



Universidade Federal do Ceará
Centro de Humanidades
Departamento de Língua Inglesa, suas Literaturas e Tradução - DELILT
Professora: Lídia Amélia de Barros Cardoso

***DUOLINGO AS A TOOL FOR LEARNING THE ENGLISH LANGUAGE IN THE
CLASSROOM TO IMPROVE WRITING VOCABULARY***

GLOUBÉRLIA MARIA BEZERRA DE SOUSA

Fortaleza
2017. 2

GLOUBÉRLIA MARIA BEZERRA DE SOUSA

DUOLINGO AS A TOOL FOR LEARNING THE ENGLISH LANGUAGE IN THE CLASSROOM TO IMPROVE WRITING VOCABULARY

Artigo apresentado ao curso de Letras – Inglês do Departamento de Línguas Estrangeiras da Universidade Federal do Ceará, como requisito parcial para obtenção do título de Licenciada em Letras – Inglês.

Orientadora: Prof^a Dr^a. Lídia Amélia de Barros Cardoso

FORTALEZA

2017

Dados Internacionais de Catalogação na Publicação
Universidade Federal do Ceará
Biblioteca Universitária

Gerada automaticamente pelo módulo Catalog, mediante os dados fornecidos pelo(a) autor(a)

S696d Sousa, Gloubertia Maria Bezerra de.
DUOLINGO AS A TOOL FOR LEARNING THE ENGLISH LANGUAGE IN THE
CLASSROOM TO IMPROVE WRITING VOCABULARY / Gloubertia Maria Bezerra de
Sousa. – 2017.
37 f. : il. color.

Trabalho de Conclusão de Curso (graduação) – Universidade Federal do Ceará, Centro
de Humanidades, Curso de Letras (Inglês), Fortaleza, 2017.
Orientação: Profa. Dra. Lídia Amélia de Barros Cardoso.

1. Duolingo. 2. Vocabulary. 3. Application. I. Título.

CDD 420

GLOUBÉRLIA MARIA BEZERRA DE SOUSA

DUOLINGO AS A TOOL FOR LEARNING THE ENGLISH LANGUAGE IN THE CLASSROOM TO IMPROVE WRITING VOCABULARY

Artigo apresentado ao curso de Letras – Inglês do Departamento de Línguas Estrangeiras da Universidade Federal do Ceará, como requisito parcial para obtenção do título de Licenciada em Letras – Inglês.

Aprovada em: ____ / ____ / ____

BANCA EXAMINADORA

Prof^a. Dr^a Lídia Amélia de Barros Cardoso (Orientadora)
Universidade Federal do Ceará (UFC)

Prof. Dra. Pamela Freitas Pereira Toassi
Universidade Federal do Ceará (UFC)

Prof. Dr. Samuel Carvalho Lima
Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Norte
(IFCERN)

Dedico essa conquista a meu filho Kevin e a toda minha família que me deram muito apoio.

AGRADECIMENTOS

Agradeço essa conquista a Deus, a minha professora orientadora que teve paciência e que me ajudou bastante para concluir este trabalho. Aos meus pais, meu filho e as minhas amigas que sempre me deram força para alcançar o sucesso.

Resumo em língua vernácula

O objetivo deste trabalho foi investigar a eficiência do *Duolingo* como uma ferramenta para ajudar no aprendizado de inglês como língua estrangeira (LE). A investigação foi focada mais especificamente na melhoria do conhecimento do vocabulário por escrito. As evidências recolhidas emergiram do desempenho dos alunos antes e depois do uso da ferramenta. *Duolingo* é um aplicativo com plataforma fácil e divertida de usar para estudar línguas estrangeiras. A plataforma se desenvolve como um jogo em fases e desafios progressivos. A metodologia utilizada para esta pesquisa baseia-se na estrutura de projeto de pesquisa-ação. Isso significa que o estudo é caracterizado por ter o professor e os alunos em uma sala de aula real. Os participantes envolvidos para a coleta de dados consistem em dois grupos diferentes. Um grupo de controle, referido como Grupo A, com vinte e oito alunos do 6º ano (onze meninas e dezessete meninos) e um grupo experimental, referido como Grupo B, com vinte e três alunos do 6º ano (onze meninas e doze rapazes) todos com a faixa etária entre 10-13 anos. As aulas aconteceram uma vez por semana e duraram 100 minutos cada. Depois de investigar três lições experimentais com o aplicativo *Duolingo*, é justo dizer que não só o conhecimento do vocabulário foi melhorado por escrito, mas também ficou claro que o aplicativo serviu como uma ferramenta motivacional para os estudantes, pois eles demonstraram mais interesse e engajamento nas aulas. Os resultados desta pesquisa de ação sugerem que o uso de *Duolingo* como ferramenta para melhorar o vocabulário deve ser considerado uma ferramenta em potencial nas salas de aula. *Duolingo* também parece afetar positivamente os aspectos motivacionais, já que os alunos estavam claramente mais interessados em usar o aplicativo.

Palavras-chave: Duolingo. Vocabulário. Aplicativo.

Resumo em língua estrangeira

The goal of this work was to investigate the efficiency of *Duolingo* as a tool to assist English as foreign language (EFL) learning. The investigation focused most specifically on the improvement of vocabulary knowledge in writing. The collected evidence emerged from students' performance before and after the use of the tool. *Duolingo* is an APP with easy and fun to use platform for studying foreign language. The platform develops as a game in progressive phases and challenges. The methodology used for this research is based on the action research design framework. It thus means the study is characterized as having the teacher and students in a real classroom setting. The participants involved for data collection consist of two different groups. One control group, referred to as A, with twenty-eight 6th graders (eleven girls and seventeen boys) and an experimental group, referred to as B, with twenty-three 6th graders (eleven girls and twelve boys), within the 10-13 years old age range. The classes happened once a week and lasted 100 minutes each. After investigating three experimental lessons with *Duolingo* application it seems fair to say that not only vocabulary knowledge was improved in writing, but also, it became clear that the App served as a motivational tool for students, since they demonstrated more interest and engagement in classes. The results of this action research suggest that the use of *Duolingo* as tool for improving vocabulary should be considered a potential tool in classrooms. *Duolingo* also seems to affect positively on motivational aspects as students were clearly more interested using the App.

Keywords: Duolingo. Vocabulary. Application.

LISTA DE GRÁFICOS

Graph 1 – Frequency of use of the *Duolingo*

Graph 2 – Number of correct answers in Pre-test

Graph 3 – Number of correct answers in Post-test

SUMMARY

INTRODUCTION.....	1
DUOLINGO	4
LITERATURE REVIEW.....	5
METHODOLOGY	8
DATA ANALYSIS.....	13
PRE-TEST.....	16
POST-TEST.....	19
FINDINGS AND DISCUSSION.....	21
FINAL CONSIDERATIONS.....	22
REFERENCES.....	24
APPENDIX	25

INTRODUCTION

The Computer Assisted Language Learning (CALL) movement has become widely used in the last years. The term CALL is used to refer to the “application of computers in teaching and learning languages.” (Shrum&Glisan, 2010, p.452). With the increase of modern technologies in current life, classrooms need to try to accompany this movement as students seem to walk together with these technologies. Assuming that the use of smartphones in the classroom, through new applications (APPs) can support the acquisition of foreign languages, this research investigates the efficiency of the *Duolingo* as a tool for English as a foreign language (EFL) learning to improve vocabulary knowledge in writing.

According to (Shrum & Glisan, 2010, p.452), the term Technology-Enhanced Language Learning (TELL) refers to all uses of technology in language education. For this research cell phones are used as a tool to assist in sharing information for purposes of communication. However, one more term is broadly used in literature to account for the use of technology in classroom. Information Communication Technology (ICT) refers to those technologies that assist in sharing information for purposes of communication, a use of technology that in particularly relevant to language learning. In this case, we are encouraged to believe that ICT seems to be the more appropriate term to use for the study conducted.

Due to the constant insertion of technologies in the teaching of languages, the adaptation of teaching practices aims to improve the quality of content-learning presented in the classroom: ¹

“The new communication and information technologies permeate everyday life, regardless of physical space, and create life and coexistence needs that must be to be analyzed in the school space. Television, radio, computer science, among others, caused men to

¹ “As novas tecnologias da comunicação e da informação permeiam o cotidiano, independente do espaço físico, e criam necessidades de vida e convivência que precisam ser analisadas no espaço escolar. A televisão, o rádio, a informática, entre outras, fizeram com que os homens se aproximassem por imagens e sons de mundos antes inimagináveis. (...) Os sistemas tecnológicos, na sociedade contemporânea, fazem parte do mundo produtivo e da prática social de todos os cidadãos, exercendo um poder de onipresença, uma vez que criam formas de organização e transformação de processos e procedimentos”. (PCN’s, 2000, p.11-12)

approach images and sounds of worlds previously unimaginable. (...) Technological systems, in contemporary society, are part of the productive world and the social practice of all citizens, exercising a power of omnipresence, since they create forms of organization and transformation of processes and procedures.” (PCN's, 2000, p.11-12)

In this context, the use some applications as language learning tools can be especially effective for the moments of fun and for the significant contributions to the teaching and learning process per se.

Prensky (2001) brings to our attention two more terms (digital natives and digital immigrants) in trying to demonstrate how teachers and students occupy different settings. Prensky (2001) goes on to explain that digital natives are the “21st century students who grown up using the Internet and who are always connected in technological devices”. On the other hand, the teachers “are called digital immigrants” because it is most likely that the teachers did not grow up with knowledge of such tools. As so, teachers need to become more educated to be able to use what the Internet and other technological devices offer in classrooms. This leads us to a conflicting view as the use of these tools in the English classes can create powerful ways for students to learn and engage with more integrating and more communicative classes.

According to David Crystal (2003), the English Language has already been classified as Universal Language because it is spoken by millions of people from different countries. Crystal affirms that you hear it on television spoken by different people from all over the world.

With the educational move heading towards bilingualism education, schools have begun to consider teaching English. However, the bilingualism has not been so effective in making schools think of new ways to teach a second language. Being bilingual brings advantages in the communicative, cognitive and cultural fields (Wei, 2000).

According to Marcelino's research (2008), English Language was only a discipline that should be taught because it was part of the curriculum, but the teaching of the language was not enough to have students communicating in English. Then, a specific course to provide the conditions for learning a foreign language should be revised.

In Brazil, children from public schools start learning English only on the 6th grade. This late start can be pointed as one of the reasons why regular schools do not present concern in introducing more adequate methodologies along with different ways to motivate students to learn English at school.

One more aspect that seems to be relevant is the age range of students as initial instruction in English is given. Teenagers tend to be more distracted when they are in classroom especially if the classes are not interesting for them. With the English language learning lessons, the same applies. The degree of involvement on their part can be put at stake even if they know that learning a foreign language is important for their future. Therefore, the teachers need to be aware that innovating in their classes could be a way to motivate learning. With this understanding learning can be more enjoyable and effective.

Technology tools can be used to lead to good teachers' decision because it "brings new challenges and opportunities more rapidly" (Shrum & Glisan, 2010, p.450). Considering that there are some sets of modern tools to help teachers make good decisions, *Duolingo* can be an example of successful integration of technology in second language classrooms.

This App, beyond bringing enjoyable interaction options, provides several technological activities. As Martinez-Lage and Herren (1998) point "technology use in the language classroom should be embraced only if there are substantial benefits to learners" so, the learners acquire knowledge and have fun.

Martinez-Lage and Herren (1998) also highlight that the planned and purposeful use of technology can bring benefits to learners, such as:

- More effective use of time. It can be used beyond classroom walls.
- Individualized learning. Students can go at their own pace following their own study rhythm.
- Student empowerment. With modern technologies, this new term also emerged. In previous studies what was called autonomy is currently called empowerment as students can gain control of their own learning.

Having in mind that the use of tools and applications carry potential possibilities for learning, *Duolingo* will be briefly described in the next section.

DUOLINGO

Duolingo (App) offers the teaching of six foreign languages in a fun way. The App presents gamification elements that can provide learning with different levels, from basic level to the most advanced level, each lesson is a phase and when you complete a lesson, another is unlocked such as in a video game.

In addition, the App promotes meaningful interaction, even if the interaction provided can be characterized by an asynchronous communication tool mode.

The question that this study aims at investigating is “What is the effectiveness of application *Duolingo* as a tool for learning the English language in the classroom to improve the writing vocabulary?” The general objective of this work is to investigate the efficiency of the *Duolingo* Application as a technological tool that leads to vocabulary acquisition in English language learning in the classroom.

The specific objectives are to verify to what extent the application helps to develop vocabulary knowledge in writing skills and to collect evidence from students’ performance, observing if the content is learned effectively or not. The hypothesis is that the use of *Duolingo* could be used to have students more interested so that English language knowledge in the classroom can be improved.

LITERATURE REVIEW

Using the technology in the language classroom provides some possibilities for teachers who seek to work with vocabulary development. Such instructional strategy, when used in foreign language classrooms seems to be more attractive and interesting to the learners.

Multimedia learning provides students ways to increase the classroom learning providing flexibility to each type of learning that can enrich the classroom experience. Crompton (2013, p. 4), states that m-learning is the process to “learning across multiple contexts, through social and content interactions, using personal electronic devices”.

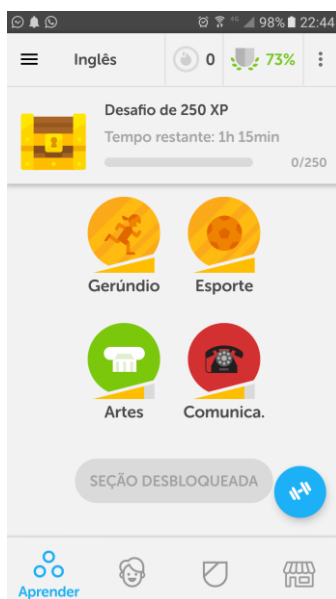
Shrum & Glisan (2010) argue that including technologies and its tools can help them plan lessons that will improve vocabulary in writing. Some pedagogical principles pointed are:

- Elaborate and enrich input with exposure to varied sources using the internet.
- promote learning by doing with negotiation of meaning using the internet.
- Encourage inductive learning with implicit instruction using the internet.
- Focus on form, error correction with learners notice and adjust their interlanguage.
- Respect learners' individual developmental learning with timing pedagogical intervention to learner's zone of proximal development (ZPD) in branching and additivity programming.
- Individualize instruction with analyze needs of learners and provide differential strategies and tasks using autonomous learning.

Technology provides interesting and unique ways to connect language learners to the TL and culture. It enables learners to establish interaction with peers who are learning the language and improve student motivation and enthusiasm for language learning (Shrum & Glisan, 2010, p. 452).

Duolingo is an application (APP) with an easy and fun platform for studying foreign language. According to the web site *Duolingo*, the platform is developed as a game with phases and challenges. Each phase presents some

challenges to accumulate scores and complete many tasks. The way as the platform was developed makes the application a study tool.



Picture 1 - Own authorship photo: Duolingo to mobile phone

Furthermore, teachers who have problems in motivating students in the classroom can use *Duolingo* to get students more interested. From this perspective, *Duolingo's* contribution offers a personalized practice for each student, allowing a better use of the content presented in the classroom.

According to the web site *Duolingo*, many teachers, and some governments are already using *Duolingo* as a technological tool in the classroom. By using this new source, teachers can check the development of their students individually and in one place. Because each class includes multiple conversation, comprehension, translation, and challenge questions using multiple choices, the App allows the learner to know immediately whether their answers are correct or not. If the student fails, he/she will soon be informed, and immediately the application shows how to improve.

Nation (2008) argues that:

“Most published books of prepared vocabulary exercises use teach, test, and mark format. That is some aspects of the words are taught, and then the learners do labelling, completion, rewording, classifying, correcting or matching activities that they later mark using an answer key.”

To corroborate/or refute with what Nation (2008) mentions in regards of vocabulary the tests used to investigate *Duolingo* efficiency for learning vocabulary in this research were based in the exercises proposed in classroom during previous experiences. Nation (2008) says clearly that the deliberate teaching and learning of vocabulary is often neglected because a list of simple activities which require little or no preparation, so the attempt to use additional sources to engage students in practicing vocabulary input is consistent with good pedagogical decisions.

METHODOLOGY

For conducting this investigation, the principal and the coordinator of school were informed in a meeting when the research goals as well as the instruments to be adopted for the data collection were explained.

The study began in August and finished in October of 2017. It was held in a public school in Caucaia. The participants involved were divided in two different groups: the experimental group with (23) twenty-three 6th graders (eleven girls and twelve boys), and the control group with (28) twenty-eight 6th graders (eleven girls and seventeen boys), the age range was 10-13 years old. Classes happened once a week and lasted 100 minutes each.

Rice's (1987) argue that investigation of spelling achievement in the schools marks the first attempt at educational field experimentation. The goal of experimental research is to determine whether there is a causal relationship exists between two or more variables." In others words, experimental group is one that is being subjected to some experiment, test of some drug, or substance. In this research the experimental group was observed in the occasions they were submitted to the use of the application *Duolingo*.

Ary, Jacobs and Sorensen (2009) say that to exist an experimental research it is necessary the control of variables. This control is the essence of the experimental method. Without control it is impossible to evaluate the effects of an independent variable or to make inferences about causality. From now on, during this research, the control group will be referred as Group A and the experimental group will be referred as Group B.

The data for this study was collected through an Action Research design which is defined by Thiollent (2005, p.16) as

“a type of empirical social research that is conceived and carried out in close association with an action or with the resolution of a collective problem and in which researchers and participants of the situation or problem are involved in a cooperative or participatory way”.

It means that this kind of research is conducted by teachers at their classrooms with the participation of their students, in others words, the action research happens during an authentic moment in the classroom.

According to Dornyei (2007, p. 191) an action research is the method used with the “purpose of gaining a better understanding of their educational environment and improving the effectiveness of their teaching”. That is, an action research seems to be the most suitable method to this investigation because it aims to improve the way the teachers use the modern technologies in the classroom.

To reinforce the idea, Thiollent (2005, p. 18) says that Action Research is characterized by:²

A) By a broad and explicit interaction between researchers and persons involved in the situation under investigation;

B) This interaction results in the order of problems to be researched and the solutions to be sent in the form of concrete action;

C) The object of investigation is not the persons, but the social situation and the problems of different natures found in this situation;

D) The objective of action research is to solve or at least clarify the problems of the observed situation;

E) There is, during the process, a follow-up of the decisions, the actions and all the intentional activity of the actors of the situation;

F) Action research is not limited to one form of action (risk of activism). It is intended to increase the knowledge of the researchers and the knowledge, or 'level of consciousness', of the people and groups considered.

This type of research is directly centered on the collective situation or problem in which participants are involved in a cooperative or participatory manner. In this research, group B was exposed to the application *Duolingo* in order to verify if they improve the acquisition of written vocabulary with this tool or not.

² A pesquisa-ação se caracteriza: a) por uma ampla e explícita interação entre pesquisadores e pessoas implicadas na situação investigada; b) desta interação resulta a ordem de problemas a serem pesquisados e das soluções a serem encaminhadas sob forma de ação concreta; c) o objeto de investigação não é constituído pelas pessoas e sim pela situação social e pelos problemas de diferentes naturezas encontradas nessa situação; d) o objetivo da pesquisa-ação consiste em resolver ou, pelo menos em esclarecer os problemas da situação observada; e) há, durante o processo, um acompanhamento das decisões, das ações e de toda a atividade intencional dos atores da situação; f) a pesquisa-ação não se limita a uma forma de ação (risco de ativismo). Pretende-se aumentar o conhecimento dos pesquisadores e o conhecimento, ou o 'nível de consciência', das pessoas e dos grupos considerados.

This research analyses aims to evaluate students' understanding of the topic presented before and after classes to evaluate the extent to which *Duolingo* can benefit the acquisition of vocabulary. Regarding the data collection, it was divided in four parts: a) diagnostic questionnaire; b) preparation of plans; c) pre-test and d) post-test.

The first part of data collection was conducted through a questionnaire; it was applied to students in order to verify the knowledge of the application *Duolingo*. It consisted of twelve questions: five open-ended questions in which the students have to write their own answers, and five close-ended questions that the students needed to choose and mark one or more answers and two multiple choice questions.

Seliger and Shohamy (1989) argue that closed-ended questionnaires are more efficient because the data analyses are easier to be done. However, Gillham (2000, p. 5) is of the opinion that “open questions can lead to a greater level of discovery.” These affirmations made necessary to use both techniques in the questionnaire used during the class in the groups A and B.

The questionnaire was formulated with questions that intend to find out about the students that participate of the research and characteristics of individual learners, such as their age, level of learning of the English language and knowledge about some educational applications. In addition, the questions intend to find how many students know the App *Duolingo* and if one of them used it to study language.

Examples of open – ended questions and closed – questions:

Open-ended questions	Close-ended
<ul style="list-style-type: none"> • What kind of applications do you use on your cell phone? 	<ul style="list-style-type: none"> • Could you make your cell phone available for an English class? Yes () No ()
<ul style="list-style-type: none"> • Where did your first contact with the English language take place? 	<ul style="list-style-type: none"> • Do you know the application <i>Duolingo</i>? Yes () No ()

The students were guided to answer the questions according to their opinions about English classes and not to worry about right or wrong answers. They were instructed to not identify themselves in their questionnaires. In addition, they were informed that their answers would not be judged or corrected at any point in the research.

After the findings obtained in this diagnostic questionnaire, the collection was started. So, the textbook adopted by the school (Way to English - Editora: ÁTICA. Ensino Fundamental II - 6º Ano. 1ª Edição - 2015), was used to follow the vocabulary topics suggested in three lessons that were designed in both groups. This approach was adopted in order to test and compare the level of learning of students during the investigation.

The classes were planned to follow this instructional sequencing: the warm-up, vocabulary bank and exercises. The warm-up is planned to last about fifteen minutes maximum and involved a brief discussion about a theme suggested by the textbook. After that, the vocabulary bank consisted of twelve words. All the words were exposed in the whiteboard and the explanation of the vocabulary was made through a presentation of video with sentences and funny images. In the end the students completed follow up exercises collectively.

Using the application *Duolingo*, the instructional sequencing was different. It was composed of the sequence: the warm-up, vocabulary bank, time to use the application to practice the vocabulary and exercises. The warm up followed the same theme explored in the class without the use of the application, and the explanation of the vocabulary was made through a presentation of video with sentences and funny images. To practice the vocabulary all the students made exercises using the application during thirty minutes.

Comparing the two learning formats, without the use of the application and with the use of the application, they were similar in the way of presenting the content. However, when the same vocabulary is practiced with the use of the application *Duolingo* the learning becomes less stressful and full of fun.

The insertion of a different manner of practice of the exercises through application *Duolingo* before the production activity makes learning more fun. To compare the results between both formats, the students were instructed to

complete a simple production test about the topic studied in the end of each format.

These tests were applied after both formats to evaluate the students' understanding of the topic presented after the activities and to verify if the control group (Group A) would complete the test easily after the practice using the APP.

The procedure was repeated three times to apply a new vocabulary. The application of formats was done in the same day in both groups. The following data analysis was made through quantitative comparisons between the results obtained in the activities applied in both formats (with application *Duolingo* and without it). In this way, it was possible to compare if the control's group performance was better than experimental group (Group B) after to use the APP.

Besides verifying if the content is learned effectively or not when the application is used, the goal of this study is also to verify to what extend the application helps to develop vocabulary knowledge in writing. To investigate these data, the analysis was made through quantitative comparisons between the results obtained in the production activities applied in both formats with application *Duolingo* and without it. In this way, it was possible to compare if the control group performance was better than experimental group (Group B) after to use the APP.

The following data analysis was made through quantitative comparisons between the results obtained before and after activities applied in both formats, with application *Duolingo* and without it. Then, it was possible to compare if the control's group performance was better than experimental group (Group B) after to use the APP.

DATA ANALYSIS

This section aims at presenting the results obtained after each type of class format was conducted. Vocabulary knowledge results were compared by means of before and after tests application. As mentioned before, a diagnostic questionnaire was applied to the experimental group (Group B) to find out about their familiarity with *Duolingo* application. The results pointed out that of the twenty-three answers collected, only seven students reported that they knew and used the application.

The same diagnostic questionnaire also pointed that all students consider that the English classes are important for their lives and some students use applications in their daily lives for leisure activities such as listening to music and playing games, and social network access. Because of this, these twenty-three learners agree that use of *Duolingo* could contribute to effective learning.

With the purpose of investigating this hypothesis, three classes were conducted including *Duolingo* as tool for learning English as a foreign language to improve vocabulary knowledge in writing. All of them explored a vocabulary bank through both formats, with application *Duolingo* and without it.

With expositive presentation of vocabulary and written activities provided by the textbook, in a methodology that can be considered traditional, most students demonstrated they were not interested by the class. This lack of interest also caused indiscipline matters.

With the experimental group (Group B), some students were either talking to each other during the activities or were drawing in their copybooks. Only seven of the twenty-three students present in the classroom were concentrated during the explanation. As for the control group (Group A), only eight of the twenty-eight students present were paying attention while the explanation was presented.

Regarding the interest for learning English, all students in experimental group (Group B) answered they like to learn English and agree that English is one of the most important languages in the world. However, these same

students did not show much interest during the expositive presentation of vocabulary.

The questionnaire also pointed that none of students had studied English previously. This information might suggest the reason why they have difficulties learning the language. Since most of the students are exposed only to English grammar and vocabulary in the classroom, the interest in learning the language at school becomes minimum.

In regards of question number six “Could you provide your cell phone to an English class?” all students answered “Yes” in their questionnaires.

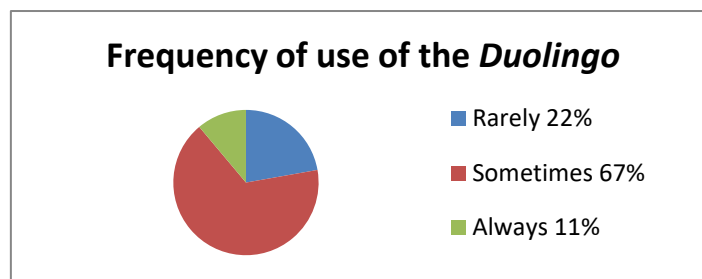
The experimental group (Group B) agreed to use the mobiles phones in the English classes. The following question asks about the types of applications that are used in their mobiles. All students informed that frequently use social networks, applications and games, such as *WhatsApp, Facebook and “Spirit Guardian by”*.³

The number “1” and “2” were used to indicate the rank of frequency in response to Question 8, which asked “Number the order of the applications below in the order of frequency you use”. The question is followed by a list of four APPs: Social Networks application; games; Photos Edition; Educational games. The result pointed that 61% from students use the social networks application and 39% from students use games.

The tenth and last question, “*Do you know the Duolingo application?*” asks students about the possible relationship between the App and the student. It pointed out that from the twenty-three students who answered the questionnaire, only seven students knew and used the application. Regarding to the frequency of use of the application among the nine students, the graphic below shows the results obtained:

³Spirit guardian: Vanguard rash for Android is very popular and thousands of gamers around the world would be glad to get it without any payments.

Graph 1 – Frequency of use of the *Duolingo*



By analyzing the diagnostic questionnaire it becomes clear that students consider that *Duolingo* could help them in their English learning. Therefore, the inclusion of App in English classes seems to be an effective tool to assist students' acquisition of vocabulary.

The second part of this research consisted of testing the hypothesis pointed out by the questionnaire: the use of *Duolingo* could be more interesting to the students and their English language learning? If so, could motivation in the classroom be improved?

For this, three vocabulary themes were chosen to introduce new vocabulary. The introduction of vocabulary was performed in two formats: one without the use of the application and one with the use of the application. The goal was to compare if any difference in the results would become evident.

The choice of vocabulary topics was based on the themes explored by the textbook adopted by the school, and the procedure for collecting data followed these steps:

For the control group: (Group A)

- a) A Pre-test was applied before input
- b) After a warm-up, a vocabulary bank input and exercises without *Duolingo*
- c) A Post-test was applied

For the experimental group: (Group B)

- a) A pre-test was applied before input
- b) After a warm-up, a vocabulary bank input and exercises using *Duolingo*
- c) A Post-test was applied

PRE-TEST

The pre-test consisted of nine questions and was divided in three parts. Each part consisted of three questions to assess vocabulary knowledge. Questions fit in multiple choice formats, in which the students needed to choose one correct answer. In addition, the questions intended to find *Duolingo* efficiency for learning vocabulary.

Following this idea, the tests were prepared based on the exercises proposed in classroom during previous experiences. The tables below show how the tests were presented:

The set of 3 questions below was used in the first pre-test for both groups:

1. *Em qual desses itens a palavra "pai" está escrita corretamente em inglês?*
 father fater fader phather
2. *Em qual desses itens a palavra "avó" está escrita corretamente em inglês?*
 blue mater gandmader grandmother
3. *Em qual desses itens a palavra "irmã" está escrita corretamente em inglês?*
 sisther sister sader siather

The set of 3 questions below was used in the second pre-test for both groups:

4. *Como se escreve a palavra "estudante" em inglês?*
 stuther studhent student sthudent
5. *Como se escreve a palavra "cozinheiro" em inglês?*
 cok cook kuck cooker
6. *Como se escreve a palavra "professor" em inglês?*
 teacher tater teader thather

The set of 3 questions below was used in the third pre-test for both groups:

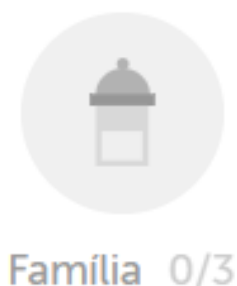
7. *A escrita da disciplina "Inglês" na Língua Inglesa inicia-se com a letra:*
 A O I E
8. *A disciplina "Educação Física" na Língua Inglesa tem duas iniciais:*
 E.F. P.E. E.P. F.E.
9. *A escrita da disciplina "Matemática" na Língua Inglesa inicia-se com a letra:*
 M N A MA

As can be seen, the three vocabulary topics chosen to assess vocabulary knowledge were: Family, Professions and School Subjects. For three classes, the control group (Group A) was exposed to an explicit explanation of the vocabulary bank with twelve words. The twelve words were written on the whiteboard and also the new vocabulary was presented through a combination of video with related sentences and funny images.

Following this way, the students were asked to complete a production activity about each topic suggested to each class. The activity consisted of some items in which students should complete using the correct form of vocabulary.

For the experimental group, (Group B) vocabulary explanation was followed by the same sequence of lessons as with Group A. However, to practice the vocabulary knowledge in writing all the students were guided to complete exercises proposed by *Duolingo*.

The task with *Duolingo* lasted for thirty minutes. By the end of the activities, each student presented his/her results through App. If the student obtains good scores, the golden icon is shown (picture 3).



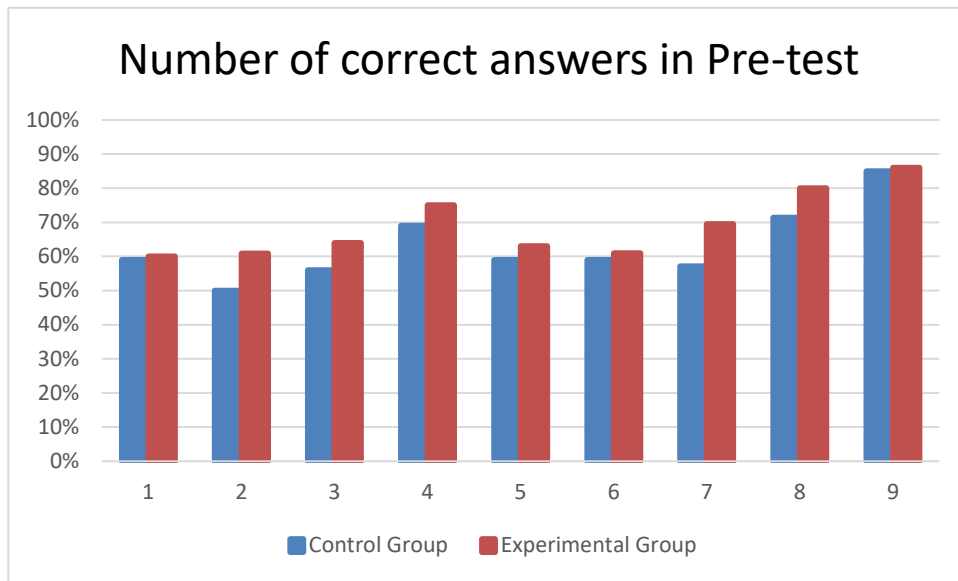
Picture 2 – Icon from App *Duolingo*



Picture 3 – Golden Icon from App *Duolingo*

Graph 2 illustrates the results collected after the application of the three parts of the pre-test in both groups. It was observed that of the twenty-eight students in group A, the number of correct answers in pre-test were about 50% to 85%. And in group B, the number of correct answers in pre-test was about 60% to 86%.

Graph 2 – Number of correct answers in Pre-test



The results obtained show that all students of the both groups have a good previous knowledge about the vocabulary items.

At the end of each class investigated, a Post-test was applied to verify if the content had been learned effectively or not when the application is used. This-procedure was used to provide evidence for comparing results.

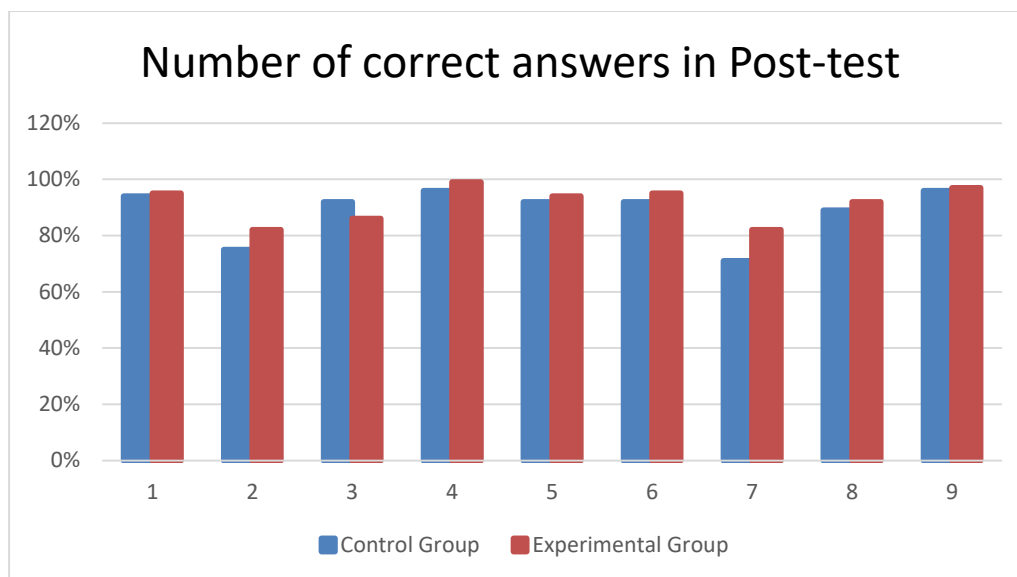
POST-TEST

The use of *Duolingo* after the production activity seemed to make learning funnier. To compare results between the groups, students were then instructed to complete the exact same test used as Pre-test. These tests were applied for both groups to verify which group would perform better.

Besides verifying if the content is learned more effectively, the goal of this study is also to verify to what extent the application helps in acquire vocabulary knowledge in writing. To investigate these data, the analysis was made through quantitative comparisons. The results obtained in the production activities applied in both formats with application *Duolingo* and without it. In this way, it was possible to compare and identify which group performed better.

Analyzing each question from post-test, they obtained the following percentage for the number of correct answers of each question.

Graph 3 – Number of correct answers in Post-test



After verifying if the content exposed was learned effectively or not when *Duolingo* was used, the results showed similar numbers of correct answers between the tests did after lessons.

By analyzing both tests, Pre-test and Post-test, results were positive suggesting that the use of *Duolingo* to improve vocabulary shows a slight difference in knowledge gain. In addition, these results show that the use of the

application seems to help student in motivational aspects as engagement and more interest in classes were demonstrated.

Comparing the results of pre and Post-test, we could observe that of the twenty-eight students of control group (Group A), the numbers of correct answers in post-test were about 71% to 96%.

As for comparing the results of pre and Post-test for experimental group (Group B) the results showed the number of correct answers in post-test was about 82% to 99%. Even if it is a slight gain, this suggests that *Duolingo* is a potential tool to improve vocabulary knowledge.

FINDINGS AND DISCUSSION

After investigating three experimental lessons with *Duolingo* application it seems fair to say that *Duolingo* not only improved vocabulary knowledge in writing of 6th grade students, but also, it became clear that the App worked as a motivational tool for students, since they demonstrated more interest and engagement in classes.

According to Gardner and McIntyre (1993 *apud* Brandl 2008, p. 21) a motivated learner wants to achieve a particular goal. In this research, the application *Duolingo* was adopted as a tool to improve vocabulary knowledge in writing in English classes, but it seems to have worked more efficiently as a motivational tool to learning.

There are two aspects to point out:

1. vocabulary gain
2. motivation

First point to be mentioned is:

The App was adopted in the experimental lessons in order to practice the vocabulary presented in the lessons and also to improve the vocabulary knowledge in writing. This can be assumed once all the levels of the *Duolingo* were related to vocabulary input. However, students demonstrated to be more motivated when they used the App while learning vocabulary.

Second aspect is:

If we agree that the inclusion of technology tools in the English language learning classroom should only be adopted in the case it brings benefits to learners, *Duolingo* can serve an example of successful integration of technology in second language classrooms. Such idea is supported by Martinez-Lage and Herren (1998) which says that planned and purposeful use of technology point benefits to learners such as more effective use of time, individualized learning and students' empowerment.

FINAL CONSIDERATIONS

The results of this action research suggest that the use of *Duolingo* as a tool of learning of vocabulary suggests that use the App is a potential tool to improve the vocabulary. It also seems to affect positively on motivational aspects as students were clearly more interested using the App.

Several previous studies have been conducted under the same phenomenon investigated here; therefore, this study is not new. However, when we talk about teaching and learning process that use the technologies some “[...] studies have shown that technology in general has been used effectively” to facilitate the vocabulary acquisition, enrich input, increase writing ability and enhance motivation. (Shrum & Glisan, 2010, p. 454.)

The question brought by this research “What is the effectiveness of application *Duolingo* as a tool for learning the English language in the classroom to improve the writing vocabulary?” finds a positive result as answer once the findings obtained showed that the application helped to develop vocabulary knowledge in writing skills. Besides that, students seemed to be more motivated after being exposed to *Duolingo*. Such results are supported by Shrum & Glisan (2010) ideas in that technologies tools and the way how teachers use them can improve the vocabulary in writing of the learners.

Beyond improving vocabulary knowledge in writing in English, there were the increasing levels of motivation with the insertion of application in the classes that emerged from the investigation. Increased levels of motivation alone do not solve all problems, of course. In addition, this motivation has the potential to generate more discipline and consequently to improve the relationship between teacher and students.

Although the positive results observed after the insertion of application *Duolingo* in the English classroom, there are some research limitations to be pointed. The main factor is the length of classes. The schools require teachers to fulfil a course plan, in which a required curriculum should be observed, within a very limited period of time.

Although the textbook adopted by school offers some suggestions on activities to practice vocabulary in writing, time constraints impacts directly on teachers actions. Because of this, to cover the content of the textbook adopted,

teachers choose expository classes. Such choice serves to guide curriculum impositions, but can be very limiting for students learning.

It is important to point that we do not advocate for the application *Duolingo* as a substitute for traditional classes, but we mean to suggest that it can be used efficiently as an additional complement for these classes. Although most students demonstrated they were not interested by the class when it was presented in expository form, the traditional explanations are important for complement the learning of those learners who has more difficulty. The suggestion presented in this research is that expository classes can be followed activities using the *Duolingo* in order to reinforce the learning of vocabulary in a more pleasurable way.

After exposing some positive effects resulting from the use *Duolingo* as a tool for learning the English language in the classroom, it is clear that this application can be considered a powerful tool to improve writing vocabulary and motivate students, promoting a better performance in English classes.

REFERENCES

- Duolingo for schools. Available in: <<https://schools.duolingo.com/>> Access in: 26/03/2017
- Technology Enhanced Language Learning – Connecting Theory and Practice
Aisha Walker & Goodith White. Oxford, 2013.
- THIOLLENT, M. Metodologia da Pesquisa-ação (14ªed.) São Paulo: Editora Cortez, 2005.
- SELIGER, H. W. & SHOHAMY, E. (1989). Second language research methods. Oxford: OUP
- GILLHAM, B. (2000). Developing a questionnaire. London: Continuum
- THIOLLENT, M. Metodologia da Pesquisa-ação (14ªed.) São Paulo: Editora Cortez, 2005.
- SELIGER, H. W. & SHOHAMY, E. (1989). Second language research methods. Oxford: OUP
- GILLHAM, B. (2000). Developing a questionnaire. London: Continuum
- WALKER, A. & WHITE, G. Technology Enhanced Language Learning – Connecting Theory and Practice. Oxford, 2013.
- DONALD ARY, LUCY CHESER JACOBS, CHRIS SORESEN, ASGHAR RAZAVIEH (2009). Introduction to research in Education. Wadsworth Cengage Learning. 8th Edition.
- BRANDL, K. (2008). Communicative Language Teaching in Action: Putting Principles to Work. Englewood Cliffs, NJ: Prentice-Hall.
- NATION, I.S.P. Teaching Vocabulary: Strategies and Techniques. 2008. Heinle Cengage Learning
- CROMPTON, H. (2013). A historical overview of mobile learning: Toward learner- centered education. In Z. L. Berge & L.Y. Muilenburg (Eds.), Handbook of mobile learning. (3-4). Florence, KY: Routledge.
- SHRUM, J. L. & GLISAN, E. Teacher's Handbook: Contextualized Language Instruction. 4th ed. - Boston, MA: Heinle Cengage Learning, c2010.

APPENDIX A - QUESTIONÁRIO DE SONDAÇÃO APLICADO AOS ALUNOS DO 6º ANO DO ENSINO FUNDAMENTAL

1. Qual a sua idade? _____

2. Você gosta de aprender Inglês? Comente.

Onde aconteceu seu primeiro contato com a Língua Inglesa?

Você acha que o aprendizado de inglês é importante? Comente.

Qual é seu conhecimento na língua inglesa? Básico () Intermediário ()

Avançado ()

3. Você poderia disponibilizar seu celular para uma aula de inglês?

Sim () Não ()

4. Que tipo de aplicativos você usa no seu celular?

5. Numere os aplicativos na ordem de frequência que você utiliza:

() Rede social: Facebook, Instagram, Whatsapp

() Jogos diversos

() Edição de fotos

() Aplicativos educativos

6. Você utiliza algum aplicativo educativo? Qual?

Sim () Não () _____

7. Você conhece o aplicativo Duolingo?

Sim ()	Não ()
8. Em caso afirmativo, você o utiliza? Sim () Não ()	11. Se você não conhece o Duolingo, você acha que o uso de um aplicativo em sala de aula pode ajudar no seu aprendizado na língua inglesa? Sim () Não ()
9. Com que frequência você utiliza o Duolingo? () Sempre () Às vezes () Raramente	12. Você gostaria de conhecer o aplicativo Duolingo? Sim () Não ()

APPENDIX B – CLASS PLAN (FAMILY)

Data: 11.08.17

Turma: 6ºAno

1. Conteúdo: Family

2. Objetivos: Ao final da aula os alunos devem estar aptos a usarem o vocabulário sobre os membros da família em estruturas simples de diálogos.

3. Recursos: Quadro, pincéis, livro didático, projetor e notebook.

4. Metodologia:

a) *Abordagem sem duolingo:* apresentar a imagem no livro que mostra a família da personagem Lisa Simpson distribuída em uma árvore genealógica e perguntar se alguém já ouviu falar nessa forma de representar a família. A partir da resposta da turma, escrever no quadro as palavras referentes aos membros da família que compõem a árvore genealógica apresentada. Apresentar o vídeo explorando o vocabulário estudado. Concluir com a turma que o vocabulário pode ser usado em diálogos simples em inglês. Fornecer aos alunos exemplos em L2 focando no vocabulário apresentado. Realizar as atividades do livro didático.

Aplicar Pré-Teste: Os alunos devem responder ao teste com base no que aprenderam sobre o tópico apresentado.

b) *Abordagem usando o Duolingo:* pedir que os alunos usem o aplicativo *Duolingo* para praticar o vocabulário referente ao assunto sobre membros da família.

Aplicar Pós-Teste: Os alunos devem responder o mesmo teste logo após finalizarem as atividades do aplicativo.

APPENDIX C – CLASS PLAN (PROFESSIONS)

Data: 08.09.17

Turma: 6ºAno

1. Conteúdo: Professions
2. Objetivos: Identificar as profissões apresentadas em inglês. Escrever corretamente o vocabulário estudado.
3. Recursos: Quadro, pincéis, livro didático, projetor e notebook.
4. Metodologia:
 - c) *Abordagem sem Duolingo:* Explorar as imagens do livro que mostram as profissões que serão estudadas durante a lição. Apresentar o vídeo explorando o vocabulário estudado. Concluir com a turma que o vocabulário pode ser usado em diálogos simples em inglês. Fornecer aos alunos exemplos em L2 focando no vocabulário apresentado. Realizar as atividades do livro didático.

Aplicar Pré-Teste: Os alunos devem responder ao teste com base no que aprenderam sobre o tópico apresentado.

- d) *Abordagem usando o Duolingo:* pedir que os alunos usem o aplicativo *Duolingo* para praticar o vocabulário referente ao assunto sobre as profissões.

Aplicar Pós-Teste: Os alunos devem responder o mesmo teste logo após finalizarem as atividades do aplicativo.

APPENDIX D – CLASS PLAN (SCHOOL OBJECTS)

Data: 13.10.17

Turma: 6ºAno

1. Conteúdo: School Objects.
2. Objetivos: Desenvolver o entendimento e habilidades das crianças para usar vocabulário referente às disciplinas escolares.
3. Recursos: Quadro, pincéis, livro didático, projetor e notebook.
4. Metodologia:
 - e) *Abordagem sem Duolingo:* Mostre uma imagem de um horário escolar preenchido no quadro. Use o próprio horário da sala de aula e escreva as disciplinas em inglês. Explorar o vocabulário estudado em exemplos escritos na lousa. Concluir com a turma que o vocabulário pode ser usado em diálogos simples em inglês. Fornecer aos alunos exemplos em L2 focando no vocabulário apresentado. Realizar as atividades do livro didático.

Aplicar Pré-Teste: Os alunos devem responder ao teste com base no que aprenderam sobre o tópico apresentado.

- f) *Abordagem usando o Duolingo:* pedir que os alunos usem o aplicativo *Duolingo* para praticar o vocabulário referente ao assunto sobre School Objects.

Aplicar Pós-Teste: Os alunos devem responder o mesmo teste logo após finalizarem as atividades do aplicativo.