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Implementing Inductive Grammar Instruction with College Students Taking Online English Classes

Implementación de instrucción gramática inductiva con estudiantes universitarios que toman clases de inglés en línea

Original Research Article

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Abstract

This action research project aimed to investigate the outcomes of implementing an inductive approach to teaching grammar at a public institution in the north of Veracruz, Mexico. This mixed methodology involved 16 students enrolled in online English classes The data were collected by means of diagnostic and achievement tests, semi-structured interviews with students, and observations by colleagues. The results revealed that the students were accustomed to receiving deductive instruction and acting passively in the classroom; thus, more attention needed to be paid to their performance. Additionally, it was discovered that the teacher's role needed to change to one that involved less talking time and more encouragement for students to develop their problem-solving abilities. The results suggest that using an inductive approach to teaching grammar may improve students' language skills and ability to apply their knowledge of grammar to more realistic situations.

Key words: grammar instruction, inductive teaching, higher education.

Resumen

Esta investigación acción tuvo como meta investigar los resultados de implementar un enfoque inductivo a la enseñanza gramatical en una institución pública del estado de Veracruz, México. La metodología mixta incluyó a dieciséis estudiantes registrados en clases de inglés en línea. Los datos se recogieron mediante exámenes de diagnóstico y rendimiento, entrevistas semiestructuradas con los participantes, y observaciones realizadas por colegas. Los resultados revelaron que los estudiantes estaban acostumbrados a un enfoque deductivo y a un desempeño pasivo en el aula, así que se requería mayor atención a su desempeño. Además, se descubrió que el maestro tenía que reducir su tiempo de habla y alentar más a los estudiantes a desarrollar habilidades para la solución de problemas. Los resultados sugieren que usar un enfoque inductivo en la enseñanza de la gramática puede mejorar las habilidades lingüísticas de los estudiantes y su capacidad para aplicar su conocimiento a situaciones más realistas.

Palabras Clave: Instrucción gramatical, enseñanza inductiva, educación superior.

Introduction

The goal of grammar is to facilitate language acquisition by providing a set of rules that deal with a language's syntax and word structures (Nordquist, 2020). Effective and successful communication is impossible without grammar; however, grammar instruction and what approach should be applied to ensure students achieve meaningful and effective learning have often been debatable topics. In any EFL course, it is hoped that students learn the functioning of the foreign language, as this will enhance their understanding and production of oral and written discourse. The introduction of grammar then becomes essential for communicating successfully with others since it allows skills such as writing and speaking to develop since learners may have a better control over the manner words and sentences are shaped. When learning English as a foreign language, students tend to prefer traditional teaching methods, and this preference usually increases with age, as adults tend to need more explicit explanations to reach a comprehension of the topic seen. Students might develop a good understanding of grammar rules through the traditional methodology but that does not guarantee they will be able to produce meaningful written or spoken language (Richards & Reppen, 2014).

Rationale

As part of their course programs, college students at an institute of technology in the north of Veracruz, Mexico, have been taught English grammar under a deductive instruction approach. In other words, they are made aware of what they are learning; the rules and grammatical patterns are pointed out to them so that they can understand how the foreign language works (Ellis, 2006). However, the students seem to continue struggling with the acquisition of the rules, and their use in real contexts. It is likely that, in some cases, dependency on structures might not allow them to develop their cognitive and reasoning skills fully, leading to a lack of understanding of grammar and its use. In view of this, it seemed relevant to implement an approach that strengthens the students' interest for questioning and discovering. A plan was drafted to use inductive grammar instruction as the primary method of instruction, taking into account that this approach has features that may be beneficial to both students and teachers by placing students as the main protagonist of their learning process and allowing teachers to be guides, providers and facilitators. Considering the relevance of the approach previously mentioned, the present study aims at assessing the outcomes that can be obtained from applying an inductive approach in an online context, where the main participants are college students, through an action research study that was expected to provide an understanding of the situation studied.

Objectives

The main objective that guided this study was to identify the outcomes of implementing an inductive grammar intervention strategy. Specific objectives included: a) to know the students' perceptions regarding grammar instruction in online classes; b) to find out how inductive grammar instruction influences college students' acquisition of grammar, and c) to obtain other teacher's feedback regarding inductive grammar instruction.

Literature Review

Grammar is understood to be a system of rules that apply to all languages (Koay, 2017). Similarly, Nordquist (2020) says that grammar is a set of rules that deal with the syntax and word structures of a language and its purpose is to aid the learning of that language. On the other hand, Takala (2016) asserts that grammar is not only a set of rules but also a crucial instrument for effective communication. Without grammar, there would not be a correct use of the language and messages would not be conveyed therefore there would not be successful communication since it is commonly recognized that grammar competence is an element of communicative proficiency (Öz & Orak, 2018). However, many people may perceive grammar as "strict, basic, and arbitrary" (Delfino, 2023). As a result, the acquisition of grammar can be a slow process for most of the students who are reluctant to adhere to the target language rules leading them to a slow progression regarding their communicative skills.

Everyone who speaks a language knows its grammar. The real struggle comes when we are acquiring a foreign or second language and through the process of learning it, we notice that there are certain structures and fixed patterns that make it possible to communicate with others. Therefore, it is important to be precise when communicating crucial information because misuse of grammar can lead to misunderstandings, which can change how other individuals perceive us (Delfino, 2023).

It is necessary to distinguish between grammatical knowledge and grammatical ability. Grammatical knowledge makes reference to the knowledge of the rules that exist for the accurate use of the language. On the other hand, grammatical ability concerns the capacity to use grammar as a communicative tool in written and spoken conversation and establishes a new teaching strategy (Jones, 2012 as cited in Richards & Repen, 2014). The more we understand how it functions, the better we can keep an eye on the effectiveness and meaning of the language we and others use (Miron, 2016).

Grammar instruction in EFL contexts

Krashen (1981, as cited in Ellis, 2006) argues that grammar instruction has no place in language learning because students would automatically acquire knowledge as soon as they have access to the input. If students want to improve their communicative abilities, grammar instruction will not be helpful. Others, like Oz and Orak (2018) claim that grammar instruction is one of the key elements to help students learn English.

Ellis (2006) argues that teaching grammar is advantageous but that it needs to be taught in a way that is compatible with the natural processes of acquisition in order to be successful. However, learning grammar is a complex, multifaceted, and lengthy process and no specific pedagogical strategy can be considered the most effective for teaching. (Ellis, 2006). That is why, understanding the communicative needs of learners and how grammar meets those needs is the first step in teaching grammar as a skill (Richards & Reppen, 2014).

According to Fakazli (2021)., grammar has been taught by following two approaches: the deductive which comprises the translation method, and the inductive which is favored by the direct method, the audio-lingual method, and the communicative language method. Van Rijt et al (2019) argue that most of the grammar instruction in L1 settings is still mainly "traditional," because it uses traditional approaches that address just grammar rules, isolated sentences, and parts of speech. Souisa & Yanuarius (2020), highlight that it is important to recall that the main purpose of teaching grammar is to assist students in understanding linguis

tic patterns to develop practical linguistic skills. According to Richards and Reppen (2014), teachers need to foster their student's awareness of grammar items beyond simple sentence comprehension. Ellis (2006) claims that learners can discover grammatical rules on their own through grammar instruction. Those students who face more trouble with structures usually rely on the formulas every time they need to write or talk which creates a dependency on them consequently there is no benefit at all because as soon as they lose the structure there is no way to communicate.

Inductive and deductive instruction

According to Noveria (2021), these two approaches have been a matter of discussion since some teachers prefer the conventional method (deductive) and others a more modern one (inductive). Both approaches direct students to focus on a specific language feature with the goal of making them aware of the rule that governs it (Jean & Simard, 2013). The role that the teachers and students play in both methods is crucial to succeeding in whatever method one applies in the classroom. It is also important to consider that both have advantages and disadvantages and neither of them can claim greater effectiveness over the other. Krashen (1982:113 as cited in Lafta, 2019) argues that instructors should select a strategy that takes into account the needs of their students in order to avoid failure and achieve the level of success they should reach.

Inductive instruction

In the inductive approach, examples are first given before the students independently discover the rules. As a result, they progress from a broad theme to increasingly narrow forms (Lafta, 2019). Students tend to analyze examples in context whether in texts or audios in order to discover by themselves the grammar rules. Once they have found out how the rules work, they create their own examples in oral or written discourse, consequently they improve their communicative skills (Benitez et al, 2019). According to Nunan (2003, p. 158, as cited in Lafta, 2019), the implementation of this approach requires learners to make a mental effort; therefore, it is expected that they will remember grammar rules for a longer time. Within inductive learning, the main objective is to simply infer the rule without awareness instead of developing an explicit rule (Jean & Simard, 2013). Implicit instruction of grammar may benefit learners to create a habit of using their communicative competence by doing as many activities as possible to reach a point where they automatically use the correct structures (Sik, 2015 as cited in Altun & Dinçer, 2020).

This approach is essentially focused on the student as it allows them to become deeply engaged in the language they are learning and provides the opportunity for reflection (Alzu'bi, 2015). The inductive approach to learning emphasizes experiential learning, that is learning by doing (Ahmadzai et al., 2019). According to Thornbury (1991 as cited in Ahmadzai et al., 2019), involving students actively in the lesson can help them feel more at ease and can create a motivating environment for them. It's been said that actively involving students in their education increases their autonomy, which improves their ability to learn languages.

On the other hand, Chalipa (2013, as cited in Sik, 2014) claim that some disadvantages must be taken into account whether a teacher has decided to implement this type of approach in class. These are some of the most relevant:

●The time and effort put into developing rules may lead students to doubt and frustration.

- Inductive rule's development may take longer than deductive.
- Students may hypothesis the incorrect rule or their version of the rule.
- Teachers must carefully choose and arrange the data to lead learners to an accurate formulation of the rule.
- Students often prefer to be told the rule explicitly.

Some studies related to inductive grammar instruction

In 2018 Nur et al. conducted a study focused on the effectiveness of using an inductive learning approach in teaching grammar. Their main objective was to investigate the influence that this type of method could have on students' learning as well as find out how they perceived the use of inductive methodologies. The experimental group (inductive group) appeared to have achieved more favorable results than the control group (deductive group). Additionally, most of the students claimed they preferred being taught inductively as they had the chance to infer the grammar rules and know the formula at the end. The observations confirmed that students felt more enthusiastic and active, and as the inductive class was focused on communicative strategies, and they appeared to enjoy it more than those students who were taught deductively.

In 2020 Shahzad et al., worked on a study with the objective of determining the effectiveness of implementing an inductive methodology to improve elementary students' performance and to compare the insights of 1) the experimental group (inductive group) and 2) the control group (traditional group). This study was carried out with 30 students that belonged to the 8th grade in a private Elementary school in Pakistan.

The data collected showed that the results from the pre-test of the experimental and the traditional groups did not differ significantly. It exemplifies that both groups had roughly the same level of English grammar proficiency prior to the intervention. Both can be chosen at random to serve as experimental or control groups (Shahzad et al., 2020). Furthermore, this study also revealed that the students performed noticeably better on their post-test after using the conventional deductive teaching methodology.

In 2021, Noveria examined the outcomes of inductive-deductive teaching strategies. She aimed to determine whether there was a discernible difference in grammar achievement between the conventional approach (deductive approach only) and the combined inductive-deductive approach. Participants in this study were first-year university students at a university in Indonesia who were enrolled in the English language intensification program.

It was determined that the use of an inductive-deductive approach had a positive effect on students' achievement in grammatical accuracy when compared to the deductive approach. The experimental group, using an inductive-deductive methodology, appeared to have accomplished more than the control group, using a deductive methodology.

These studies suggest that, as far as realistic practice is involved, the inductive approach seems to be the better option since it allows students to develop their communicative and problem-solving skills. Although both strategies can be equally effective, using inductive techniques may help students' communication abilities and

grammatical knowledge while increasing their engagement and productivity in the classroom. The deductive method can be proved effective when teaching grammar because it contextualizes the material and offers specific information, yet, by following an inductive approach, students are more engaged in the learning process

Methodology

For the present research, a mixed method research was used. The use of qualitative method was employed as we wanted to explore students' perceptions regarding the intervention plan implemented as well as the observations and feedback from colleagues in relation to the inductive classes. This investigation is also supported by quantitative research, as tests were used to compare the knowledge of students before and after the intervention plan. A diagnostic test and seven achievement tests were administered. Semi-structured interviews, and class observations by colleagues were also useful. Closed-ended responses taken from tests were used to assess the effectiveness of the intervention plan. Conversely, perspectives, feedback and points of view are more related to open-ended responses (Creswell & Creswell, 2018).

Action Research

An action research design was selected for the current investigation, as it comprises investigating an issue in a specific context, most likely a classroom or an institution, with the goal of implementing and evaluating change (Banegas & Villacañas de Castro, 2019). This study attempted to assess the way grammar was taught and determine whether inductive instruction could benefit students' grammar acquisition while also assisting teachers in innovating their teaching practices. We also aimed to embrace areas of interest for improvement instead of just focusing on the problem (Mcniff, 2010, as cited in Cohen et al., 2018); namely, to replace a traditional method with a discovery method that would to foster self-discovery (Cohen et al., 2018).

We designed an action plan to foster the students' acquisition of grammar, to improve communicative competence, and to allow them to become active participants. It also allowed us to work on the problems identified when teaching inductively and thus improve professional development (Ferrance, 2001, p. 1 as cited in Cohen et al., 2018).

Data Collection

Tests were used to assess the effectiveness of the intervention plan. Eight tests made up the first stage, and they were split into two phases. Four tests were administered to the students in the first phase, one of which was a diagnostic exam that explored their strengths and weaknesses in terms of grammar knowledge. This was administered prior to the intervention plan. The subsequent tests were conducted after the inductive approach had been used to monitor the outcomes and determine whether they varied from the diagnostic one. Three additional achievement tests were used to evaluate the students in the second phase because there were some issues with how they were evaluated in the first phase in relation to the lessons taught.

Data were also collected through structured interview. The interviews consisted of 4 questions and the main goal was to explore students' beliefs and perceptions about inductive grammar instruction in online

English classes. The questions aimed at exploring students' beliefs regarding the way grammar had been taught, their perceptions about the new methodology used, and whether they identified differences between their previous classes and the current ones. The interviews were conducted online, via video calls.

To triangulate this study and obtain a whole understanding of the results, we had observations be conducted by colleagues. The observers had access to the online classes and used a checklist to provide relevant information to the intervention plan. By means of these observations, our colleagues were able to provide feedback about teaching practice and students' performance.

Participants

16 participants took part in this research study: 10 women and six men. Their ages range from 20 to 22 years. They were all part of the English course called "Intermedio 4" which was held via zoom on Saturdays. They were undergraduate students enrolled in different semesters. The criteria to select them was that they had to be college students who were taking online English classes who had finished their curriculum requirements but had not yet completed the English courses needed to graduate, which is why they had been taking online English classes. Pseudonyms are used at all times.

Context

The present action research project was carried out at a public institute of technology in the north of Veracruz. This institution has 8 major programs and 2 master's degree programs. Students are required to complete 10 levels of English so as to graduate; however, they can also take a proficiency test in order not to enroll in the English courses. The intervention plan (inductive grammar instruction) was carried out through the Zoom platform. The institution has decided to offer some online courses as it has been recognized that some students come from different communities, and it is difficult for them to travel on weekends.

Data analysis

First, the tests were analyzed by using graphics in order to have a better viewing of the results obtained. Interviews were analyzed by using coding and then 4 emerging categories were interpreted. Finally, the class observations were analyzed as well by using coding. The results of the tests are shown in graphics and in a chart to ease the viewing. Secondly, the interviewees answers were analyzed and interpreted by using coding. Thirdly, the observations by colleagues were analyzed also through coding and some emergent categories matched the ones obtained from interviews.

Results and Discussion

This chapter presents the intervention plan and the analysis of the data obtained by means of tests, interviews and class observations. The results obtained from the tests are shown in graphics for a better viewing and to compare whether there was a significant difference among the diagnostic and the achievement tests. The data from interviews present the students' perceptions regarding the way grammar has been taught at college, their perceptions regarding the differences they have noticed between deductive and inductive grammar teaching, as well their suggestions to improve the teaching techniques

used so that they can enhance their communicative skills. The data obtained from the class observations indicate whether the inductive intervention plan followed the specifications for the online classes as well as the observations and suggestions other teachers made in regard to the intervention plan.

The Intervention Plan

First, we administered the diagnostic test in order to measure students' knowledge regarding the grammar topics to be seen in the first phase of the intervention plan and have an outlook of their strengths and weaknesses. Then, the intervention plan started. In the first phase, six classes were implemented, each class lasted 3 hours. In the first class, students were taught the past perfect, and they did some reading and listening exercises. After a week they were administered the achievement test 1. The second and third classes addressed reported speech. The students were provided several examples to analyze, to build their own sentences, and practice them in oral and written form. A few days after the second class, students took the achievement test 2. The fourth and fifth classes covered the passive voice of simple tenses. The students were presented some texts with famous people that have made inventions in history. The students were expected to express themselves orally by using the appropriate grammar rules. Then, students took the third achievement test. Finally, for the sixth class we studied the passive voice, this time using continuous tenses. Similarly, the students were provided with texts and some readings as well as many examples. After a week, the students were evaluated. It must be acknowledged that there was a discrepancy between instruction and evaluation, as the questions and exercises in the tests that were administered were not suitable for grammar classes taught inductively; these were rather traditional tests.

For the second stage of the intervention plan, the students took three more achievement tests every two lessons. This time, however, we evaluated the students in the same way they were taught grammar during this phase. Changes were made to the tests. Infinitives, gerunds, and the causative form were covered in the first two classes for the students. There were numerous examples of gerunds and both types of infinitives. Texts and songs with those words were also given to the students. After seeing several examples, the students were able to distinguish between the infinitive and -ing forms in three different online worksheets where they could practice and demonstrate their understanding. A week later, the causative form was introduced and numerous examples, as well as visual props, were used. The students then compared the incorrect examples with the correct ones to determine the rule that was followed in this tense. Following that, the students responded to similar exercises they had completed in class for achievement test number 5. The achievement test 6, comprised collocations with the verbs keep, hold, miss, and lose, as well as modal verbs for past deductions. Flashcards were used to introduce collocations and encourage the students to infer the verbs' meanings. Then, a list of numerous examples was provided for each verb. Once they understood the meanings of each collocation, the students analyzed them and came up with their own examples. When it came to past deductions, modal verbs were first introduced and given some definitions; the students then had to match each definition to the modal verb in order to understand each one's function. Following that, plenty of examples were given, and the students had to infer what they meant based on the modal verbs used. The students were asked to write down their own sentences using the structure they learned during the lesson to strengthen their understanding. The third conditional was the subject of the final lessons. Songs, readings, and a lot materials related to this subject were used because there was more time available. In the

following class, students produced sentences and examples simply by looking at images. They also discussed hypothetical situations from their own lives. In the achievement test 7, they were evaluated similarly.

As part of the intervention, after every inductive class ended, semi-structured interviews were also conducted. Five students were selected considering that they had all taken previously online English courses and had availability to answer to the interview. The interview consisted of five open-ended questions that attempted to explore students' insights regarding the way grammar had been instructed in previous online courses and the ones that had been implemented in online classes recently.

Additionally, observations by colleagues were carried out during each one of the sessions. Five professors were asked to participate as observers of the inductive grammar instruction classes. They were given a checklist so that they could provide feedback when the classes took place. They were able to observe students' and teacher's performance and provide comments with reference to the items covered in class.

Test Results

Graph 1 shows the results obtained from the diagnostic test. The diagnostic test consisted of 65 items that addressed various grammar topics regarding the level of the course. They were past simple, past perfect, past perfect progressive, passive voice, and reported speech. It can be observed that 50% of the students answered 18 to 34 items correctly whereas 43.7 % managed to answer correctly between 34 to 50 items of the total. Only 6% of them succeeded in answering correctly almost all the items. As the graphics show, there is a lack of understanding considering grammar tenses since the students' answers were mostly mistaken and they were not able to identify key elements that would have led them to give an accurate answer. Only 2 students obtained a passing percentage. Most students failed in identifying the correct answers, esp., passive voice and reported speech, while other topics like comparatives and superlatives appeared to be easier to remember.

Graph 1.
*Diagnostic test*
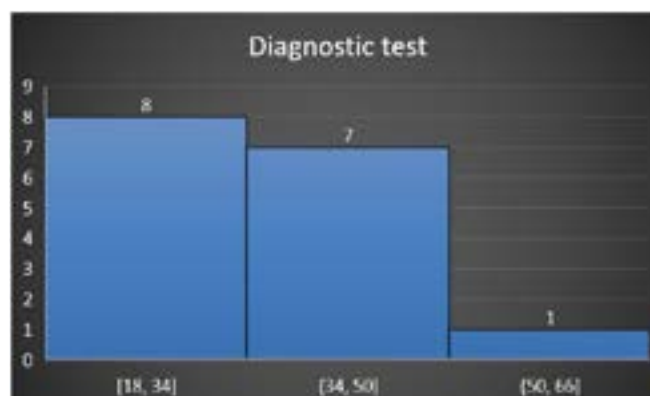
Note: own elaboration

Graph 2 shows the results of Achievement Test. Past perfect and past perfect progressive were the topics evaluated. Eight of the 16 students got a positive percentage from the first session of the intervention plan, understanding the meaning and usage of each of the topics. The other half of the group failed primarily

due to incorrect tense use. Some students claimed that both tenses were certainly difficult for them as they got confused with their conjugation and their meanings. Mariana claimed that she had understood the topic but when she was taking the test, she did not remember the grammar rules (all original excerpts in Spanish).

- I have sometimes found it challenging to remember certain things at the time of the exam. Like Mariana, Raúl mentioned that he mixed tenses and did not recall if a verb was regular or irregular.
- When it comes to conjugations, I occasionally have trouble determining whether a verb is regular or irregular or whether it is in the past.

Graph 2.
Achievement test
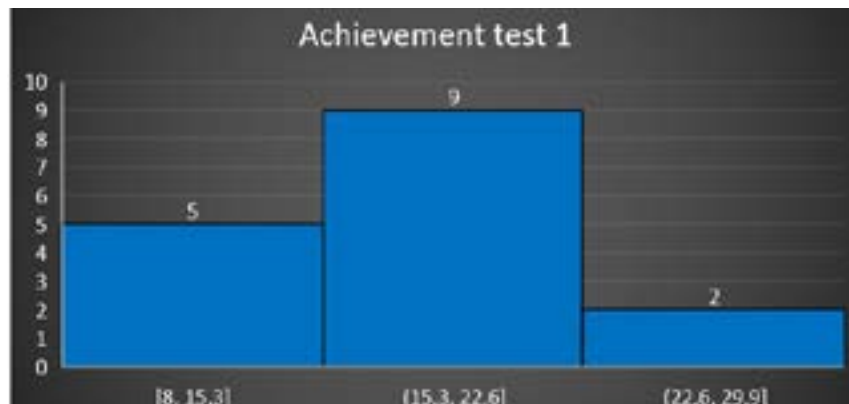
Note: own elaboration.

Graphic 3 comprises the results obtained from achievement test 2. The topic addressed before the evaluation was reported speech. Six students demonstrated a good understanding of paraphrasing, they identified each of the elements in the sentences as well as the changes in tenses and pronouns to convey meaning. What is more, they were able to produce their own examples by following the ones provided at the beginning of the second session. In contrast, the other 10 students found it difficult to grasp the usage and meaning of the topic. The main problem was related to paraphrasing, as they got confused with tense changes to keep the original meaning.

Graph 3.
Achievement test 2

Note: own elaboration.

Graph 4 shows the data obtained from the achievement test 3. This test addressed the passive voice. In this evaluation, only five students could achieve good results; they were able to use the passive voice of the verbs seen in the session. On the other hand, 9 students got right 17 items, or less, of 30. The main reason was that they could not identify the object of the sentences, consequently this led them to use the incorrect conjugation of the verb be. Apart from that, there were two students that did not take the evaluation.

Graph 4.
Achievement test 3

Note: own elaboration.

Graph 5 presents the results of the final achievement test. The topic was passive voice with progressive tenses. Half of the group showed a better understanding of the topic. Yet, some students continued struggling with the correct use of the past participle as well as the identification of the object of the sentence. In this evaluation, three students decided not to participate, as they dropped out of the sessions.

Graph 5.
Achievement test 4
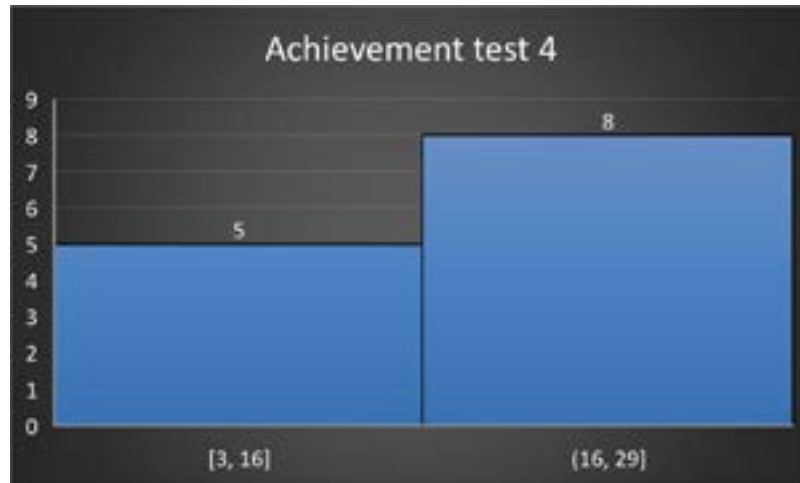
Note: own elaboration.

In this first phase of the intervention plan, the achievement test results, and the ones obtained in the pre-test or diagnostic test, there was no significant improvement in the acquisition of grammar forms and meanings, working inductively. The students who obtained good results were the same most of the time. Those students demonstrated continuous improvement as the intervention plan was taking place, they showed interest in the way grammar was being instructed and they were able to infer, question, and reason through the examples given at the beginning of each class. Conversely, most of the group did not respond positively to the intervention plan as they seemed to be rather passive recipients and appeared to find grammar topics quite difficult to internalize and remember.

Students were evaluated in the first stage of the intervention plan every two sessions, but the results were largely unfavorable. However, it must be highlighted that they were not evaluated inductively, as they had been taught in class. A second phase was conducted, and the students took three new achievement tests following the corresponding inductive grammar lessons. Students were instructed and assessed the same way during this phase, and the outcomes indicated a meaningful improvement.

The outcomes of achievement test 5 are shown in graph 6. Infinitives, gerunds, and the causative form were the subjects taught and assessed. Nine of the 16 students who took the test scored in the passing range. That is, more than 50% of the group was able to grasp the concepts and abide by the related grammar rules. However, some students still got poor grades. They had to distinguish between full and bare infinitives as well as -ing forms, which made it difficult for them to remember how the verbs should be used. In contrast, they were able to use the verbs have and get in the appropriate tense and understood the essential parts of the sentence when using the causative form.

Graph 6.
Achievement test 5

Note: own elaboration.

The results of achievement test 6 are shown in graph 7. The topics examined were collocations with the verbs keep, hold, miss, and lose, as well as modal verbs for past deductions. The results indicate that just five of the 16 students achieved positive outcomes. As for the collocations, the rest of the students faced problems memorizing the words that had to be together.

On the other hand, most of the students made significant progress in recognizing the correct order and usage of modal verbs and the past participle of the verbs. Students received low grades in the first phase of the intervention plan due to problems with the past participle verb conjugation; however, they performed better after being evaluated the way they had been taught in class.

Graph 7.
Achievement test 6.

Note: own elaboration.

The results of achievement test 7 are displayed on graph 8. The topic evaluated was the third conditional. Over 85% of the students achieved positive outcomes. These results suggest that most of them succeeded in understanding the usage of the third conditional in hypothetic situations and imaginary contexts, their main clauses, and the components that make it up. There was a significant improvement in comparison with prior results in the first phase of the intervention plan, as in previous tests, students found it difficult to internalize the verbs in past participle because they confused them with the past simple.

Graph 8.
Achievement test 7.
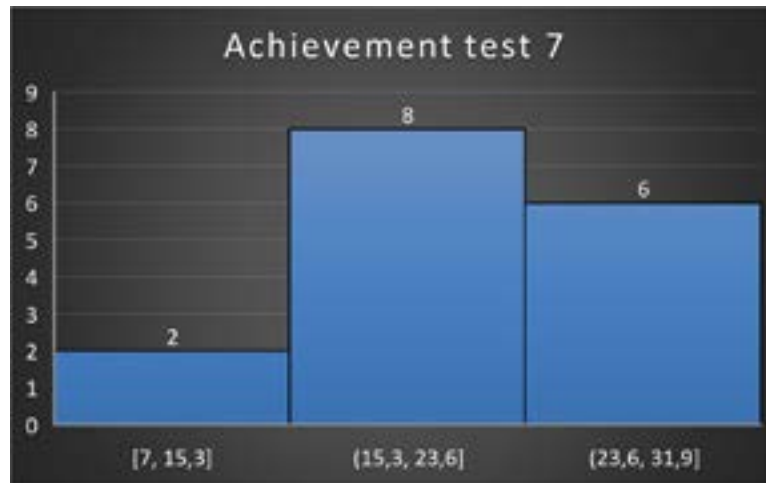
Note: own elaboration.

The outcomes obtained from the second phase of the intervention plan show that in each of the achievement tests, students were able to recognize the main features of the topic addressed, and most of them could produce effectively in both classes and evaluations. Compared to the results obtained in the first phase, these new results might have been affected positively by the way evaluations were carried out. Considering that, at the beginning of this action research intervention, the students were taught inductively, but were not evaluated in the same way, changes were made in the evaluations so that students could be assessed the same way they were taught in the hope of getting better outcomes hope of getting better outcomes.

Students' perceptions regarding how grammar has been instructed

We interviewed four students who had enrolled in the pre-intermediate course and that had been taught under the traditional or deductive methodology all the previous courses. These students shared similar perspectives regarding the way grammar was instructed in prior courses. Most of them claimed that they found grammar as something difficult mainly because it was a subject that they did not like, and the dynamic of the class was solely mechanical and predictable. Mariana, who is a graduate student and that is currently taking online English classes mentioned:

> - *I'm not very good at English. Because, well, we don't really have a culture where we learn English when we're young... sometimes it's a little complicated, I felt like I wasn't really making any progress. It's just not*

really my thing to fill up many exercises. The class that I found to be the most boring was English. It is obviously more difficult to understand English when teachers give us multiple translations, as they have done many times.

Similarly, Irma said that grammar was mechanical and there was no opportunity to practice and produce in class as most of the time was used for explanation and examples.

> *- The professor gave us the lesson, explained the material to us, said this, that, and the other, then she provided examples and there was no more practice or reinforcement.*

On the contrary Raúl who is a graduate student and currently takes online classes claimed that he enjoyed the way grammar was instructed since he considers himself an autonomous student and having to work on exercises after being provided with the grammar rules was an opportunity for him to practice. However, he also says that this was time consuming. According to Richards and Reppen (2014) learners might develop a good understanding of grammar rules through the traditional methodology; the one in which grammar forms are presented independently of their use, but that does not guarantee they will be able to produce meaningful written or spoken language. Apart from that, it was inferred that the role of the teacher was reduced to providing materials through the platform classroom and students had to read, solve, and take a test without any teacher-students or student-student interaction.

> *- There were classes where the professors gave us homework, tests, and other assignments. In addition to the fact that I had the chance to explore websites and read texts provided by the professors as well as the websites where the topic was explained, the usage and the practice section was also there, in my opinion it was much easier but required a greater investment of my time to do so. I felt it was more autonomous because we had to find the information on our own.*

Students' role in the classroom

The data were obtained from interviews and observations made by colleagues that had access to the online classes. The responses provided by the students showed that they all agreed that the intervention plan had a positive impact on their performance. They all stated that they felt more motivated to participate in the online classes; this is a crucial point given that students frequently use online classes as an excuse to engage in less active learning. Raúl put emphasis on the active role that he and his classmates had performed in class; similarly, Mariana mentioned that her role had been active and dynamic. Irma claimed that she noticed a significant difference from previous classes as most of the students were engaged in the process of learning and the dynamic rhythm of the class was helpful to comprehend the topics. According to Miron (2016), if teachers incorporate some dynamic behavior into their grammar lessons, they can aid students in learning grammar.

> *- One seems to be more engaged in class here, and I have also observed that the entire class participates.*
> *- Well, I think I'm being very active and I'm having a very dynamic role.*
> *- I believe there is a lot of participation in the group since there was previously less participation in other courses. I can now see that my classmates and I are contributing more and making classes more dynamic to comprehend the problems.*

Irma added that she improved her reasoning skills through the examples provided in class and that allowed her to reach conclusions to get a better understanding of the topic addressed.

> *- Now, that you give us examples we can analyze them and have the chance to understand the topic and guess the rules. We are discovering what kind of tense is being used for instance simple past and the way it is structured.*

Nadia acknowledged that she had gained a better understanding of the subject through various examples because she had been able to recognize the grammar rules as examples were analyzed.

> *- In other classes, the professors simply explained the structure and provided examples. In this classes, you provide us with numerous examples first. Then you kind of force us to distinguish what makes each sentence unique and what components made it up, that way we discover how a specific tense works.*

On the other hand, Professor Gabriel could notice that some students were shy and did not participate in the class as expected. He claimed that the main reasons were that they were either not confident enough to intervene or their lack of knowledge did not allow them to participate.

> *- I think the students were shy to participate or didn't study enough to answer the teacher's questions about the tense.*

Teachers' role in the classroom

The students claimed that the teacher's role was centered on helping them to be involved in the class. It was also noticed that the teacher encouraged them to have continuous participation which makes a great difference from other classes they had taken. Nadia and the Professor Leonardo agreed that the professor motivated the students to have a say in class and to be part of their learning process as active characters.

> *- Although you don't give us a lot of theory, you do give us new and many examples. The class is therefore neither boring nor monotonous. The fact that you encourage us to participate while in other classes was not a must it makes a big difference.*
> *- The teacher makes all the students participate however maybe not all of them were really engaged with the class because in previous examples just a few participated.*

However, Professor Leonardo stated that even though students were encouraged to participate, there were some that remained passive and did not take advantage of almost any of the opportunities to participate in the class. They seemed to find it difficult to infer the grammar rules and were unable to complete the tasks given to them, therefore the inductive approach did not do much for them.

Inductive teaching

Some colleagues shared their insights regarding what they could observe and identify in the online classes where the intervention plan was implemented. Some of them mentioned that there were enough information and materials to allow students to recognize the grammar topic. Professors Leonardo and Gabriel agreed that the examples provided were good enough to arise students' curiosity about the grammar rules and their meanings.

- *There were enough examples for the students, sentences and readings so they could identify the topic.*
- *There were enough sentences for the students to look for several examples.*

Yet, they also perceived that even though many examples were presented along the class, the response of students was not as it was supposed to be in an inductive class, given that they could not provide or produce their own examples when they were asked for. Professor Joana said that students did their best, but they needed the teacher to motivate them to participate and just a few times they participated with relevant examples.

- *Definitely. She asked all the students to write their examples and then corrected the mistakes written by their classmates. However, just a few students participated in the group problem-solving.*

Another aspect that was recognized was the guidance that the teacher demonstrated in class. According to Professor Gabriel, the teacher's role was a key element in the performance students had along the session. He said that it was crucial that the teacher did not solve at first instance, but she provided help and advice so that students could be more engaged and interested in the class.

- *The teacher helped the students to identify the tenses by highlighting the verbs in blue (past perfect continuous) and red (past simple).*

Conclusion and implications

The purpose of the current study was to find out the outcomes of implementing an inductive grammar intervention plan that would enhance the way grammar has been instructed in online English classes. The findings of this investigation may offer insightful data that could prompt teachers to reevaluate the methods and approaches taken to aid students in developing a stronger understanding of grammar. Additionally, the results might be useful to other investigations into the same subject. It may also contribute to further research focused on students' performance under inductive instruction in EFL settings.

It was identified that students had a lack of knowledge regarding grammar structures prior to the intervention plan. These findings suggest that, in general, students did not have the expected knowledge they must have had to be enrolled in the course that they were going to take. It is important to shed light on the students' struggle to remember and internalize grammar rules, word structures, and most of all, their meanings. During the intervention plan, some students did take a more active role in the classroom and could reflect on what they were learning. They claimed that, in prior courses, they were given all the information mechanically without any further explanation regarding its use in oral and written discourse.

However, not all the students responded positively, as only a few demonstrated continuous participation and interest in the class; they were the ones who significantly improved their performance in the classroom activities and in the achievement tests. Regarding the results obtained from each of the achievement tests in the first phase of this study, some students seemed to internalize and recall the grammar forms when they were assessed. Those students who were more involved and engaged in the class claimed to have noticed significant differences between the traditional and inductive classes, mainly because of the way grammar was presented, the emphasis on students' participation, and the emphasis on communication.

On the other hand, those tdents who were less involved in the action research project seemed to rely more on explicit and input.

The results of the second phase indicated a significant improvement over those obtained from the first one. It was found that using similar exercises and activities in both the class and on the exams helped students remember how to use and interpret grammar in various contexts. More than 50% of the group was able to recognize grammar patterns and improved their analytical skills as a result of their familiarity with the type of instruction provided during the first phase of the intervention plan. As a result of the arrangements made for the tests, it appears that it was an effective way to raise students' awareness, as even those students who struggled to internalize difficult verb conjugations showed improvement in both the classes and the exams. In the second phase of the study, more students made an effort to understand the subjects covered, which was not the case in the first phase where only four students actively participated, and the rest were passive. It is important to note that students who performed well in the first phase continued to perform well in the next phase.

The fact that the intervention plan was divided into two phases helped us understand how important it was to use activities and tests that were comparable. The data obtained from interviews revealed that students perceived themselves as more curious about discovering the topic addressed which encourages them to analyze the contexts and reach a conclusion; nevertheless, the fear of making mistakes stopped them from being active participants when they had to produce in oral or written discourse. Students also shared their insights about the intervention plan by claiming that one of the most important features they could notice was the non-explicit presentation of the grammar rules which caused them a lot of doubts and problems to understand what the topic was about, esp., when the activities and the evaluations did not seem to match.

On the other hand, the data obtained by means of observations demonstrated that some aspects of the intervention were accomplished: through the analysis of many examples, students could discover grammar rule as expected. Also, through encouragement and guidance, the students were able to develop their problem-solving skills.

The evidence from this study suggests that applying an inductive methodology to teach grammar may benefit some of the students' skills and lead them to not only grasp grammatical knowledge but how to use it in real contexts, however, it is necessary to consider students' background and needs as well as the kind of context where this methodology is carried out. When using an inductive methodology, the age of the students is another important consideration, primarily because this approach does not appear to a favorite among adult learners. In words of Ahmadzai et al. (2019), inductive instruction appears to be more effective with young learners because children absorb their mother tongue through an unconscious process; thus, exposure to a foreign language in a similar way may be more effective for them than for adult learners who need to be exposed to it consciously.

It is important to add that students were not aware of what an inductive class was, for that reason, they were given a brief explanation at the beginning of the classes. Another important implication of implementing an inductive grammar approach is that demands a greater investment of time when planning the lessons, designing the material, and carrying out the actual inductive class.

Limitations of the current study

Finally, a few significant limitations must be considered. This study was conducted in an online environment. If the study had been conducted in a face-to-face setting, the results would most likely have be different. More research in classroom based context to assess the convenience of using this methodology. Second, the sample was rather small. Possibly, with a larger number of participants, more data would have enriched the results of this piece of research.

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