

# STUDY OF THE CORRECTIVE GRAMMATICAL TREATMENT OF ENGLISH SUPPORTED BY MOBILE APPLICATIONS

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## ABSTRACT

The increasing technological development of computers, tablets and smartphones has enabled a rapid increase in the adoption of mobile technology for language teaching and learning, and numerous applications that provide easy access for any learner without limitations of place and time have been developed. This paper shows the study of grammatical treatment using corrective feedback supported by mobile applications. The study subjects were first-level students of the language institute, where a control and experimental study was carried out. The experimental group was evaluated with paper-based assessments and the control group with the Canvas mobile application. Subsequently, a statistical analysis was performed for data analysis. The results show that there was a 4.9% improvement in the grades of students who used the application and received corrective feedback.

## KEYWORDS

Corrective Feedback, English Learning, Mobile Applications

## 1. INTRODUCTION

During the last decades, technological development has grown at an impressive pace, and this has led to portable devices being increasingly equipped with a variety of applications and WIFI access. Therefore, the use of smart mobile devices is becoming more and more widespread in the population, as the mobile Internet develops (Zou & Li, 2015). Nowadays, students have easy access to more advanced functions in the use of mobile technologies and can use applications for education, including language learning. They are experienced in using online tools and learn by interacting, creating, editing, commenting and sharing documents and ideas, which is highly beneficial due to the unique characteristics of mobile applications: interactivity, ubiquity and portability (Abdel-Reheem Amin, 2020) (Kacetl & Klímová, 2019). Mobile technology has been found to play an important role in learning English, and many countries are investing in ICT-enhanced educational projects, mainly due to the current English language scenario (Irudayasamy et al., 2021).

In addition, there has been a rapid increase in the implementation of mobile technology for mobile-assisted language teaching and learning, which is why numerous applications have been developed to provide easy access for any student, without limitations of place and time (Zhang & Yu, 2022) (Gangaiamaran, 2017). Several Google applications have been developed for the learning and teaching of foreign languages, and it has been proven through various researches that the appropriate use of these applications improves the English level of students (Abdel-Reheem Amin, 2020) (Chen, 2016). It should be considered that most students use mobile devices mainly for entertainment and communication. To teach the new generation called digital natives, teachers must know how to motivate and adapt these digital resources for language learning, instead of prohibiting the use of tablets or smartphones (B.-T. Wang, 2017).

The use of this technology and online resources contribute to the teaching and learning of foreign languages. However, there are still many challenges to be faced regarding the use of these tools in the classroom (Guaqueta & Castro-Garces, 2018) (Zou & Li, 2015). One of the reasons is that most existing applications have not been developed from a pedagogical point of view, due to the gap between application developers and language teachers. It has been found that there are still limitations in several applications for grammar treatment in error

recognition, and also that feedback in grammar processing is not fully efficient (Ferreira & Kotz, 2010). In the writing process, it is quite common for students to make mistakes because writing is not a skill that is naturally acquired; it is usually learned or culturally transmitted as a set of practices in instructional settings (Marzban & Arabahmadi, 2013). On the other hand, the process requires the management of grammatical competence that involves the correct use of verb tenses, connectors, prepositions, among others, and many times these parameters have not been fully assimilated by students before undertaking academic writing processes (Ortiz et al., 2019). Feedback is one of the most important tasks of teachers. However, it is time-consuming because of the need to respond to the different expressions of learners who make an error and to provide correct metalinguistic information about the nature of the error (Septiana et al., 2016)(Ellis et al., 2009). Corrective feedback is used to provide information about the correctness of the students' expressions and provide them with the correct answer (Hashemifardnia et al., 2019).

There are some applications for learning English supported by using mobile applications, but most of them have not been validated or tested. Several studies have shown a positive relationship between perceived usefulness and the intention to continue using language learning applications (X. Wang et al., 2022), allowing a new pedagogical approach with the use of applications, so that teachers play the role of facilitators and thus increase the level of participation of students and teachers.

This paper shows the study of the corrective grammatical treatment of English, with corrective feedback supported by mobile applications, for which an evaluation was developed using the Canvas mobile application. The study subjects were first-level students of the language institute, most of them have an elementary knowledge of the English language that was learnt in school and high school. where a control and experimental study was carried out. The experimental group was evaluated with paper-based assessments and the control group with the Canvas mobile application. Subsequently, a statistical analysis was performed to obtain the percentages of improvement with the use of mobile applications.

## **2. PREVIOUS CONCEPTS**

### **2.1 Corrective Feedback**

Corrective feedback is defined as the set of comments provided to students on their production or comprehension of the second language. Its effectiveness and influence on learning has been investigated in recent years in relation to the impact of corrective feedback on students' responses (Li & Vuono, 2019). There are studies that show great acceptance of corrective feedback in learning English grammar due to its contribution to error correction. Providing corrective feedback comments improves grammar learning more than vocabulary learning. The success of the influence of corrective feedback on learning lies in the flexibility and adaptability of the feedback and, above all, its alignment with the linguistic objectives of academic progress (Van, 2022). In addition, different types of corrective feedback are verified, but in this paper, corrective feedback will be considered: positive, self-corrective and metalinguistic feedback.

#### **2.1.1 Corrective Feedback**

This type of corrective feedback aims to highlight the error made by the learner immediately through written comments that are received visually, and it focuses on improving the written language skills of the second language (Li & Vuono, 2019). Written corrective feedback is aligned with writing improvement, as it focuses on particular errors that students make the most, as well as giving attention to individual needs (Lee et al., 2021). Previous studies show that teachers should pay close attention to the feedback they provide to their students, as this can have a great emotional and motivational impact on them (Liu et al., 2022). Corrective feedback can also be positive, through comments that praise correct responses (Bagheri & Rassaei, 2021).

#### **2.1.2 Metalinguistic Corrective Feedback**

This type of corrective feedback is provided after the student has made the error, and it consists of providing key words that guide the learner to identify the location of the error, motivating self-correction (Li & Vuono, 2019). There are two types of metalinguistic feedback. The first one uses error codes consisting of abbreviated phrases or words representing the different types of errors, which can be located next to the error or at the end of the line. The second one is based on explaining the error to the learner. These types of metalinguistic

feedback allow students to diagnose their grammatical inaccuracies and indirectly induce explicit learning of the second language. In both types of feedback, it is important that students first identify the error and then correct it.

### **2.1.3 Self-Corrective Feedback**

The teacher motivates students to pay attention to the answers provided and gives them enough information to correct their mistakes, so that they have the opportunity to actively participate in self-correction (Bagheri & Rassaei, 2021). Self-corrective feedback allows students to benefit from correcting their own errors, and it can be done orally or in written form. The fact that students benefit from feedback allows them to become self-regulators and monitors of their own learning progress (Kingston Pal Thamburaj et al., 2020).

## **2.2 Mobile Learning**

The term "mobile" comes from the word mobility, which in learning refers to the ease of access a student has to learn anywhere using a mobile device. Currently, the positive attitude, the predisposition, and the intention of the students to continue using the applications on cell phones in the learning process is evident. Mobile learning has become an indispensable tool for students and teachers, boosting their level of self-confidence and the ability to stay motivated to meet their academic goals (Huang & Chueh, 2022)(Sanda & Klimova, 2021).

## **2.3 Canvas**

Canvas is an LMS Online platform or learning management system (LMS), which has been adopted lately by several universities in the USA and Canada that are interested in the teaching and learning process, incorporating pedagogical principles and development-based active learning. Its functionality is based on the cloud and the support it provides to initiate new models of learning and personalized education, allowing teachers and students to have access to all the notes. The teacher is allowed to invite students to join the activities in Canvas, manage their content, review the summary notes individually and in general, and thereby identify students with learning needs(Duin & Tham, 2020). The Canvas LMS mobile application is flexible, reliable, adaptive, and intuitive. It also provides accessibility from any iOS or Android device, without the need for a desktop or laptop. All you need is a smart device and an Internet connection via Wi-Fi or a data plan, and it is available in both free and paid versions.

## **2.4 Applications for Grammar Learning**

Current technology offers multiple applications to support English language learning. One source for downloading is Google Play Store, but before using an application, it is important to analyze its effectiveness by analyzing the following aspects: connection to the curriculum, feedback, performance, authenticity, friendliness, and dynamism (Kingston Pal Thamburaj et al., 2020). The use of mobile applications for learning does not replace the grammar learning process, on the contrary, they become a complement that seeks to prolong the efficient knowledge of students. According to previous studies, it is important to use authentic applications for grammatical learning with exercises and corrective feedback, which allow students to be actively involved in their academic process by correcting their mistakes(Guanuche et al., 2021).

## **2.5 ICT in Education**

Technology has been present in English language learning since the 1940s, even though the current availability of openness in place and space did not exist. The advancement of technology in smartphones allows them to be increasingly closer to people in different areas, such as social, learning, entertainment, among others. Thus, English language learning has also been influenced by the use of ICTs, encouraging teachers to examine their methodologies and adapt them to the needs of students in an effective way (Kingston Pal Thamburaj et al., 2020). The use of ICTs in education seeks personalized learning, with constructivist approaches that provide resources available to teachers and students at any time or place, and above all, that motivate academic progress through the use of technologies connected to reality and the needs of students (Putri et al., 2021).

### 3. STUDY CASE

For the design of the application, it was considered that: it should be user friendly and have an intuitive interface. Four types of questions were selected according to a previous study: (Fill in the blanks, Simple multiple choice, Sentence structuring and Complex multiple choice). For the development of the application, the following actions were carried out. “Figure. 1” shows the scheme that was used

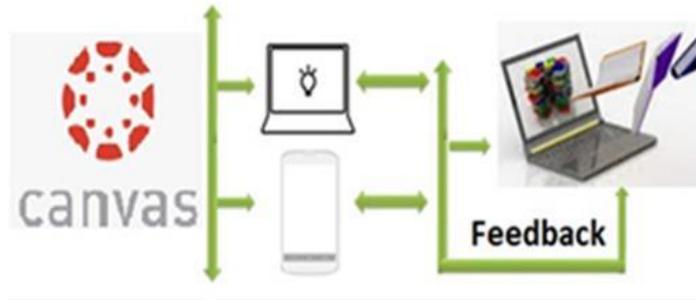


Figure 1. Design application

#### 3.1 Study of the use of Mobile Applications for Learning

Figure 2 shows the survey answered by teachers to find out if they use mobile applications for the English language learning process, or if they would like to use them in different activities of the learning process. This was done to obtain real data and to plan training if necessary. It is important to mention that the data about preferences for ICT tools for grammar learning was taken from the experimental and control group.

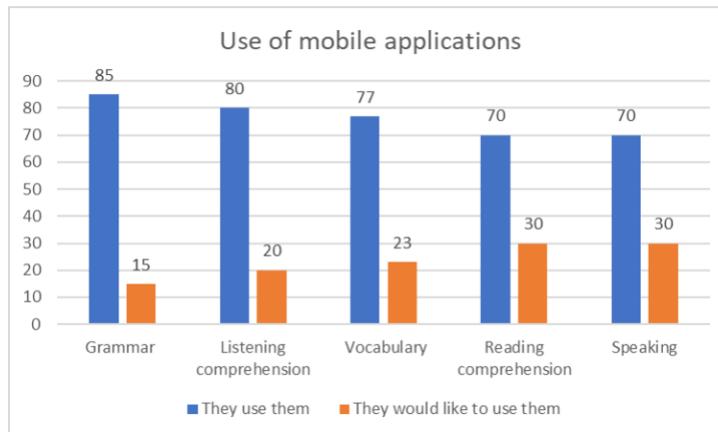


Figure 2. Survey on the use of applications answered by teachers.

The results show that 76.4 % of teachers use mobile applications for English language learning, while 23.6 % want to use such tools. Subsequently, the same survey was applied to UPS students to find out in which skills the applications are being used. The results are shown in Figure 3.

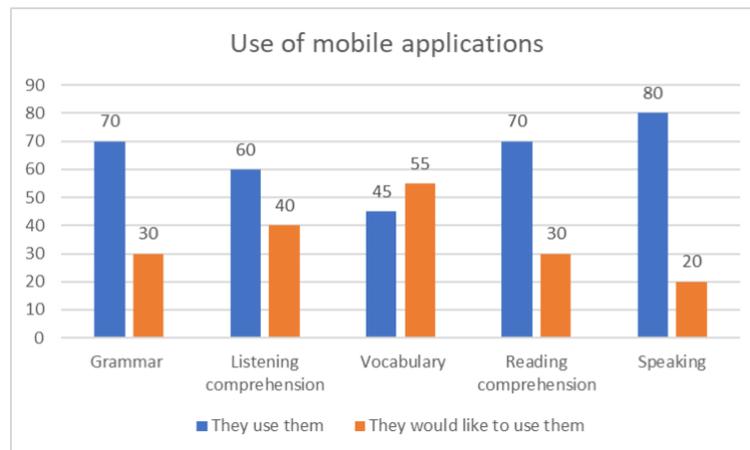


Figure 3. Survey on the use of applications answered by students

The results show that students use mobile devices to complement their studies, thanks to the easy access and availability of applications on the web. An average of 35% of students want to use this technology

### 3.2 Selection of Topics and Grammar Exercises

The grammatical topics selected correspond to the twelve units of the Cambridge textbook that are studied in the first level. Each unit reviews two grammar contents, so in the Canvas application four types of exercises were created for each grammar topic, with five items for each exercise. The exercises used were: Fill in the blanks, Simple multiple choice, Sentence structuring and Complex multiple choice. The selection was based on the review of exercises used in international examinations, and on the evaluations taken at the institution where the study was conducted. The classroom visits revealed that each course is large, with approximately 40 students in each, which makes it almost impossible for the teacher to provide effective feedback to all students. It was observed that most teachers use explicit collective feedback. The teachers who participated in the study have knowledge in mobile learning.

The study was conducted with 34 students and the questions with corrective feedback were automatically evaluated in CANVAS, as shown in Figure 4, where a simple multiple-choice question that was answered correctly can be seen. To analyze the characteristics and the grammatical contents for the corrective treatment, the questions were asked according to the analytical plans used in English classes.

**Question 2**
**1/1 pts**

Select the correct answer.

**We are from England.**

Correct!

are

**Very good!!!** Your answer is right.

Figure 4. Positive Feedback Model: Correct answer.

Figure 5 shows that the student's answer was incorrect, and CANVAS automatically performed the self-corrective feedback. Thus, the student was able to know that his answer was incorrect and received an explanation about the error made.

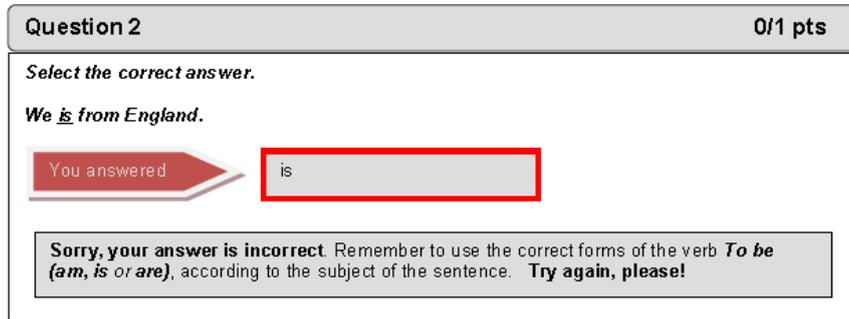


Figure 5. Self-corrective Feedback Model: Incorrect answer

### 3.3 Evaluation of the Methodology

Results of the proposed evaluation through the use of applications to the students of the first level of English, subsequent evaluation, and analysis of the results. The learning progress was evaluated by the obtained results of the grammar contents learnt in the different units of the study.

Table 1. Percentages according to each type of exercise

	Control	Experimental
Fill in the blanks	74.6%	78.8%
Simple multiple choice	82.7%	90.1%
Sentence structuring	69.7%	73,1%
Complex multiple choice	79%	83.9%
<b>Improvement between contr and experimental</b>	<b>76.5%</b>	<b>81.4%</b>

Table 1 shows the results control vs. experiment, and it can be seen that the experimental group had a significant average improvement of 4.9% with respect to the control groups, analyzing six units with different topics, according to the university's own analytical plans. These results validate the use of the application and the benefits of using applications for learning English grammar. It should be emphasized that the results were obtained from the evaluations made to several groups with different topics and were analyzed considering the type of question, since students have a certain preference, and they are also more didactic when using the application.

After using the application and evaluating it, a survey was conducted with the students of the regular course and those of the intensive course to find out their preference for doing the exercises, as shown in Figure 6.

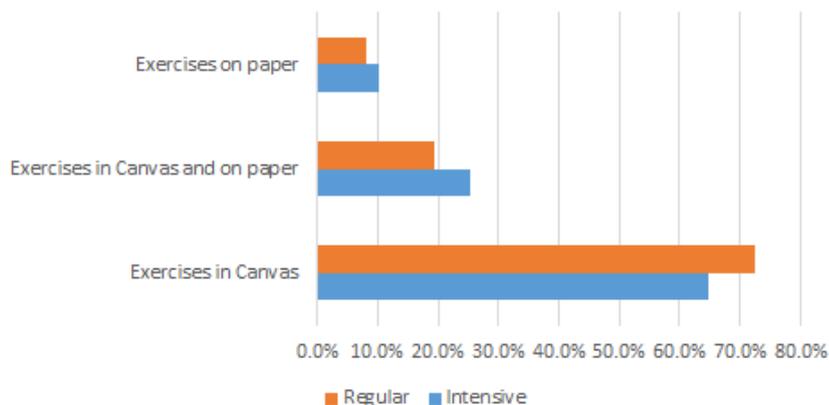


Figure 6. Preference for doing exercises

The results show an average preference of 68.6% for teaching methods using apps. Some 22.4% prefer to use applications in combination with paper and only 9% want to continue using traditional teaching methods.

The results show that the use of the Canvas application and corrective feedback contributed to grammatical learning during the six units studied. In addition, a greater tendency to make grammatical errors in question formulation and less in sentence structuring was identified. At the linguistic level, better learning results were reflected in the morphological area and less impact in the syntactic area. This differentiation of results is attributed to the fact that students show more difficulty in correctly structuring the components of sentences and questions in the foreign language, which for this study was English.

#### 4. CONCLUSION

The use of applications as online learning tools, together with good teacher guidance, can significantly improve language learning, as well as improve student motivation thanks to the advantages of using mobile applications (adaptability, ease, mobility, interactivity, accessibility, interactivity, and cost).

The research results show that mobile technologies for language teaching are increasing significantly. In addition, teachers and students use different technologies to complement the process of teaching and learning English inside and outside the classroom.

The control vs experiment results show that the experimental group obtained an average significant improvement of 4.9% compared to the control groups. This is because, thanks to the use of mobile applications, the strategies used for learning English have been transformed, and now students can determine when and where to learn using online resources.

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