noting that experiences such as those experienced with the recent floods have shown the weaknesses of the educational system since a majority segment of students could not connect via the Internet with their educational centers. From the point of view of [Brull \(2020\)](#), it is indicated that the majority of communities do not have technology parks and Wi-Fi connection areas, which makes this route of information and connection difficult in circumstances of contingencies.

In this regard, [Duque & Acero \(2022\)](#), identify that technological tools especially the WhatsApp application become a great resource to maintain the continuity of the English language teaching process. Therefore, it is important to recognize the importance of digital tools to enhance the development of students' learning and at the same time demonstrate the good performance of teachers adapting to new ways of teaching. On the other hand, [Daher et al. \(2022\)](#), point out that technological resources facilitate the motivation and stimulation of students, especially in primary school, when teaching occurs during a health emergency.

Analyzing the factors that make teaching and learning the English language difficult during natural disasters or health emergencies, can cover a variety of situations that the student may eventually be going through. Factors such as, for example, financial dependence on their parents, the distance between the educational institution and their home, their health status, and the presence of some type or level of disability, among others. In this sense, it is understood that the aforementioned factors can even dissuade students from continuing studying, given that many of them become demotivated and lose interest in their studies ([Paradis et al., 2010](#); [Gömleksiz, 2010](#)).

The role of the teacher is not specifically limited to school training within the educational institution. It is important to investigate student well-being and analyze the factors that influence student training. Know if, at the level of your environment, there are factors that influence your participation in classes. It is worth mentioning that the fundamental task of educational institutions is also to internally generate information related to educational needs and possible problems. In this sense, the research topic had the purpose of describing the participation and interaction of students in classes via WhatsApp application. It should be noted that the educational institution is a place where students come from diverse environments and conditions, which generates problems of all kinds, and where the needs of each student are different.

In this context, the research aims to determine the use of the WhatsApp application as a technological tool in the English teaching-learning process during national emergencies. At the same time, the problem to be investigated generates the following hypothesis: With the implementation of the WhatsApp application as a technological tool, the teaching and learning of the English language is improved during natural disasters or health emergencies. For this purpose, the problem is posed, and seeks to answer the following question: What type of technological tools contribute to improving the teaching and learning of the English language during natural disasters or health emergencies? Finally, the methodology used is proposed, where the level of research was descriptive and explanatory since descriptive research is known as research that focuses on the conceptualization of the phenomenon and the exaltation of its most outstanding characteristics. The type of research that was carried out was field research since it was carried out on students from the Río Chone educational unit of the Chone canton. In national emergencies, students cannot be deprived of their right to education ([Akbari et al., 2010](#); [Hofer et al., 2021](#)).

WhatsApp application

The causes of the limited use of applications such as WhatsApp, educational techniques that are innovative and not unconventional in the development and improvement of English language skills, generate a great problem for

teachers since their classes are only oriented towards the use of passive and non-participatory strategies for students (Guacho et al., 2020). For their part, Alonzo & Corral (2022), highlight that the usefulness of cell phones and the WhatsApp application as an accessible resource for students for online teaching and learning is undeniable.

The WhatsApp application is an attractive, entertaining and useful resource in the educational process since it allows the students to feel that they are in the saga of technology and learn spontaneously through its multiple text and multimedia resources (Escobar & Gómez, 2020). At the same time, Polo (2020), argues that WhatsApp is used as an educational resource in the classroom and outside of it, even in adverse situations, provides information, guides learning, motivates students, exercises their skills and serves as an evaluation instrument in addition to fulfil the important function of promoting collaborative work.

The application of WhatsApp generates advantages and disadvantages, in this regard, Noceda & Noceda (2022), state that WhatsApp does contribute positively as a teaching-learning tool, which is why its incorporation into teaching methodologies is required; it also expands the options for pedagogical strategies and allows improving academic performance. The above described is corroborated by Rosas & Alvites (2021), who within their research define that with the use of WhatsApp, cooperation between students is strengthened, improved and creates more trust with teachers, students and parents.

However, according to what Gobantes (2023) promotes, the fact of proposing methodologies that involve the use of devices and virtual education in adverse times does not mean that certain quality criteria are met, such as digital competence, knowledge construction, self-regulation of learning and cooperative work, which means that students are not protagonists of their learning.

English language teaching-learning process

Learning the English language is the result of social interaction between students in the collaborative action of its acquisition. This includes socialization through different didactic and technological elements (Vigil et al., 2020). In this regard, Noceda & Noceda (2022), add that the teaching-learning process has presented various changes, especially in its methodology, which has generated variations focused on improving the educational process, where teachers must apply new didactic elements that allow for improved communication. and knowledge transfer.

The teaching-learning process of the English language is a complex topic that encompasses a variety of strategies, methodologies and approaches. It is important to highlight that learning a language is based on a blended learning environment, which requires the student to develop the skills of Listening, Reading, Writing and Speaking para make the best possible use of these (Hilario, 2022).

Metacognitive strategies play an important role in learning English since they are those strategies that allow us to reflect on the development of communication skills. Listening, Reading, Writing and Speaking. This means that students must be aware of their learning process and be able to plan, monitor and evaluate their progress (Alonzo & Corral, 2022). According to say of Cobeña & Moreno (2021), the role of the teacher is fundamental in the teaching-learning process of English. The teacher is responsible for designing the appropriate objectives, content, methods and evaluation.

The introduction of digital applications and tools in formal education has generated a revolution in traditional teaching and learning models, where in the area of language the results show the improvement and development of communicative and interactive skills in students (Yatako et al., 2023; Baeten et al., 2010; Wu et al., 2012). This is why Pazmiño et al. (2023), explain that knowledge management for teaching English as a foreign language is made up of several constructs: technological platforms, the methodological development of the teaching process and the attitude of the participants.

Active methodologies promote dynamic, participatory and meaningful learning by actively involving students in their learning process. These methodologies applied in the teaching-learning of the English language can provide students with the opportunity to practice the language in real situations, improve motivation and interest, and produce meaningful learning (Chávez et al., 2023). On the same topic, Pomavilla & Villalobos (2023), point out that the use of interactive resources will involve the student in the development of a communicative language that promotes the understanding and skills necessary for the English language, which is why it is recommended to use interactive educational tools. to increase the effectiveness of teaching.

2 Materials and Methods

The research adopted a quantitative approach. The methodology used was Inductive/deductive, to understand the problem which is the possible national emergency that hinders the continuity of education, in addition, the analytical/synthetic methodology was used, to know the results and reach conclusions, as well as statistics to analyze the information obtained. The data collection techniques were a survey directed at teachers in the English area and a knowledge test for higher education students from an Educational Unit in the Chone canton. The population and sample with which the research was carried out were 20 higher-level students and 2 teachers in the English area.

3 Results and Discussions

Teacher survey results

When evaluating the use of the WhatsApp application in the English teaching-learning process. In this regard, it was investigated whether an Educational Unit in the Chone canton allows the use of cell phones by students as a didactic tool to facilitate the teaching-learning process of the English language, as shown in Table 1.

Table 1
Use of cell phones by students

Alternatives	Frequency	Percentage (%)
Sometimes	1	50
Never	1	50
Total	2	100

It was evident that 50% of the English teachers were able to indicate that cell phones are never allowed to be used and another 50% responded that they sometimes used them. It was asked whether the teacher agrees to use the WhatsApp application as a mechanism for communication and exchange of information with his students, as shown in Table 2.

Table 2
Use the WhatsApp application as a communication mechanism

Alternatives	Frequency	Percentage (%)
Agree	1	50
OK	1	50
Total	2	100

The results show that 50% of the teachers of this subject agree with using WhatsApp as an instrument in the classroom and 50% agree. The teachers were asked about what level of knowledge their students have achieved in the teaching-learning process of the English language in the evaluation process, shown in Table 3.

Table 3
Evaluation system

Alternatives	Frequency	Percentage (%)
Does not reach the required learning	1	50
You are close to achieving the required learning	1	50
Total	2	100

The data show that 100% of teachers do not achieve the required learning, only 50% do not achieve the required learning, and another 50% are close to achieving the required learning. When asking teachers about whether they are or have received training to use the WhatsApp application as a didactic tool in the English language teaching-

learning process, 100% were able to indicate that they are not trained. The frequency with which the teacher uses the WhatsApp application during the teaching-learning process of the English language was investigated; all teachers were able to point out that they do not use it frequently.

The main results of the demonstration class

The group was made up of 20 higher-level students. The WhatsApp application was used in the process of learning English language skills (Karpisek et al., 2015; Koparal et al., 2019). The purpose of the class was the development of Listening, Reading, Writing and Speaking skills, more dynamically, with the use of the WhatsApp application on each of the students' cell phones as a teaching tools. In this sense, an exercise was proposed through which an audio was sent in English so that the students could listen to it as many times as necessary. Subsequently, the students were asked to make their basic written and spoken comments in English on the audio they heard and send it back to the teacher for evaluation. The results obtained based on the knowledge test provided the following information:

When analyzing the results of the knowledge test, of 100% of the students involved, 30% had better performance in the skills of Listening, Speaking 25%, Reading 25% and Writing 20%. Therefore, it was evident that at the level of activities proposed by the teacher such as Listening and Speaking, they obtained better results because the students had the opportunity, thanks to the WhatsApp application, to repeat the assigned audio and, above all, achieve two-way communication. via with the teacher as consultations and advice. Table 4 shows the results.

Table 4
Development of skills

Alternatives	Frequency	Percentage (%)
Listening	6	30
Speaking	5	25
Reading	5	25
Writing	4	20
Total	20	100

When analyzing the results of the exercise on grammatical structure, of 100% of the students involved, 25% knew how to recognize the subject, 20% recognized the verb, 30% recognized the complement, and 25% recognized the conjugation time. It is worth mentioning that this type of information is more of prior knowledge and does not involve the development of an extensive vocabulary. In the author's opinion, this type of exercise got all the students involved in such a way that their performance was homogeneous due to the participation of the entire group. The results are shown in Table 5.

Table 5
The grammatical structure of the sentence

Alternatives	Frequency	Percentage (%)
Recognize the subject	5	25
Recognize the verb	4	20
Recognize the plugin	6	30
Recognize time	5	25
Total	20	100

The evaluation carried out by the teachers is shown in Table 6.

Table 6
The teacher's evaluation

Alternatives	Frequency	Percentage (%)
Does not reach the required learning	2	10
You are close to achieving the required learning	4	20
Master the required learning	10	50
Achieve the required learning	4	20
Total	20	100

As observed when evaluating the higher education students of an Educational Unit of the Chone canton on what level of knowledge they achieved during the implementation of the proposed exercise, the data indicated that of 100% of the students, 10% do not achieve the required learning. They are close to achieving the required learning of 20%, They master the required learning of 50% or achieve the required learning of 20% shown in Table 6.

As a result of the floods caused by the presence of the El Niño Phenomenon, several methodologies were resumed aimed at maintaining active teaching with students. In the present case, the WhatsApp application was the most economical and practical alternative to achieve the educational objectives. The students are familiar with the application, therefore, the implementation of synchronous and interactive communication was facilitated. However, at the level of the Río Chone Educational Unit, the use of the WhatsApp application is not considered fundamentally for two aspects, its use is not allowed and because the teaching staff has not developed a pedagogical update based on the use of the WhatsApp application. In this regard, [Gutiérrez \(2020\)](#), points out that easy interconnectivity allows us to connect daily through the WhatsApp application and implement this type of application in our activities. With the constant transfer of photos and videos, interactive links and two-way communication are created.

The concept of using the WhatsApp application as a technological tool to improve the teaching and learning of the English language is directly related to the conception of learning as an active process ([Reyes-Avila et al., 2023](#)). If learning is considered to be equivalent to receiving information passively, what the student does or thinks is not very important, but if learning is used to process the information received, it becomes evident that each one will elaborate and relate the data received based on the information received. of your own needs. However, learning the English language has its lowest point when it comes to developing Listening and Speaking skills. These two skills bring together the application of all the information learned, that is, the student must put the learned vocabulary into practice, pronunciation and above all the semantics of the English language, since as teachers say, you should think and speak in English ([Yoon, 2008](#); [Fernandez et al., 2009](#)).

Despite the advantages of using this computer application, from the author's point of view, a fundamental contradiction is evident, since the lack of an institutional vision is in contrast with the current educational regulations, where it is determined the relevance of using virtual environments as teaching support material to improve learning. Following the Organic Law of Intercultural Education, [LOEI \(2023\)](#). Art. 10.- Curricular flexibility. Literal a. Curricular adaptations: When the national curriculum is complemented or adapted to the specific educational needs of the student body. It involves designing, applying and evaluating tools that allow individuality to be assumed in the teaching-learning process, to guarantee inclusion, permanence, learning, promotion and completion within the educational system.

On the contrary, teachers in the English area, despite evaluating students' performance as Not achieving the required learning and Being close to achieving the required learning, do not use these tools during natural disasters or health emergencies. In this regard, [Prada et al. \(2020\)](#), identify that the WhatsApp application provides students and teachers the opportunity to connect and collaborate beyond the physical classroom. Through online groups and communities, it is possible to exchange ideas, debate and share educational resources quickly”.

On the other hand, when evaluating the higher education students of an Educational Unit of the Chone canton on what level of knowledge they achieved during the implementation of the proposed exercise, the data effectively indicated progress where an important segment of students has already managed to master the required learning and has already achieved the required learning, which generates positive expectations regarding incorporating the WhatsApp application in the English language teaching-learning process. At the same time, when analyzing the results of the exercise on grammatical structure, a significant development was evident in aspects such as, for example: recognizing the subject, recognizing the verb, recognizing the complement and recognizing the conjugation time. It is worth mentioning that this type of information is, rather, related to prior knowledge and does not involve the development of an extensive vocabulary. In the author's opinion, this type of exercise managed to get all the

students involved in such a way that their performance was homogeneous due to the active participation of the entire group through the WhatsApp application. As well as also demonstrates that the use of this application as a technological tool does contribute to improving the teaching and learning of the English language during natural disasters or health emergencies in the students of the Río Chone Educational Unit of the Chone canton.

By analyzing the advantages and disadvantages of using the WhatsApp application in the English teaching-learning process during national emergencies. The analysis of the results of the exercise on grammatical structure showed that one of the main advantages of using this application is that the student can repeat the messages and instructions sent by the teacher countless times. On the other hand, a disadvantage would be that not all students could connect in the middle of a natural emergency.

When describing the participation and interaction of students in classes via WhatsApp application. The information obtained showed that after the exercise the students were able to improve the development of the skills of this language (Listening, Reading, Writing and Speaking). With which the proposed hypothesis is verified, which indicates that with the implementation of the WhatsApp application as a technological tool, the teaching and learning of the English language during natural disasters or health emergencies is improved.

4 Conclusion

When determining the use of the WhatsApp application as a technological tool in the English teaching-learning process during national emergencies, it was evident that the Educational Unit of the Chone canton does not allow the use of cell phones by students with didactic tools to facilitate the teaching-learning process of the English language. Therefore, when these types of natural emergencies exist, especially with the El Niño Phenomenon, students cannot communicate with the teacher of this subject, which shows that current educational regulations are not complied with.

When evaluating the use of the WhatsApp application in the teaching-learning process of English during natural disasters or health emergencies in the students of the Río Chone Educational Unit of the Chone canton, it is evident that when an emergency occurs, in-person classes are interrupted, which produces a delay in the teaching-learning process in students. In this context, the aforementioned application meets the expectations generated since it becomes a means of two-way communication, that is, the teacher sends instructions and tasks to his students, and they in turn return the completed task. through this application.

Conflict of interest statement

The authors declared that they have no competing interests.

Statement of authorship

The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

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