# VIRTUAL PLATFORM DUOLINGO: A SIGNIFICANT TEACHING TOOL IN ENGLISH CLASSES

PLATAFORMA VIRTUAL DUOLINGO: UNA IMPORTANTE HERRAMIENTA DE ENSEÑANZA EN LAS CLASES DE INGLÉS

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# Virtual platform Duolingo: A significant teaching tool in English classes

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#### Abstract

This research consisted in determining the impact of the Duolingo as a teaching tool in the autonomous learning of English. The context was a Junior High School, the participants were 12 sixth grader students. The methodology used was descriptive quantitative. The data collection process was done through the assignments set out in Duolingo and its database. Students took a pre-test and a post-test. The results showed that Duolingo implemented in the classrooms as a teaching tool strengthens the process of learning English; motivating the students to use it in a pleasant and friendly way for the conceptualization of themes and concepts of the English language.

### **Keywords**

Autonomous learning, technology, virtual platforms, Duolingo.

#### Resumen

Esta investigación consistió en determinar el impacto de Duolingo como herramienta académica en el aprendizaje autónomo del inglés. El contexto fue una escuela secundaria, los participantes fueron doce estudiantes de sexto grado. La metodología utilizada fue descriptiva cuantitativa. El proceso de recolección de datos se llevó a cabo a través de las asignaciones establecidas en Duolingo y su base de datos. Durante la dinámica los estudiantes tomaron una prueba previa y una prueba posterior. Los resultados mostraron que Duolingo implementado en las aulas como ayuda para la enseñanza fortalece el proceso de aprendizaje de inglés; motivando a los estudiantes a usarlo de una manera agradable y amigable para la conceptualización de temas y conceptos del idioma inglés.

#### Palabras clave

Aprendizaje autónomo, tecnología, plataformas virtuales, Duolingo.

#### Introduction

English language plays an important role in Colombia, as Gonzalez (2015) argued, it is a priority in Colombian education to get students to reach an optimal level in English for a good performance in the different areas of occupation; therefore, institutions and individuals are always looking for different methods to teach it; and in this context autonomous learning appears as essential for students to guide their learning, which allows them to continue studying and practicing the language outside the classroom. People who can and choose to learn English generally retain what they are taught and take responsibility in the process. This also encourages students to solve problems that they may encounter in their learning process without depending on the teacher, this implies a change of the teacher's role, he/she becomes a mentor and the student becomes the center of attention. Gonzalez, Ramirez & Villota (2019) argued that educators should be aware of the multiple tools that can be used through which you can optimize the process of teaching a foreign language.

This research paper illustrates how in the current technological era, different tools for the teaching of English as a foreign language have been created, indirectly helping students improve their autonomous learning. However, some students lack autonomous learning and tools for it, this might explain why they do not study at home and limit their education to what they learn in school.

This research applied a technological tool as support to autonomous learning. Valencia, Enriquez and Agredo (2017) mentioned that in today's globalized world, technology is part of the daily activities for many people, and students are a population that maintains permanent contact with it. In this relationship, there a wide selection of platforms for learning English, one of those was created by Luis Von Ahn in 2011, called Duolingo. It is a free language learning platform used on mobile devices, and it has become one of the most popular applications to practice a language as it implements game-like mechanics, moreover it is fun to use. This research used this virtual tool in order to obtain the main objective which is to determine the impact of the virtual platform Duolingo, as a teaching tool, for strengthening English as a foreign language autonomous learning, in sixth grade students, at a Colombia school.

This quantitative research was carried out in a Colombian school. Classes were observed, and help from the homeroom teacher was obtained, to use Duolingo as a tool for students to study and practice some English topics at home. This was done to observe how this tool could be used by students and the teacher. In this way, the investigation followed three steps in its procedure; to analyze, to implement and to measure. First, some factors in the English class with sixth-graders at school were analyzed, and a strategy to implement the virtual tool Duolingo and the topics used for the research were planned. Second, a pretest and a posttest were prepared to measure the impact this tool had on student performance. And third, the virtual platform was implemented. Finally, the effects of this research, in the class and the students of sixth-grade were measured, using interviews and Duolingo's database.

The research question stated was: what was the impact of the virtual platform Duolingo as a teaching tool for strengthening the autonomous learning of English as a foreign language in students of sixth grade at Junior High School in Cali, Colombia?

#### Theoretical framework

#### **Education in Colombia**

According to Gonzalez, Ramirez and Salazar (2018) bilingualism creates practical benefits in an increasing globalized world. English teachers' levels were diagnosed and material and pedagogical resources for elementary and high school were offered, teacher training workshops and accompaniment in the classroom, along with the construction of a general curriculum, and guidelines for the design of study plans and the development and publication of materials for learning English from grades 6 to 11. (Colombia aprende, w.d.)

The importance of learning English as a foreign language is vital in every society around the world and as its importance grows day by day, the need to improve is growing as well. Like in any other part of the world, in Colombia, people are encouraged to learn English, due to its global impact and its benefits. In several schools of the country the integration of electronic devices, such as computers, tablets, video beams, etc., have been implemented as a complement in classes, in most of the subjects. The integration of these tools is positive, as technology has become something that is constantly around everyone. These portable devices have allowed the creation of different types of programs and applications, such as Duolingo, Busuu, Photomath, OneNote, Dropbox, Evernote, etc.

In the world, there are kinds of applications or apps that can be used for learning and teaching via electronic devices. Many of the applications and programs already mentioned can be included for educational use in the classroom. The idea is to identify how Duolingo impacts the learning of the English language and the autonomous learning of a foreign language in Colombian education. This way, as Gonzalez 2015 cited by Enriquez, Valencia & de Oliveira (2017) proposed, teachers can keep up with the trends in teaching, and this will activate new motivations and help increasing the integration of the students. In this regard, other authors consider that people who are part of society use technological tools in their daily lives, whether to distract, educate, communicate and / or other activities (Villota, Agudelo and González, 2019).

# Autonomous language learning

Autonomous learning refers to the ability to take charge of one's learning, (Holec, 1981). Autonomous learning allows students to acquire an ability to learn by themselves, thus training them to make their own decisions in their learning practice. They will also recognize their flaws and overcome them. Once students learn how to be independent, they strengthen their weaknesses and evaluate their results thereby developing learning autonomy. This autonomy exists when students coordinate and direct their own learning experience.

Autonomous is any will that may let link to the general interest, even when it might decide to do otherwise, Sepulveda, 2003 (As cited in De la cruz, Josa, Molano, & Montenegro, 2013). This means that the individual can do what he/she pleases, and he/she will take decisions that he/she considers more favorable.

Autonomous learning is also referred as student–centered learning, it is important to take into account that is based on a constructivist theory of learning, whereby each individual constructs his/her own understanding based on the prior knowledge and current learning experiences, Kember, 1997 (As cited in O'Neill & McMahon, 2005). One of the first Pedagogic theorists of autonomy was Malcoln Knowles who considers the autonomous teaching as a process where individuals take the initiative in designing their experiences of learning, diagnosing their needs, locating their resources and evaluating their goals (Manning, 2007).

## Student centered learning

Duolingo gives students control of their learning process, as it allows them to take responsibility for their own learning. Teachers will not be as important as students when learning via this tool. Student-centered learning is linked to autonomous learning, because if students are given more focus in the learning process they might learn to study autonomously. Teachers will be counselors and students will be the main characters when they learn to use this tool. Student-centered learning, as the term suggests, is a method of learning or teaching that puts the learner at the center, (Attard, loio, Geven, & Santa, 2010).

In this way there is a change of roles from teacher to student where the student will go from being at the bottom to the center of the process. According to Castro & Arboleda, 2017 (as cited by Valencia, Enriquez and Acosta, 2018), educational reforms can be seen as an opportunity for improvement. And the professor plays a very important role in all academic processes (Valencia, 2018).

# Mobile-assisted language learning

MALL stands for mobile-assisted language learning, which is an approach to learn a language supported by mobile or portable tools and technology. This term evolves from computer-assisted language learning (CALL), shifting from standard computers to more portable devices, such as tablets, mobile phones, mp3 and mp4 players, PDAs (personal digital assistant) and other handheld mobile devices. This equipment allows the teaching process to be applied at any place and time, creating a better access for the learning material. Gonzalez, Villota & Riofrio (2019) mentioned that ICT are tools which are integrated into the learning process to broaden the spectrum of impact in education.

MALL implements portability, as the devices it uses have a smaller size than household computers, correspondingly, they can be taken anywhere. Cellphones are a social tool which facilitate authentic and relevant communication among students, Reinders, 2010 (As cited in González, 2016).

The use of MALL in the classroom, creates a personalization in education made by the individuality of mobile phones that allows for a variety of learning styles, allowing students to choose if they prefer to learn with audiovisual or visual material or via game related applications among other virtual technology. González, Salazar, Bautista & Villota (2018) stated that a great way to evaluate students' knowledge

PARTE B: TECNOLOGÍAS DESDE EL CAMPO EDUCATIVO

is through the use of games. Valencia, Enriquez & Tigreros (2018) proposed that the opportunities related to the technological advances in information and communication will always be the possibility of innovation.

# Methodology

This research was developed from a quantitative perspective since according to Aliaga and Gunderson (2002) this research method is an explaining phenomena by collecting numerical data that are analyzed using mathematically based methods in particular statistics (Bhawna & Gobind, 2015).

Quantitative research is essentially about collecting numerical data to explain a particular phenomenon (Bhawna & Gobind, 2015).

In this study, the data collection was done through the pre-test and post-test (initial and final test), which were taken by the twelve (12) sixth grade students, groups B and D of the Junior High School located in the city of Cali, through the Duolingo virtual platform. The observation and the field notebook were fundamental during the information gathering process, helping with the relevant information to address the objective proposed in this research. In addition, it is important to highlight that the twelve (12) participants in this study were selected voluntarily, so that the students voluntarily accepted participation in this research.

#### Procedure

The procedure was divided into three steps that are listed below:

Step 1: Analyze

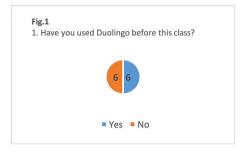
Step 2: Implement

Step 3: Measure

#### Results

The first instrument is a written interview carried out to the students; the second instrument is an oral interview carried out to some students; and the third instrument is an oral interview performed to a teacher who already used Duolingo in his classes.

Figures 1-8: Interview #1 had eight questions

















Fuente: Elaboración propia (2020)

In summary, half of the students had already used Duolingo before and the other half did not. Most students thought Duolingo was easy and they enjoyed the activities and they learned something with it. Half of the students had an idea of what autonomous

learning was. All the students would recommend the virtual platform, none of them disliked it and they said they would use it again in the future.

In this direction, the other activities were continued. Interview #2 was done to four students at school after having applied the virtual platform in classes. In both groups, two students were interviewed, one student who had used it frequently and another who had not used Duolingo. The first student who used it said he had been using Duolingo for a month and the other student said he had been using it since last year.

When they were asked, what they thought about Duolingo's activities. The first student said, they were very simple to do and very fun and that he liked how Duolingo corrected him on his answers. The second student said that some activities were a little complicated but good at the same time.

For the question, what they learned through Duolingo, The first student said he had improved and learned what he did not know in English and the second student said he learned about new words and other ways of talking to people and some other things.

When they were asked if they would recommend using Duolingo, both students said they would. The first student explained that was very simple to use and it can be used it from anywhere and it is a lot of fun and the second student said it was a good application and and it helped a lot.

Both students who did not use Duolingo were asked if they knew what Duolingo was. The first student who did not use it, said it was an application that helps learn a lot of languages like English, Portuguese and French. The second student said it was a platform to help people learn English or other languages. When asked if they had ever used any app to learn English apart from Duolingo, both students said they had not.

Continuing with the activities, interview #3 was done to a teacher who had already used Duolingo in his classes before. He believed Duolingo is an adequate virtual tool to supported English classes, he said it is complementary to the English class. He stated that students enjoy using this tool because it is fun to use and it is a different way to learn a language. He explained how this tool records the student's scores and how he used that for getting grades. The teacher described how this platform can be used to learn vocabulary and how it handles all aspects of the language, including the visual and the auditory elements for a more effective learning. He said it is a platform that can be used after the class and it will allow students to be more prepared for future classes, as they will learn some basic vocabulary before the class. He also stated that Duolingo allows students to practice outside the classroom. The English

teacher recommended Duolingo to be used in the class for extra activities and for extra grades. He believes that a Duolingo teacher is an important tool and said that his experience with Duolingo had been interesting.

The results of the tests taken by the students were analyzed. Then, Duolingo's database was examined, to thereby observe which students used this platform and how many activities they accomplished and/or points they acquired. Afterward, the oral and written interviews carried out with the students at school were reviewed, to obtain information on what students thought about using Duolingo and the reasons they used it or did not use it as a support to their English class.

The tests were divided into four parts: 1) fill in the blank (Conjugations of the verbs); 2) create a sentence using a verb (Conjugation and writing skills); 3) write five types of a specific category (General English level); and 4) translate (Spanish and English general level). These activities were carried out in order to evaluate how Duolingo impacted the student's general performance. The results of each question in the four parts of the test were evaluated, to compare the results from the Pre-test and the Post-test. The first part has seven questions, the second part has five questions, the third part has three questions and the last part has four questions. These questions slightly vary from the Pre-test to the Post-test. The graphs below show the comparison of both Pre-tests and Post-tests in each part. Last of all, the end results of both grades were analyzed.

**Table 1-** First part: 1. Fill in the blank (Conjugations the verbs)

PRE-TEST	POST-TEST		
1. He (go) to the park and they	1. She (write) a book and		
2 (play) basketball.	they		
3. They (not/ play) guitar on	2 (cook) a pizza.		
Saturdays.	3. They (not/ play) tennis		
4. She4. (play) guitar on	on Saturdays.		
Fridays and he	4. She(play) tennis on		
5 (not/like) the guitar.	Fridays and he		
6. Sam (drink) water. Juliet and I	5 (not/like) tennis.		
7 (eat) pizza.	6. Michael (play) the		
	guitar.		
	7. Lora and I (sing) a song.		

Source: Own (2018)

**Graph 9.** Comparison of the pre-tests and the post-tests of sixth

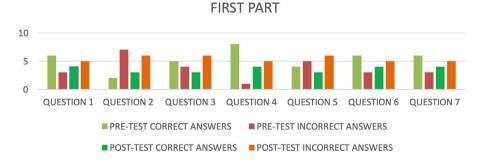
Source: Own (2018)

In the first part, which was filling the blank with correct conjugation of the verb, there were 7 questions, for each test. Students in the first, second, third and seventh answer had more correct answers in the pre-test than in the post-test. In the fourth and fifth questions students had more correct answers in the post-test than in the pre-test. Lastly, the sixth question was the same.

Pre-test: 33 right answers and 30 incorrect answers Post-test: 33 right answers and 30 incorrect answers

Students of sixth B had similar results in this part. This showed that students had similar scores in both tests, they did not reduce or improve their general scores. Their ideas, concepts and learnings were comparable, as students do not always accept new information presented. Piaget "discusses that children go through stages in which they accept ideas they may later change or do not accept." (Roya & Hanieh, 2015).

Graph 10. Comparison of the pre-tests and the post-tests of sixth D



Source: Own (2018)

In the first part, which was filling the blank with correct conjugation of the verb, there were 7 questions, for each test. Students in the first, third, fourth, fifth, sixth and seventh answer had more correct answers in the pre-test than in the post-test. Only in the second question students had more correct answers in the post-test than in the pre-test.

The total results were:

Pre-test: 37 correct answers and 26 incorrect answers Post-test: 25 correct answers and 38 incorrect answers

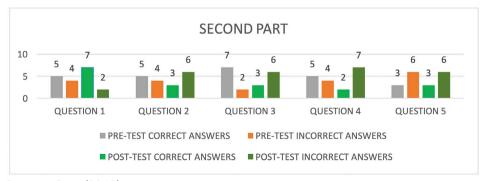
Students in sixth D did much better in the pre-test than in the post-test, thus their performance in this part decreased. Students' results with this particular topic of conjugations, might have decreased due to the fact that they no longer had assistance from their teacher. Even though there was a tool for autonomous learning, a mentor to help them with their difficulties might have been required. As "autonomy is not self-instruction or learning without a teacher. It does not mean that intervention or initiative on the part of the teacher is banned." (Nordlund, n.d.)

**Table 2-** Second part: 2. Create a sentence using a verb (conjugation and writing skills)

PRE-TEST	POST-TEST
1. Show:	1. Cook:
2. Listen:	2. Take:
3. Want:	3. Say:
4. Walk:	4. Want:
5. Swim:	5. Swim:

Source: Own (2018)

Graph 11. Comparison of the pre-tests and the post-tests of sixth B



Source: Own (2018)

In the second part, which was to create sentences, there were five questions. In the second third and fourth questions students had better results in the pre-tests in compared to the post-test. Only in the first question did students do better in the post-test and in the fifth question the results were equal.

The total results were:

Pre-test: 25 correct answers and 20 incorrect answers Post-test: 18 correct answers and 27 incorrect answers

Students of sixth B had better results in the pre-test in this part. This result is related to the Constructivism theory, as this is present when a student is graded in a quantitative way. In this way: "The constructivist stance maintains that learning is a process of constructing meaning; it is how people make sense of their experience" Merriam and Caffarella, 1999 (As cited in Amineh & Davatgari, 2015). In this case students gave their answers based on what they had learned and remembered in class or in any other input. However, they did not do as well in the post-tests.

Graph 12: Comparison of the pre-tests and the post-tests of sixth D

Source: Own (2018)

In the second part, which was create sentences, there were five questions. In the fourth and fifth questions students had better results in the pre-tests in compared to the post-test. In the second and third questions, the students had better results in the post-test. In the first question the results were equal.

The total results were:

Pre-test: 31 correct answers and 14 incorrect answers Post-test: 34 correct answers and 11 incorrect answers

The students had slightly better answers in the post-test, this means that their results improved in this part. This allows us to observe that in this part, the use of mobile

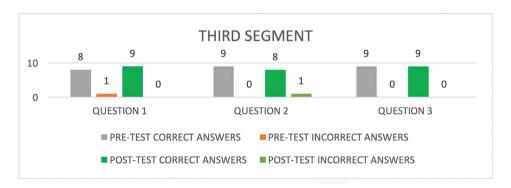
learning via Duolingo proved to be effective to help students maintain and slightly improve their performance. It is important to identify the importance of technology in certain aspects of education for this reason some might believe that "the influence of technology on current academics is such that in near future the whole context of learning will come under single umbrella of m-learning" (Valarmathi, 2011).

**Table 3-** Third part: 3. Write five types or examples of a specific category (General English level)

PRE-TEST	POST-TEST
1. Write five types of animals:	1. Write five types of animals:
2. Write five types of colors:	2. Write five types of colors:
3. Write five types of food:	3. Write five types of clothes:

Source: own (2018)

Graph 13: Comparison of the pre-tests and the post-tests of sixth B



Source: own (2018)

In the third part, there were three questions. In the first question only a student in the pre-test had an incorrect answer and in the second question only a student in the post-test had an incorrect answer. In the last question, every student had the question correct.

The total results were:

Pre-test: 26 correct answers and 1 incorrect answer Post-test: 26 correct answers and 1 incorrect answer

Students of sixth B had similar results in this part, and they had no difficulties at this stage. The constructivism theory mentions that "students are not blank slates or empty vessels waiting to be filled with knowledge. Instead, students bring with them a rich array of prior experiences, knowledge, and beliefs that they use in constructing new understandings." The class had prior information in this segment and used it to obtain good results.

THIRD SEGMENT

9 9 9 9 9 8

0 1 0 1 1 1 4 5

QUESTION 1 QUESTION 2 QUESTION 3

PRE-TEST CORRECT ANSWERS POST-TEST INCORRECT ANSWERS

POST-TEST CORRECT ANSWERS POST-TEST INCORRECT ANSWERS

Graph 14. Comparison of the pre-tests and the post-tests of sixth D

Source: Own (2018)

In the third part, which was giving examples, there were three questions. In the first and second questions only one student in the post-test had an incorrect answer. In the last question, students had better results in the pre-test.

The total results were:

Pre-test: 26 correct answers and 1 incorrect answer Post-test: 22 correct answers and 7 incorrect answers

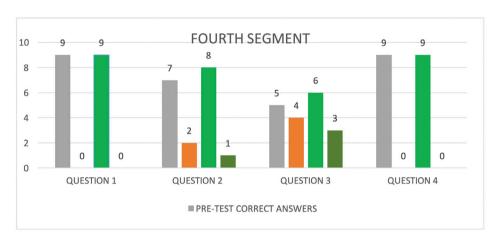
The student's performance decreased in this part as they had better results in the pre-test. In the first exam the general results were better, however the student's different learning styles, might have influenced how they perform in different parts. These learning styles are considered to be "the way in which each learner begins to concentrate, process and retain new and difficult information. That interaction occurs differently for everyone." (Garcia & Juris., 2007) In other words, Information that is clear and coherent at first might be difficult later.

**Table 4-** Fourth part: 4. Translate (Spanish and English general level)

PRE-TEST	POST-TEST
1. Studying English is good!	1. Studying Spanish is good!
2. My mother has four brothers.	2. My father has five sisters.
3. Leo un libro con mi padre.	3. Veo una película con mi madre.
4. Los martes, yo juego baloncesto con mi	4. Los jueves, Juan baila salsa con su
primo.	amigo.

Source: Own (2018)

Graph 15. Comparison of the pre-tests and the post-tests of sixth B



Source: Own (2018)

In the fourth part of translation, there were four questions. In the first and fourth question, none of the students had the question incorrect. In the second and third question, students had more correct answers in the post-test than in the pre-test.

The total results were:

Pre-test: 30 correct answers and 6 incorrect answers Post-test: 32 correct answers and 4 incorrect answers

Students of sixth B had better results in the post-test in this part. They improved their translation skills. This last analysis can be related to the theory of autonomous learning; it is known that the student is responsible and protagonist of carrying out his/her own learning. The National Training Service, explains that this term is "the

faculty that allows the learner to make his own decisions that lead to regulate his own learning according to the objectives and results to be achieved and the context or specific learning conditions" (Tabares, 2015). That means, the student is the one who must mainly be willing and have good initiative capacity to comply with a realistic work plan. Once this is accomplished students will control what they learn, and continue to reinforce this learning.

**Graph 16.** Comparison of the pre-tests and the post-tests of sixth D

Source: Own (2018)

In the fourth part, which was about translating, there were four questions. In the first, and fourth questions, students had better results in the post-tests. In the second and third questions students had equal correct and incorrect questions.

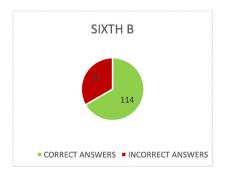
The total results were:

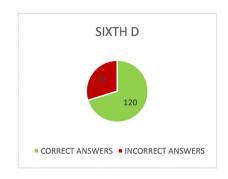
Pre-test: 26 correct answers and 10 incorrect answers Post-test: 31 correct answers and 5 incorrect answers

Students improved in the post-test. The learning via a portable device helped students enhance their translation skills. With the use of platforms, students were promoted to practice their English as these, "offer a wide variety of items which complement students learning activities; forums, tests, documents, chats, video conferences, and many others." (González, 2016) In this regard, it is perceived that technology and mobile learning, "e-learning that uses mobile devices and wireless transmission" Pinkwart, et al., 2003 (As cited in Sabbagh, Udaini, & Amjad, n.d.). have become useful for educational support.

# Graph 17-18: Sixth B and sixth D:

#### **PRE-TEST**





Source: Own

Graph 19-20: Sixth B and sixth D:

**POST-TEST** 





Source: Own

The results of the research led us to observe how students of sixth grade had slightly better results in the pre-test than in the post-test, thus their results lowered. Overall, the results of both groups of sixth grade were similar, with sixth D showing somewhat higher results. These differences from classes of the same grade can be signs of different learning styles, which is "a person's general approach to learning and is dependent upon that person's cognitive, affective and behavioral characteristics" (Oxford, 1989).

In addition to these factors for the deference test results, David Kolb and other authors Kiersey, Fleming and Honey explain that "other possible influences on a

person's learning style [...] include personality, cognitive styles, temperaments, sensory processes and age" (Boneva & Mihova, 2012).

Furthermore, we analyzed that some students did not practice with the platform and for that reason their results may have reduced from that of the original exam, moreover the students that did use the platform maintained their scores from the pre-test in the post-test. As it was mentioned in one of the papers consulted as a reference, autonomy is not thoroughly recognized by students, which may be a reason they do not include these kinds of strategies in their study activities. The students who used Duolingo showed to take charge of their learning and responsibility when it came to the learning the language. They demonstrated autonomous learning which can be defined as "to have [...] the responsibility for all the decisions concerning all aspects of this learning[...]" Holec 1981 (As cited in Little, 2006).

Consequently, the virtual platform did not have a significant impact in both groups of sixth grade, however students that used the platform maintained their English level in most of the segments and students that did not use it lowered their scores.

According to the analysis, the theory of mobile learning and Mobile-assisted language learning can be taken into account, as they are characterized by the use of technological tools for educational fields, these being a methodological tool for teaching. M-learning, "simply learning that takes place with the help of mobile devices, or the intersection of mobile" Quinn 2000, (as cited in Mathur, Kaur, Sharma, & Padmanabhan, 2015). And MALL which "is language learning using mobile devices" (Valarmathi, 2011) have become essential in current society as virtual tools are present in educational institutions, concerning children and adults, opening way to a new learning and teaching method through virtual applications, platforms and programs.

Finally, it can be stated that the integration of technology in the teaching and learning process can lead students into an autonomous way of learning, taking into account the continuous developing of new and different technologies ways which can be used in education. Teachers must work really hard in creating the right environment for their students and offer them different options to optimize their learning and to promote their autonomous work.

#### **Conclusions**

According to the theoretical framework presented in the research and the results of the analysis of the information, with the pre-tests, the post-tests, Duolingo's Database, the oral and written interviews of the classes of sixth grade and the oral interview to the english teacher there was an accurate conclusion of the investigation.

Firstly, related to the tests taken by the students; it was concluded that most students who obtained lower grades in the Pre-tests and Post-tests did to not use the virtual platform. On the other hand, students who had obtained better results tended to use Duolingo more. Therefore, most students who did not use it had low scores on the first exam and low scores on the second exam, correspondingly students who used it had good results but did not improve their results, the final scores remained similar.

Consequently, Duolingo helped students continue practicing the topics they had already studied. They did not improve drastically but their levels in the tests remained the same, as Duolingo is a support to the class and allowed students to practice what they already know thus, preserve what they have been taught. It did not teach additional information but it helped maintaining the students' English level and scores, because this tool can be used to review what students were taught in school classes.

Secondly, with the use of the platform, students can continue practicing and using the information they already know and their English level will not decrease. However, if students do not have a solid basis in the topic they will not be able to practice using Duolingo efficiently. As mentioned before, the integration of technology in education showed a great impact.

Thirdly, it was evidenced that Duolingo impacted the English level as it allowed students to keep a persistent score in the test and practice the topics. The autonomous learning of the students who used the platform improved as they were using it constantly, but those who were not using it did not have autonomous learning and it did not influence or motivate them to start their autonomous learning.

Fourthly, it was identified that Duolingo did not have negative effects in the English language of the class, however its impact was that it allowed students to continue practicing the information and grammar rules they already knew. Duolingo was not a tool to be used independently but it was integrated with the guide of other methods and techniques, such of a class.

Finally, the interviews done to the students and the teacher allowed to assert that Duolingo was a fun and different way to guide the language learning process. However not all students had autonomous learning and this might have been caused by their low English level. Most students found Duolingo to be fun and entertaining, nevertheless many students did not use the platform frequently and for this reason it was recognized that they lack autonomous learning, which should be stimulated by the teacher or parents.

This research can be really helpful in future papers, it can lead to integration of different ways of technology use in classes to improve academic processes and to motivate students in their language learning.

# **Bibliography**

- Aliaga, M. & Gunderson, B. (2002). Interactive statistics. Provides introduction of basic statistical methods with its strong emphasis on data analysis, also describes how to understand and interpret a variety of statistical results. New Jersey: Prentice Hall.
- Amineh, Roja & Asl, Hanieh. (2015). Review of constructivism and social constructivism. *Journal of Social Sciences*, *Literature and Languages*, 1(1), 9-16.
- Bhawna, & Gobind. (2015). Research Methodology and Approaches. 51. Moga, Punjab, India. Retrieved from http://www.iosrjournals.org/iosr-jrme/papers/Vol-5%20Issue-3/Version-4/H05344851.pdf
- Boneva, D., & Mihova, E. (2012). Learning Styles and Learning Preferences. Retrieved from http://dyscovery.research.southwales.ac.uk/media/files/documents/2014-01-16/Module 8.pdf
- Colombia aprende. (w.d). Convocatoria Plan de Incentivos: Se extiende plazo para inmersión en el Eje Cafetero. Colombia. Obtenido de http://www.colombiaaprende.edu.co/html/micrositios/1752/w3-article-351457.html
- De la Cruz, R., Josa, L., Molano, M. D., & Montenegro., C. (2013). Manifestaciones de autonomía en niños del grado sexto de la Institución Educativa Carlos Alban del municipio del Timbío, Cauca. Manizales, Colombia. Retrieved from:http://ridum.umanizales.edu.co:8080/xmlui/bitstream/handle/6789/909/TRABAJO%20DE%20GRADO.%20MANIFESTACIONES%20DE%20AUTONOM%C3%8DA.pdf?sequence=1
- Enríquez, J. A. V., Valencia, H. G., & de Oliveira, A. M. P., (2017). What Mathematic Teachers Say about the Teaching Strategies in the Implementation of Tasks. *Modern Applied Science*, 12(5), 114.

- Garcia, M. G., & Juris., M. S. (2007). *Teaching and learning crossroads*. Barranquilla, Colombia. Recuperado de: http://rcientificas.uninorte.edu.co/index.php/zona/article/viewArticle/1685/4629
- González, Heriberto. (2015). La integración de la tecnología como herramienta significativa en la enseñanza del inglés como lengua extranjera. *Revista Horizontes Pedagógicos*. 17(1), 53-66.
- González, H. (2016). The integration of ICT in English classes in the xxi century: motivating English learning. *International congress on the didactics of the English language*, 1(12).
- González H., Salazar, P., Bautista A., & Villota J. (2018). The Acquisition of New Vocabulary through Games in the Process of Learning English as a Foreign Language. *Revista Palabra*, 9 (38).
- González, H., Ramírez, A., and Salazar, P. (2018). Las TIC en el mejoramiento de las competencias en lengua extranjera de los profesores de inglés. Colombia: Universidad Santiago de Cali.
- González Valencia, H., Villota Enríquez, J., & Riofrio Bastos, E. (2019). Modelos de aprendizaje virtuales y presenciales en lecto-escritura. *Horizontes Pedagógicos*, 21(1).
- González Valencia, H., Ramírez Valencia, A, & Villota Enríquez, J. (2019). Integrating Technology In The Improvement And Motivation Of Learning English As A Foreign Language. International Journal of Scientific & Technology Research.
- Holec, H., (1981): Autonomy and foreign language learning. Oxford: Pergamon. (First published 1979, Strasbourg: Council of Europe)
- Little, D. (2006). Learner autonomy: drawing together the threads of self-assessment, goal-setting and reflection. European Centre of Modern Languages. Recuperated from: http://archive.ecml.at/mtp2/ELP\_TT/ELP\_TT\_CDROM/DM\_layout/00\_10/06/06%20Supplementary%20text.pdf
- Manning, G. (2007). Business and Public Administration Studies. Self-Directed Learning: A Key Component of Adult Learning Theory. 2(2).
- Mathur, A., Kaur, S., Sharma, Y., & Padmanabhan, J. (2015). *Dans Dimensions of Innovations in Education*. New Delhi, India: New Delhi publishers.
- Nordlund, J. (n.d.). «From Here to Autonomy»: Autonomous Learning Modules (ALMS). Finland.
- O'Neill, G., & McMahon, T. (2005). Student-centred learning: What does it mean for students and lecturers? Dublin, Irland.
- Oxford, R. (1989). The use of language learning strategies: A synthesis of studies with implications for strategy training. "System," 12(2), pp235-47.
- Ryan M., Callaghan A., (n.d.). The Science Method. Estados Unidos: Universidad

- de Nevada.
- Roya, J. A., & H. D. (2015). Journal of Social Sciences, Literature and Languages. *Review of Constructivism and Social Constructivism*, 1 (16).
- Sabbagh, Udaini, A., & Amjad, A. (n.d). *Mobile learning in education*. Islamic University of Gaza. Recuperated from: https://education.iugaza.edu.ps/Portals/18/albums/pdf/mobile%20learning%20modified.pdf
- Tabares, H. A. (2015). Aprendizaje en el Sena. Colombia. Editorial del SENA
- Valencia, H. G. (2018). The Integration of Native Language in EFL Classes. *English Language Teaching*, **12**(1), 1.
- Valencia, H. G., Enriquez, J. A. V., & Agredo, P. M. (2017). Strategies Used by Professors through Virtual Educational Platforms in Face-To-Face Classes: A View from the Chamilo Platform. *English Language Teaching*, 10(8), 1.
- Valencia, H. G., Enriquez, J. A. V., & Acosta, L. R. (2018). The Education of an English Professor: The Biographical Narrative. *English Language Teaching*, 11(4), 101.
- Valencia, H. G., Enríquez, J. A. V., & Tigreros, M. E. F. (2018). Innovative Scenarios in the Teaching and Learning Process: A View From the Implementation of Virtual Platforms. *English Language Teaching*, 11(7), 131.
- Villota Enríquez, J., Agudelo Zapata, A. and González Valencia, H. (2019). Estrategias que utilizan los estudiantes para desarrollar el pensamiento tecnológico: una mirada desde los artefactos tecnológicos. En: Tecnología, sociedad y educación: desafíos de las TIC en el desarrollo social y sus implicaciones en la práctica educativa. Cali: Editorial Universidad Santiago de Cali.