

The Use of Technological Tools to Strengthen the English Reading Comprehension Process in Nine Graders in Harold Eder High School, in Palmira.

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# The Use of Technological Tools to Strengthen the English Reading Comprehension Process in Nine Graders in Harold Eder High School, in Palmira.

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# THE USE OF TECHNOLOGICAL TOOLS TO STRENGTHEN THE ENGLISH READING COMPREHENSION PROCESS IN NINE GRADERS IN HAROLD EDER HIGH SCHOOL, IN PALMIRA.

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#### **Abstract**

The current research project intents to examine to what extent the use of technological tools help students to enhance their reading comprehension skills in English language. This project was implemented with two groups of ninth grade students at a public school in Palmira, Colombia. This is a Quasi Experimental Research with a pretest-posttest design. To obtain the data and be able to compare results in both groups, a pre-test and a post-test were set, as well as a survey about English reading attitudes. To make this research I took into account five different topics, these are: Reading Comprehension, Attitudes toward L2 Reading, the Role of the Teacher in L2 Reading Teaching, reading strategies, and Digital platforms and electronic devices for reading strengthening. The results showed that students from the experimental group improved their performance when answering inferential questions, and had a better attitude and motivation toward the activities, however there was no improvement when answering evaluative questions, and the results in this point were very similar to the control group.

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#### 1 Introduction

According to Mikulecky (2008), Effective reading is essential for success in acquiring a second language due to, reading is the basis of instruction in all aspects of language learning, then through reading the learner is able to develop different features of the language such as acquiring grammar and developing vocabulary, therefore the developing of reading skills in language teaching is essential to obtain meaningful learning processes. Then, taking into consideration the role of reading in the foreign language learning process, this research project seeks to explore to what extent the use of technological tools can help to foster this process.

According to different researches, and analyzing different test results applied in Colombia, and in the school where this research was applied, the results showed that most of students present poor levels of reading comprehension, and their English level in general is not the expected according to the projections done by the government taking as reference the Common European framework. Thus, the enhancing of reading comprehension is essential in the moment of teaching English as foreign language knowing that the development of this skill helps students improve in their learning process.

Thus, the implementation of different strategies is necessary in behalf of raising students reading levels, therefore the use of technological tools become in a key point, taking into account their common use among students and its fast spread. The use of new technologies is something that usually engages students, then if they become in a factor for engaging students and

enhancing the reading process, they can become in a positive factor for making reading classes more attractive for students, and at the same time more meaningful.

Linked to the implementation of new technologies we find the motivational factor and the attitudes toward learning the language and reading, the use of different strategies can raise students interest about the language, then, the use of technologies as a strategy for enhancing reading may help students improve in their reading process, according to Stepp-Greanny (2000) the use of classrooms equipped with technological resources increase student's motivation because the activities are more interactive, and İşman et all (2004) state that, students always have positive ideas for using computers in the classrooms, and they give the opportunity to students to create new ideas. Thus, the implementation of technological tools with an experimental group when developing reading activities showed certain improvement in comparison with the control group.

Then, from this experimental research project, which was implemented with two nine graders groups the conclusion was that students in the experimental group improved by answering inferential questions, but there was not any improvement when answering evaluative questions, therefore the direct effect of using technologies over the reading process is not clear, but according to the survey presented for students, the use of technologies had a positive effect over students.

Thus, reading is a key point to develop English classes when is taught as a second language, but the low scores showed by students create the necessity of implementing new strategies that raise students reading levels. In this order of ideas, the use of technological tools emerged as a strategy that can help students taking into account their common use. At the end,

students that use technologies as a strategy for improving reading, showed certain improvement in comparison with the group that did not use technologies.

# 2 Objectives

# 2.1 General Objective.

To explore to what extent the use of technological tools is effective when they are used as a strategy for teaching and learning English reading comprehension in nine graders of Harold Eder High School.

# 2.2 Specific Objectives

- ✓ To diagnose the level of English reading comprehension in two nine graders groups at Harold Eder School.
- ✓ To identify the effectiveness of technological tools in students' attitudes toward English language and reading comprehension.
- ✓ To identify to what extent students, improve in reading comprehension when using technological tools.

#### 3 The Problem

Taking into account the relevant role that the use of new technologies have achieved among all the society, and focusing in the school Harold Eder where students present a low level in reading comprehension, it would be important to know to what extend these new technologies can be a useful tool for enhancing this skill. My previous teaching experience to 8-11 graders has allowed me to identify the struggle these students have when interpreting and discussing any given text. Thus, their average scores are regularly below 50 points out of 100. This becomes a problem if we consider that all tests, internal and external, that students present for measuring their English as a foreign language proficiency are based on reading comprehension. Therefore, the fostering of reading comprehension skills is a very important aspect to work on, in in order to get better results, and improve students' reading levels.

Nowadays, technology has spread worldwide and it has influence in almost all situations, the use of new technologies is necessary for doing many tasks, as stated by Planella and Rodriguez (2004), who remark the increase and implementation of the new Information and Communication Technologies (ICT), and highlight the fast spread these have had in all contexts and situation around the world. Also, Dobrota, Jeremic, & Markovic, (2012) remark the importance of ICT in the current society. As well as Lekka, Tsironi, & Pange, (2015) argue that the use of ICT has a great impact in the society and education. It is very common to see people everywhere from any ages surfing the net, communicating with people all around the world or sharing information; and the distance is not a fact that affect the communication. Therefore, our

current world is a digital world, where people can hardly live without being connected through a mobile phone, a tablet or a computer. Then having these tools, and knowing how popular they are, is a good idea to take advantage of them for improving EFL Reading in students.

Therefore, taking into account some facts such as, developing Reading skills in students is crucial for EFL students due to the high relevance this have in their academic lives. Noor (2011) states that in language learning one of the most important aspects is reading, and Nation (2009) states that a well-thought reading course can be the core of the language program to rise activities in the other skills such as listening, speaking, and writing. Besides, knowing that the use of ICT is currently reachable for many people, and that they have a high level of acceptance among students; with the aim of fostering English reading comprehension by using a digital platform, I will posit the following research question.

How can the use of technological tools help improve the process of teaching and learning English reading comprehension in nine graders in Harold Eder high school?

#### 4 Justification

Taking into account that most of students at school where I work present a low level in reading comprehension, as it was mentioned before, their average score are usually under 50 points out of 100. And being aware of the use of new technologies and its spread worldwide, for everything is influenced by their use, I have decided to examine to what extent the use of digital platforms is useful for fostering the process of teaching and learning English reading comprehension in nine graders students.

It is not a secret that most people enjoy the use of new technologies, especially young learners as Fox (2014, P. 6) states "students have a strong foundation within computer navigation". It is very common to see students using their electronics devices for making all kind of school activities. Up to a point, I would say that nowadays the paper has been gradually displaced by the e-books, and electronic materials, in certain contexts electronic devices have been gaining more readers. Ngugi & Mberia, (2014) say that currently, reading is not only confined to the printed reading. E-reading has been gaining more readers, with the spread of internet reading is more accessible to more people. Mills, (2010) highlights the great emergence the digital literacy has had. Considering this, my concern is to find out to what level the students can improve their reading comprehension skills by using a digital platform.

In other research Baron (2015) questions, if it is really important the medium in which people are reading, printed or digital, and the implications this difference can have. If the

objective is to get to some information, or just reading without any other purpose than having some recreation, I would say that for the majority of young people the medium for reading is irrelevant, even for comfort, it is easier to carry a laptop, or a tablet than taking a big book or some photocopies with us, but in the case of making a deep process of reading it is very important to know what is more useful and really meaningful for strengthening the reading process.

Thus, the reason that brought me to this matter of investigation, is the low performance showed by students when taking different internal and externals reading tests. The internal tests are the midterms students must present, at least five per year, and the external tests are the ICFES tests, and drills they have to present to show their reading comprehension, and proficiency in the language. When students present these tests, they usually show weakness with the reading comprehension skills, for example in a drill presented last year, the average score was 47 out of 100 in nine graders; and in two classes, when they had to read and answer inferential questions the correct answers were 2 out of five, and this lack of reading comprehension became more evident when most of students show a poor capability to support an argument a question related with the text.

Although I had implemented different strategies with students, like peer reading, reading aloud in circle, skimming and scanning to look for specific information, apparently these have not been effective to improve students reading skills, and therefore the results obtained are still poor. But besides the aspect of test taking, for students own personal development, and intellectual growth, it is essential that reading comprehension becomes one of their biggest strengths. According to Pardede (2006), reading is a key point to be mastered by students who are learning English as a second Language (ESL). Although English at school where I work is

taught as a foreign Language, reading continues being a crucial aspect to be mastered due to its importance in test taking, and in personal development. Kavlu, (2015) posits that reading is perceived as a main pillar in academic and higher education context for EFL. Students receive new information through reading which helps them to gain in comprehension, synthesizing and interpreting. Harmer (2007) also remarks the importance of reading, and one of the reasons he gives is how this helps to learn new vocabulary and improve writing skills.

Thus, keeping in mind the importance that reading has in students' language development, it is important to mention that students need to learn how to analyze a text, get their own ideas about what they are reading, and get to the deep idea of the text, and this is possible only if they are aware of the importance of becoming good readers. Kavlu, (2015, p. 82) states: "Students need to enhance their reading comprehension in order to upgrade language skills and reach the EFL – advance peak". Then reading comprehension development is an effective tool for helping students advance in their EFLL process.

Taking into account that constantly, the proficiency or results are given for different factors, such as time for practicing, the quality of the materials for reading, the students motivation, the quality of the classes; it is also necessary to examine the attitude the students have towards the English Language reading Learning, and if in any case the use of a digital platform can influence the student performance. Bartram (2010) mentioned that a lot of research have shown that motivation is a very significant component in foreign language learning. Then exploring the use of a digital platform for enhance reading comprehension could help improve students results, bearing in mind that most nine graders students count on a cellphone, and that the schools has a computer room. Besides it is mandatory that students work by using the platform Duolingo during the whole year. Then the use of ICT could be a motivator factor.

Finally taking into account that the majority of students use their digital and electronic devices, as if they were part of their lives, I decided to explore the use of technological tools as a strategy, which may help students improve their reading comprehension process. Although, Delgado, Vargas, Ackerman & Salmeron (2018) state that, there is not much information about the use of digital platforms for enhancing reading comprehension, in other investigation, Ciampa, (2012) found evidence that there are positive motivational effects of computer-assisted reading instruction on students. Then, I would like to research deeper and get to explore the effectiveness of the digital platforms to enhance the reading comprehension skills in high school learners.

#### 5 Literature Review

The use of new technologies has increased tremendously since the 1990's, and in the last two decades, the use of smartphones, computer, and LCD screens, in some way have become more popular among readers. According to Reza (2018, P 3) "Technology is an effective tool for learners" students must use technology as an important element of their learning process. Besides he asserts that the use of technology in the classroom helps the teachers meet the students' needs. In other research, Lopera (2011) states that using reading strategies help students engage with their learning process, and this increase their motivation. Thus, bearing in mind these aspects, the implementation of technologies in the classroom, and using effective strategies for improving reading comprehension could be a way to students enhance their reading process.

It is not always necessary to have a printer or a printed book to get access to the information required, it is just to give a click, and anybody can read whatever he or she wants or needs. The current worldwide mobility is other aspect which has increased the use of digital tools taking into account the need to get access to information as soon as possible when time is limited. Considering this aspects, I wonder how EFL students Can take advantages of these technologies, digital platforms, for improving their reading comprehension process, highlighting the idea that a good reader is not the one who is able to decode words from a text, but someone able to interact with it, and capable of giving his/her own point of view about any written text of his/her interest. Urquhart, (1996) says that there is a difference between a good reader and a good

decoder. A good reader has the ability to forming judgment and a good decoder can make literal comprehension, or even drawing inferences from singles strings. Then it could be said that a good decoder is someone who is in the path for developing in a skillful reader, thus it may be said that nine graders students at school, are in the level of decoders taking as references their reading tests scores.

Therefore, in order to have a better understanding of previous research done relevant to my own research study, I have carefully carried out a review of the literature related to the five following topics, which are of importance in my research project, these topics are: Reading Comprehension, Attitudes Toward L2 Reading, the Role of the Teacher in L2 Reading Teaching, reading strategies, and Digital platforms and electronic devices for reading strengthening.

# 5.1 Reading Comprehension

Helmers (2017) states that Reading comprehension is a difficult skill to develop in students, and that "reading comprehension is a lifelong skill that students need to acquire at an early age" (p, 3), bearing in mind these considerations she says that teachers should provide students with the appropriate tools. In other researches, Norris and Phillips (1987) say that reading is more than saying what is the information found on one page, literal reading. The reader needs to think and go beyond the obvious. Beck (1989) argues "there is no reading without reasoning" (p. 677). Also, Ruggiero (1984). Indicates that reading is reasoning; and Yuhui, Li-rong, Z., & Yue, N. (2010) stated clearly that reading is a thinking process to construct meaning. As we can see different researchers highlight the function of reading as a process in which students have to create, construct, and in some cases recreate his/her own way of thinking. When students are able to reach this level of critical reading, and critical thinking, they are better prepared to comprehend any text given to them.

Now, in this part, I have to focus in the relationship existing between reading comprehension and critical thinking, these two aspects are linked with having a great capacity to argue, analyze, and to be a problem solver, learners are able to grow this abilities, only if they are able to understand and interact with the information they get day by day. In a study by Zare & Biria (2018) they state the level of reading comprehension is correlated to the level of critical thinking, and students that showed low levels in reading comprehension skill, also showed low levels of critical thinking. Pardede (2006) states that critical thinking helps people to make better decisions as well as it helps to identify the obvious from the hidden message. According to Tovar, Orellano, Vargas, Hernandez & Cabas, (2018), reading is one of the most important skills for accessing information and knowledge, and according to them it is a very healthy habit which helps to develop the intellect; besides it helps to the construction of the citizen. Thus, reading comprehension becomes in a key point to guarantee that students acquire meaningful learning, and are able to be critical readers not vacuums of information.

Then, analyzing the importance of reading comprehension, it must be said that this is one of the main skills evaluated in different tests in English in Colombian education. When students graduate from 11 grade, they have to present the ICFES test, and the 67% of this test is about reading comprehension, the same happens with undergraduate students, as well as technician and technologist students. Then, all kind of tests, internal and external, presented by Colombian students are focused on reading comprehension and critical thinking. Thus, for me it is very necessary that students develop reading skills to be prepared in order to take any of these tests. But it is very unlikely that students can develop critical thinking without a high level of reading comprehension.

Unfortunately, this is one of the main problems in Colombia's EFL students. They lack of deep reading comprehension, and their critical thinking is very poor. As it can be seen in the same article by Tovar et al (2018), in the years of 2004, 2010, and 2014, students in Colombia obtained the best scores in EFL reading comprehension, and in these years the scores did not even reach to 50 points out of 100. This means that we are not close of getting acceptable results in Reading Comprehension. Therefore, teachers need to urgently develop strategies that allow students to acquire the necessary skills in virtue of improving their reading comprehension process.

In other research by Garcia, Arevalo & Hernandez (2018) they found that students were able to answer correctly between 2 to 5 items out of 10, less of a half when testing the inferential level of reading skill in English, and readers answered correctly between 4 and 5 items among 10, when testing the literal level. This without mention the evaluative or critical level, which is more complex. According to Bilingual Colombia (Colombia Bilingue), Pedagogical Principles and Guidelines Suggested English Curriculum (2016), the results of the SABER 11 tests in 2014, indicate that 51% of students had a -A1 level, 35 % A1 level, 7 % A2 level and 7% B1 and B+ level, then we have to bear in mind that the 67% of the total score is accumulated in sections 4 to 7 which are about reading comprehension, and students who achieve level B+ are the ones who successfully solve questions in this 4 sections, and as it is shown, only 7% of students were able to get to this level. With this, I can confirm that students are not even achieving acceptable scores in reading comprehension. Analyzing these results, and comparing them with the results obtained by students in the high school object of this research work, the results, are even more discouraging. In reading comprehension in the last two Saber 11, 2017, and 2018, the average scores were under 45 out of 100 points.

Then, if we focus on these results obtained in different tests, I could say that the failure of students is highly related with their low capacity of analyzing and comprehending texts in their different levels, and their lack of knowledge when they have to argue about any given topic. This could happen due to the lack of vocabulary or grammar, aspects which can be fostered by reading. As already mentioned, reading comprehension is a key point that must be developed if we want to have students to be capable of analyzing and constructing their own knowledge and opinions. The results showed that a low percentage of students were capable of achieving optimum scores, and those scores are directly related with the ability to read.

#### 5.2 Attitudes toward reading.

Gardner (1985, P. 9) defines "attitude is an evaluative reaction to some referent or attitude object, inferred on the basis of the individual's beliefs or opinions about the referent". Baker (1992, p.10) says that "Attitude is a hypothetical construct used to explain the direction and persistence of human behavior". He also states "Attitude appears more strongly connected with the environmental variables than individual attributes". And finally, Eagley and Chaiken (1998, p. 269) define attitudes as a "psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" then the attitude is inherent to each one, and it depends on what we think, and how we perceive something.

Then, it is important to know what the role of attitude toward L2, and L2 reading comprehension is. Although day by day, it is easier to find new technologies to get access to information, the reality is that students every time read less, at least, that is the case in the school I work. Thus, fostering L2 reading is not an easy task to develop with students. Maybe this apathy could be related with their attitudes toward reading, and different factors could be the cause of this. Dörnyei (1994) presents 4 components of L2 motivation, instrumental, integrative,

need for achievement, and attribution about past failures. The instrumental factor has a big relevance in students' attitudes toward L2, and it is because many students do not think learning English is important.

In other research, Abidin, Pour-Mohammadi, & Alzwari, (2012) state that these factors can be, internal or external, as, attitudes can be related to behavioral, cognitive, and emotional aspects. The behavioral aspect is more internal, and it is related with the way everyone behaves and reacts in a particular situation, then in reading comprehension development, it is the way each student perceives this practice. The cognitive factor is related with the beliefs about the language learning every student has, and their perception on what they have learnt and understood. Here there are internal and external influence factors. Finally, the emotional factor is related with the inner feelings, students create toward the language. These inner feelings can be influenced by internal or external features. Then, bearing in mind the importance of attitudes, it is necessary to explore the effect that attitudes might have over the reading comprehension learning process.

Ramirez (2017) states that, students can show an increase in their motivation when the topics and activities taught to them fulfill their needs and interests. Thus, the teacher has a very relevant role in the classroom, having into account that he or she is the one who has to lead the activities in the classroom. Therefore, the teacher becomes in an external factor who can influence student's attitudes, in behalf of improving the reading comprehension process. Then, in this process, it is the teacher's role to implement strategies, and methods to provide better reading learning process for students. As it was mentioned, students' lack of interest toward reading, but if the teacher promotes appropriate environments to students, it could be possible that their learning process be easier, and more meaningful. Bartram (2010, p. 43) says "There

seems to be little doubt that a teacher's role is hugely important in influencing how pupils feel about Mother Foreign Language Learning (MFLL)"

Like this, to achieve the aim of improving reading comprehension, the use of new technologies, in this case a digital could help increasing students' attitudes and motivation, and these may lead to raise the current reading comprehension levels in English language. This proposal is due to, students usually enjoy the use of new technologies, we are in a digital era in which everything is related with ICT's and students enjoy its use. Therefore, what could be better than taking advantage of what we have, to enhance students' attitude and their learning process? It is possible that they learn better by using all kind of tools which they enjoy and with which they are deeply engaged.

# 5.3 The role of the teacher in L2 reading improvement.

Considering the importance of developing reading comprehension skills as a practice to have learners capable of constructing meanings, and deeper analysis of what they read, as well as the importance of being able to read in the target language as a mean to get intercultural knowledge, it is necessary to evaluate the role of the teacher as part of the EFL reading process. Bartram (2010) states that the role of the teacher is tremendously important to influence the way learners feel about MFLL. Following this idea, Chambers (1999) highlights the role of the teacher by saying that, the teacher is a reason for student's improvement or deterioration in their language learning process. Therefore, in order to accomplish this difficult task, students need to account on reliable professors who can lead and push them in the correct path for developing and polishing this demanding skill. Ramirez (2017) states that it is possible that students increase their motivation toward learning when they find out that the topics are meaningful for them, and these fulfil their expectations. In other research, Alyousef (2006) states that the teachers have the

responsibility to motivate reading by selecting the correct materials. Thus, the teacher must become as a guide, but most of all someone who gives the correct tools to students in order to develop reading skills that allow them to understand, answer and create their own opinions on any matter of their interest.

In consideration of these ideas, it is the teacher's role to create environments in which students feel comfortable, and therefore get a readiness for learning. Thus, it may argue that if the teacher focuses in creating meaningful ambiences for students learning, and tries to innovate the way of teaching, students will engage with their reading process. Reading practice requires the ability to hook students into it, then the teacher could implement different strategies such as the use of digital technologies as tools for improving the process. This may help the learners in their reading process improvement, for raising the current reading comprehension levels of English language.

Taking into account the role of the teacher as someone who guides students to improve their reading process, the development of critical thinking, is a crucial aspect to have in mind. Students with high levels of reading comprehension are able to develop critical thinking, and the importance of this skill is one of the skills to develop in the 21<sup>st</sup> century. Cottrell (2017) states that, critical thinking is a cognitive process in which the mind plays a fundamental role, and that critical thinkers have high levels of attention, are able to categorize and are good for selecting and judging. In the same way, Shihab (2011), states that reading includes a very active process in which the reader constantly produces meaning through a set of mental processes. There is a constant interaction between the reader and the text. Therefore, reading is impossible without thinking.

Lambert and Cuper (2008, p. 265) state "Twenty-first-century skills fall into six distinct categories, each of which can be readily engaged through careful use of multimedia technologies in the classroom setting: critical thinking, information and media literacy, creativity, communication skills, collaboration, and contextual learning (Partnership for 21st Century Skills, 2002.)". Rotterdam and Willingham (2009) also cite that Critical thinking and problem solving have been skills of human development a long history. Then for developing critical thinking, students need to develop reading skills.

Thus, it can be inferred the role of reading comprehension and its importance to develop student's new skills in order to be efficient in the current world. Reading is an important contributor to students achieve new knowledge, and become skillful citizens from this new era, reading is a powerful tool which can empower students to become successful members of a community; and this is a skill which need to improve a lot at school for reaching ideal levels of reading comprehension, therefore it is imperative to find strategies that allow students to engage with reading processes that contribute toward obtaining better results in reading comprehension. Thereby, in all this process the teacher is a key point, due to the fact that students usually require the guidance of someone who serves as a referent to show the path to follow, then, the success students achieve depends on a high percentage on the strategies, and capability of the teacher for fostering reading comprehension, and giving the correct input to learners. Alyousef (p. 67) states "engaged reading is based on motivational and cognitive characteristics of the reader... who is intrinsically motivated, builds knowledge, uses cognitive strategies, and interact socially to learn from the text" and then he asserts that the role of the responsibility of the teacher is provide students with the appropriate materials in behalf of motivating students to read. Then, here the

teacher can count on the resources like the use of a digital platform to help students in the process of enhancing reading comprehension.

#### **5.4 Reading Strategies**

According to Garner (1987) reading strategies are activities used by active learners, over and over to improve cognitive failure. Lopera (2012, p.86) states "The primary goal of reading strategy instruction is to improve students' reading comprehension". And he asserts that in his research, students showed to have improved in EFL reading comprehension, and in knowledge of strategies. And O'Malley and Chamot (1990, p.1) state: "learning strategies are the special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information" Thus, the importance of the strategy or strategies used in the classroom lies in the fact that, if the correct ones are implemented, these will be a key point for enhancing reading comprehension, and they are deeply linked the model of reading the teacher works with students. Here, I will present the well-known models, the bottom-up model, the top-down model, and the interactive Model.

The bottom-up model emphasizes the linguistic clues and builds literal comprehension of a text. Nuttall (1996). States that the bottom-up of reading process shows reading as a process of building symbols into words, words into sentences and sentences into the overall meaning. Then this model relies in the information presented by the text, and this information must be processed letter to letter to until decoding meaning. According to Ahmadi, & Gilakjani (2012). In this model, the students read all the words in a phrase, or a sentence before being able to understand the meaning. In EFL reading learning this process can benefit beginner students who do not have a solid background about the language.

The top-down model focuses strategies like making prediction, inferences, and guessing from context. Goodman (1967) presented the idea of reading as a guessing game in which the reader uses his/her background to understand the text and to relate it to new information, or unexpected information posted in the text. In this model the student does not need to read word by word, but they need to be able to predict the words ahead. Nuttall (1996) states that reading comprehension begins by having high levels of processing (making hypotheses). Thus, the top-down model is a more advance level students need to have in order to make a successful reading process. Predicting or guessing while reading a text is not an easy exercise, therefore, to get to this point, students need to have certain background about the language.

Nuttall (1996) states that readers continually exchange from one model to another, they use the top-down model to predict the meaning or the idea of the text and then they move to the bottom-up model to check if what he they are predicting is really what the author says. This process has been known as interactive reading model. Then this model combines elements of the both models before presented. Thus, the implementation of any of these models in the classroom must be linked with the students' level of reading, and with their interests, in order to select the most accurate or appropriated strategies.

These reading strategies according to Anderson (1999) can be Cognitive Reading Strategies (thinking) and Metacognitive Reading Strategies. The Cognitive strategies are related with the mental process, and with the processing of information in order to learn. At the time the cognitive strategies are divided in three: the *Comprehending strategies* which are about: identifying main ideas, author's attitudes or tones, summarizing main information, analyzing author's purposes, guessing the content of a text, translating messages, guessing meaning of unknown words, using dictionary to clarify indirect meaning, and making inferences. The

*Memory strategies:* are making use of typography such as bold face, italics, pictures, tables or figures in text, take notes after reading, underlining main ideas, paraphrasing or simplifying information. *The Retrieval strategies* are about: using prior knowledge, relating new information in text with previous information, using grammar rules.

The Metacognitive Strategies in Reading are used to monitor or regulate cognitive strategies. Brown (1994). States that metacognitive strategies are used to see how to solve a problem, planning what is next, and monitoring the effectiveness of the action plan. Skehan (1993) states that these strategies are about: Planning for learning, monitoring of comprehension, and Evaluation for learning after the language activity is completed. *Planning for learning:* is the way in which the readers arrange reading purposes or goals, identify reading task expectations, plan steps before reading, and overview texts before reading. *Monitoring of comprehension* are: checking the level of comprehension, and the level of comprehension when new information come across, controlling concentration while reading, noticing when confusion occurs, and double-checking comprehension when ambiguous information emerges. *Evaluation for learning are:* accessing levels of text difficulty, engaging while reading, and evaluating accuracy in reading.

Checking all these strategies, there are many activities which could be perform by students by using digital tools or a digital platform. Thus, the use of technology might be a complement to enhance reading comprehension by using the correct strategies.

## 5.5 Digital platforms and electronic devices for reading strengthening

Having into account that the use of digital platforms and electronic devices is of massive use nowadays, due to we live in a digital era, it would be very appropriated to take advantage of all these tools with the purpose of enhancing reading comprehension in students.

In the current days, the new readers belong to the Z generation or Digital Natives, Salleh, Mahbob, Baharudin, (2017) describe them as people engaged with technology, and then the use of a digital platform would be the perfect excuse to hook students into reading practice. But there is an important aspect to bear in mind, when I propose the use of technologies, I mean its implementation for improving no as a substitution of the current teaching materials at school, but to get to develop strategies like the use of the Technological Pedagogical Content Knowledge Model (TPACK).

The TPACK Model was developed by Mishra and Koehler (2006), and they define it as pedagogical techniques used to teach content in a constructivist way. By using technologies teachers are able to raise awareness on the students learning process, here the technology is used as a mean to allow the learners to construct their own meanings. With this, teachers help students to become in active subjects of their own learning process. As it can be seen, the use of this model helps students to be independent and responsible for their own learning, but it also requires the teacher's ability in the use of digital resources. As the TPACK, there are several models, but my point here is not talk about the advantages of each one of them but raising awareness about its possible use as a tool for enhancing the learning process.

Another important aspect is the fact that the electronic text has become an essential element, especially for the new generation, Electronic Natives live surrounded by all kind of new

technologies, then many of them have left the printed book aside. While the e-reading has observed an increase in its use, libraries have less readers especially among the young ones. In this order of ideas and contemplating what is more convenient for readers, I want to highlight some advantages of the electronic text in comparison with the printed book.

According to Tanner (2014) from 2011 to 2013 the sales of E-books in the United States increased from the 16% to the 28%, but this does not say much about why is this increase.

Tanner (2014) presents a series of issues of why a reader should choose one or another option.

First, she states that despite the technological advances e-readers present the condition of the "dry eye" which refers to the evaporation of tears on the eye, this phenomenon becomes more pronounced as the duration of the reading session is lengthened and the difficult of the text is increased. On the other hand, the optometrist Rosenfield (2011) demonstrated that this phenomenon not only happens due to the illuminated display but also due to the computer angle at which the text is read, which normally does not happen with the printed text. Since this point of view e-texts have to improve to give the readers a better experience, in order to prevent any inconvenience which can affect the reader's perspective and good judgment of the book or text.

From other angle , due to the advances of technology, the researcher Benedetto (2013) after the creation of E-paper (E-P) , confirmed that E-P is optical equivalent of print paper, according to different tests, making readings in printed texts and E-P do not represent big differences. Benedetto (2013) affirms that after some experiments some manufacturers claimed that the new e-paper is equivalent to printed paper, with this, Benedetto wants to show the advance of the development of the e-paper and how some difficulties presented before have been solved, which will allow readers to have a better experience when reading. With these claims I could say that there is not big differences in the kind of texts used by the readers, either printed

texts or e-texts, what really matters is that the text presents favorable conditions for the reader, and due to the technologies developments there are not big differences in their physical characteristics.

Now giving consideration to the advantages that the use of digital tools and platforms can offer in reading process, I want to mention some implication these may have in reading comprehension. First since the motivation factor, most of students like computers and everything related with technology, then teachers could take advantage of this point to enhance reading, Picton (2014) states that according to different studies, students' motivation have increased with the use digital reading. In the same way, Ciampa (2012) based in some researches affirm students are very motivated and interested in the use of the new literacy of the internet.

She also states that one way to engage students in the reading process is by using different tools, in this case electronic devices and tools, which allow students increase their motivation, and enthusiasm toward reading. With this I want to highlight the importance that the use of digital platforms, and all kind the technologies have for students. If we teachers are able to develop effective strategies that involve the use of new technologies, it could lead to have students with better level of English comprehension.

Secondly, in this point I want to draw special attention to the use of digital platforms as a mean that allows students achieve the 21 century skills. Keane, Keane and Blicblau (2013) state that, in the current days students need to develop the 21 century skills, a deep learning, this in order to prepare students for the coming days. When they talk about these skills they refer to: knowledge in literacy, numeracy, creativity, skillful users of technology, deeply and logical thinking, to be resourceful, and be able to solve problems. Also to be able to work independently,

and work in teams when necessary. If we analyze to get the skills students need to develop knowledge in new technologies and reading literacy. In other research VanderArk and Schneider (2012) affirm that the use of Technology helps teachers to improve their teaching practice by creating new learning environments which will allow students to go deeper. This at the same time will create more independence in students, and the developing of the 21st century skills.

After analyzing all the above factors, it is important to have in mind than the objective here is to get to know to what extent all these issues can affect for better or for worse the process of reading comprehension. The literature revised here has given me an ample visual of how we, teachers, can develop better practices concerning with the teaching of reading comprehension. And I have to mention again, my focus in this area is due to the importance that this matter of study has in my teaching practice.

## 6 Methodology

The main objective of this research study, as previously mentioned, is to explore to what extent the use of technological tools is effective for strengthen reading comprehension, therefore, it seemed most appropriate to apply the Quasi-Experimental pre-test post-test method. This is in line with the objective of the study which is to compare the results obtained from a pre-test and a post-test by two groups of students in which one group is the experimental group and the other the control group. These results obtained are compared after having applied some reading comprehension strategies by using technological resources with the experimental group, and printed materials with the control group.

The methods implemented to collect data are Qualitative, this is because all the study was based on the observation of students 'attitudes, and behaviors when implementing the reading activities. It included a survey questionnaire, to analyze students' attitudes toward language and reading, as well as a pre-test and post-test, which were analyze through descriptive analysis. This data was compared between both groups. A brief description of the methodology in the present research, will be submitted below.

Nunan (1992) states that the Quasi-Experimental Method is a type of Experimental Method, where the researcher presents a pre and posttest, but the difference with the Experimental Method, is that in the Quasi experimental method there is not random assignment of subjects. That is the case of the current research, where the experimental group and the control group were already set. Besides, according to Nunan, experiments are carried out in order to

explore the relationship between variables, independent variables and dependent variables. In this research the independent variable is the use of technological tools as a strategy for strengthen reading comprehension, and the dependent variables are the attitudes and motivation of students, and the scores obtained in the reading activities in the post-tests. Then the purpose of this research is to establish the relation between these variables in the experimental group. The control group did not use technological tools for strengthen reading comprehension.

It is also crucial to mention that, in order to avoid contamination in the samples, the activities performed by both groups were presented in the same dates, and taking the same amount of time. Although the activities were different regarding to the environment, and materials used, one group worked in the computers room and the other in the classroom, the essence of the action plan was the same. In the same order of ideas, students were warned about the importance of the experiment, but they also were told that the results would not have any incidence in their regular grades in order to avoid fraud. And finally, all activities were performed in the school, none activities were left as homework with the objective of avoiding interferences as much as possible.

Although, in this research a pre-test and a post-test were applied in order to get some information with the objective of knowing if students improved or not in their reading process, all data were analyzed through descriptive analysis which, required observation and classification of answers 'patterns. Then, the data collection was through the qualitative method. For Hammersley (2012) qualitative researchers watch what is happening and usually write concrete descriptions of what is happening. For Lichtman (2012) Qualitative research is the way in which the researcher gathers, organizes and interprets what he or she has seen and heard. Then

taking into account that data hear were analyzed after observing students' behaviors. Then the results here are given for the observation and analysis of the different data collection tools.

This research study implemented a qualitative methodology with a quasi-experimental design, which included a questionnaire with multiple choice questions, and a few open-ended questions. The scores obtained by the students in both groups were compared in order to identify if there was or not any improvement after the implementation of the strategies, and bearing in mind the variables above mentioned. This is in line with the authors previously mentioned, who state that a qualitative approach is the one that allows us to examine the data through observation. According to, Rogers and Revesz (2020). Researchers typically use either experimental or quasi-experimental research designs to conclude whether there is a causal relationship between the treatment and the out-come,

Additionally, according to Rogers and Revesz, researchers within the field of applied linguistics have long used experiments to investigate cause–effect relationships regarding the use and learning of second languages.

# 7 Context of the Study

The current study took place at Harold Eder School in Zamorano, Palmira. Harold Eder is a public school which has 4 branches, it offers kindergarten, primary, secondary and high school, and the night sheet for adult people. The socio-economic strata in Zamorano neighborhood is, strata 1 and 2, most people has no regular jobs, so they have to work by doing different jobs, like cleaning, informal transportation, and informal selling. Taking into account these social aspects, I can say that most people do not have a high level education, many of them might not have finished high school, which becomes in a big problem, because students do not have the cultural capital nor the adequate support at home, or someone to guide them with their school tasks.

Most people from this area are immigrants from the southeast of Colombia, Cauca and Nariño, and many of them have arrived in condition of displacement due to the violence presented in these Departments (states)

# The Participants

The data was collected from two groups' nine graders students. Nine graders students are between 14 and seventeen years old, their English level is A1 in most of them, which is very poor according to the specification of the Ministry of Education (MEN). The participants were the students of groups 9-3 and 9-4. The group 9-4 was the experimental group. In this group there were 30 students, which 14 were females and 16 males, between 14 and 17 years old. And group 9-3 was the control group in this group there were 29 students, 12 women and 17 men between 14 and 17 years old.

### 9 English learning at school.

The low English language level could be the result of different factors, such as short time for instruction, in the school, from 6 to 11 grade, students have three hours of instruction a week, and primary schools two hours. This is very low in comparison with private schools, which have more than 5 hours a week for giving instruction. Besides the second problem in this aspect, is that primary schools' English teachers most of the time do not have the professional background for teaching the language, which leads to two problems, students fossilize language problems, or they lose interest in learning the language. When this happen, students that start secondary school show lack of interest, and several problems for improving in the language learning process.

As it can be seen, English classes lack of time for instruction, this show that the language class is no taken as a priority despite the multiple recommendations from MEN for fostering the learning of the language. According to Lineamientos Estandar para Proyectos de Fortalecimiento del Ingles, (2016, p. 15) from sixth to eleventh grade the recommendation is three hours per week during 36 school year weeks. Another example for this, is the absence of didactic resources in the school. Most of the time the teacher has to get his/her own equipment for presenting classes more interesting. As Usma (2009) states, the discourse of autonomy and improvement in public schools, contrasts with the few materials and constraining schools'

structures. Correa and Gonzalez (2016) also say that public schools usually lack of teaching resources and good classroom conditions. Then, the context in which the school is located is complex, and a lot of improvements need to be done for guarantee to the students' quality of education.

# 10 Data Collection Process

The tools implemented in order to collect data in this research were the presentation of a pretest and post-tests, see in attachments, the pretest was placed with the objective of identifying what was the current English reading comprehension level, and post-tests was placed with the objective of measuring if there was any gain or change after the implementation of the strategies. The reading levels evaluated in the pre-test were the literal, inferential and evaluative, and in the post-test were the inferential and evaluative. The pretest was placed with a reading similar to the ones presented in Pruebas Saber, (This is the national evaluation for students in 7, 9 and 11 grades, which has as main objective to get to know the level of students in different subjects around the country). Both groups the experimental group and the control group presented the same test in order to being able to compare the results in the most accurate form. This test was a reading comprehension activity with 12 multiple option questions, and 1 open ended question.

Students of both groups, the experimental and the control group presented this pre-test in their classroom using printed materials. These groups were selected randomly; there was not any reason in particular for making the choice. The group 9-4 was the experimental group. In this group there were 30 students, which 14 were females and 16 males, between 14 and 17 years old. And group 9-3 was the control group, in this group there were 29 students, 12 women and 17

men between 14 and 17 years old. As it can be seen, both groups of students were very homogeneous in quantity, age and number of females and males. Another important aspect, is that with both groups I had classes on Wednesdays and Thursdays in different hours, two hours on Wednesdays and one hours on Thursdays with each group which was beneficial to minimize contamination and lack of reliability during the tests.

Students in both groups present good discipline. Although the context in which they live presents many hazards for them, due to drug problems, robbery, high unemployment, and dysfunctional families, students are very respectful, and most of them attend to classes regularly. A black spot in the academic process they present is the low percentage of homework's delivery. Most of students do not present homework, and when most of them do it, the fraud is evident. I could bear out that when checking homework, and notice the same activities, usually with the same grammar mistakes, which is the most common.

#### **10.1** Activities Distribution

The sections for presenting the different activities were distributed as follows:

First, the pretest was a printed reading similar to the ones presented in Pruebas Saber, this pre-test had an A2 level difficulty according to the MEN and the CEFR standards. The time for doing this activity was 1 hour and 30 minutes. Both groups, the experimental group, and the control group presented this pre-test. This pre-test consisted in 13 questions, five literal questions, four inferential questions, and 4 evaluative questions.

Second, the activities with the experimental group and the control group were implemented for practicing reading comprehension according to the action plan by using the readings that were evaluated at the end of the research. To analyze and implementing the action

plan it took 4 sections of 55 minutes with each reading. These activities were performed with both groups, the experimental group and the control group, but in different scenarios as explained below.

#### 10.2 Activities Carried Out with the Experimental Group

With the experimental group, the activities were carried out in the computer's room. The activities consisted on, first, in using the platform Rewordify for looking synonyms of some words, check pronunciation and explore the metalanguage in the readings, such as checking the function of different words, noun, verbs, etc. It also was used to check understanding of the reading by asking questions about the readings. Students were allowed to check pronunciation by using the google translator. The platform Kahoot was implemented for checking reading understanding by answering inferential questions about the readings, no literal or evaluative questions or statements were posited in this activity. For doing this activity each student had a computer with internet connection, and they look at the questions and statements, and chose the correct option.

For example, one of the statements said: Mothers believe that boys are: a) stronger, b) weaker, c) noisier, and d) happier than girls. The answer was not directly stated in the text, this was an inferential statement. The students who obtained the highest score in less time was the winner. This was a kind of contest activity. The last activity was the use of PPT, with this presentation students played a memory game in order to check vocabulary and some questions about the readings. Each question was set on a slide, students read, and the one who thought to have the answer raised his/her and, then the correct answer appeared after clicking, and also a different activity was matching a new word with the picture. The objective of doing these

activities was that students understand as much as possible the main ideas of every reading by using the technological tools as well as learning new vocabulary.

In order to implement the different activities integrating technology into the English class, the SAMR model is the one that most approaches, this model was created by Puentedura (2006). The SAMR framework or model is based on the acronym of the words: Substitution, Augmentation, Modification and Redefinition. Taking substitution and augmentation as the lowest levels, and modification and redefinition as the highest levels. Its implementation in the classes occurred in the Augmentation level. In this level, technology becomes in a substitute of other learning tools with certain improvements. In other words, it substitutes the regular materials used in classes, but there are certain changes, without making big differences. One example of this is the use of the google translator for improving pronunciation, which is something that cannot be done with a printed dictionary.

At the end of these activities, what could be observe was the high participation of students, their enthusiasm, and attitude increased. Their willingness to make the different activities was in a higher percentage than when making the activities in the classroom. The atmosphere seemed to have changed since the moment that the teacher proposed the use of computers, and new technologies for doing the activities.

On the other hand, the activities with the control group after the pre-test, consisted on analyzing the same readings analyzed with the experimental group but by using different strategies. The readings were performed in the classroom by groups of 4 students. First, they did one reading, student used the dictionary for searching unknown words, and after having gotten the vocabulary, and students sat in a circle and did a discussion about the reading, the teacher

performed as monitor. The discussion consisted in making some question about the reading by reason of knowing that the reading had been understood.

A different activity performed with the students in the classroom was the implementation of flashcards with questions about the readings, these questions were inferential questions, the same implemented with the experimental group, but this time without using any technologies. An example of this was the question: Mothers believe that boys are: a) stronger, b) weaker, c) noisier, and d) happier than girls. The statement was pasted on the board and the options were shown by the teacher. Students had to pay attention carefully to every option and answer as soon as possible. After that the teacher gave the correct answer and a feedback about the reading.

Although this activity caught the students' attention, and it was evident that they enjoyed it when they worked in groups, I could notice that their time for hooking with the activity was too short. They started with the reading, and in short time many of the students showed laziness, and lack of interest. It also happened when making the circle, not all the students showed the same willingness to participate.

After the implementation of the different activities with both groups, students presented the final test. The time for presenting this test was stipulated in 1 hour and 30 minutes, bearing in mind that it was comprised of two reading, each one with five questions, three inferential questions, and two evaluative questions. No literal questions were posited on these tests. These readings were the same ones which had been studied before.

The experimental group answered the test in the computers' room by using the digital platform Socrative. Socrative is a platform which allows to create tests by using true or false options, multiple choice or open-ended questions. On the other hand, the control group presented

the same test, in the same time frame, but by using a paper sheet. None of both groups were allowed to use dictionary, or any other tool, rather than paper, pen or pencil, and in the case of the experimental group, students used the computers but without using translator.

Finally, students also completed a survey in order to get to know their perceptions about English language learning and reading, and their preferences toward reading materials. Both groups presented the same survey which varied in a statement and two questions. This survey was comprised of statement to answer strongly disagree, disagree, non-agree or disagree, agree and strongly agree. At the end of the survey, it had two open ended questions. The time implemented for filling out the survey was a section of 55 minutes. To do the analysis of the survey, first, I did a frequency analysis of each answer by grouping how many students selected each answer option, then, with the information from every answer I used the cross tabulation analysis which consisted in comparing the results in both groups, the experimental group and the control group and the relation with the variables. This analysis of the survey was a key point to find out if students' attitudes influenced the results, and also to realize if the use of digital devices influenced students' attitudes. This information was crucial to make the correlation between variables in order to get to know if there was any change in reading activities.

## 11 Data Analysis

#### 11.1 Experimental group. Pre-test.

The experimental group presented the pre-test that consisted in making a reading and answer 13 questions, which were 12 multiple-choice questions, and one open ended question. These questions were literal, inferential and evaluative. With this, the students would be able to show in what level of reading comprehension they were. The test had five literal questions, question one to five; four inferential questions, questions six to nine; and four evaluative questions, questions ten to thirteen. In question 13, students had to write their own opinion. To analyze data of the open question the document analysis method was implemented, which consisted in analyze every answer to see how accurate they were according to the text.

#### 11.1.1 Literal Questions.

The first literal question was answer correctly for all the students, 30 out of 30, 100% accuracy. The question number two was answer correctly for 25 students out of 30, 83.3% of accuracy, question number 3 was answered correctly by 29 students 96.6%, question number 4 was answered correctly for 26 students, 86.6%. And question 5 was answered correctly for 28 students. 93.3%. These results show that students do not have problems by getting information directly from the text.

#### 11.1.2 Inferential questions:

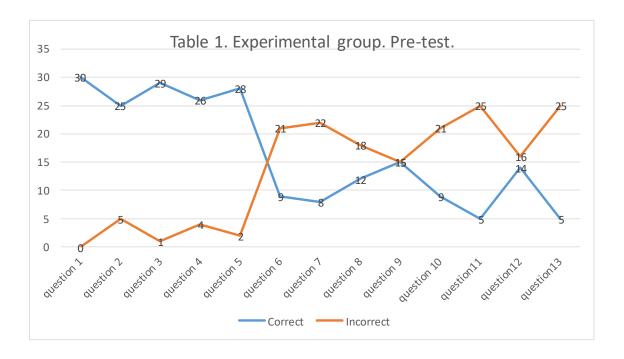
Question 6 was answered correctly by 9 students, 30%, and incorrectly by 21 students, 70%, question 7 was answered correctly by 8 students, 26%, and incorrectly by 22 students, 73%, question 8 was answered correctly by 12 students, 40%, and incorrectly by 18 students, 60%; and finally question 9 was answered correctly by 15 students, 50% and incorrectly by 15 students, 50%. Here, the results show how they have changed drastically in comparison with the literal questions.

#### 11.1.3 Evaluative questions

The evaluative questions, questions 10 to 13 showed the next results: question 10, 21 incorrect out of 30, 70%; question 11, 25 incorrect out of 30, 83%; question 12, 16 incorrect out of 30, 53% and question 13, 25 incorrect out of 30, 83%.

Question 13 was an open-ended question, and as we can observe, only 5 students were able to write an answer according to the question. This could happen because students with low level of reading comprehension usually have problems with writing. Busaidi (2013) states that reading helps to promote the growth of vocabulary and language structures which consequently help improve writing". Then Good readers are closer to have better skills in writing.

As seen in the previous analysis, these results show that students have deep problems in reading comprehension, especially when they have to solve inferential and evaluative questions. They hardly got to the 50 percent correct in one question. As it was seen in the literature review, students struggle with reading comprehension and even do not get to 50 points out of 100. Tovar et al (2018) and Garcia, Arevalo & Hernandez (2018). *See table 1*.



# 11.2 Controlled Group. Pre-test

The control group was comprised of 29 students, 13 women and 16 men, between 14 and 17 years old, they presented the pre-test, this pre-test was the same presented by the Experimental group. It consisted in making a reading and answer 13 questions; these questions were literal, inferential and evaluative. With this, the students would be able to show the level of reading comprehension in which they are. The test had 5 literal questions, question 1 to 5; four inferential questions, questions six to nine; and 4 evaluative questions, questions ten to thirteen.

#### 11.2.1 Literal Questions:

Question one was answered correctly for all the students, 29 out of 29, 100% accuracy. The question number two was answered correctly for 28 students out of 30, 96.5% of accuracy, question number 3 was answered correctly by 27 students 93%, question number 4 was answered correctly for 29 students, 100%. And question 5 was answered correctly for 29 students. 100%.

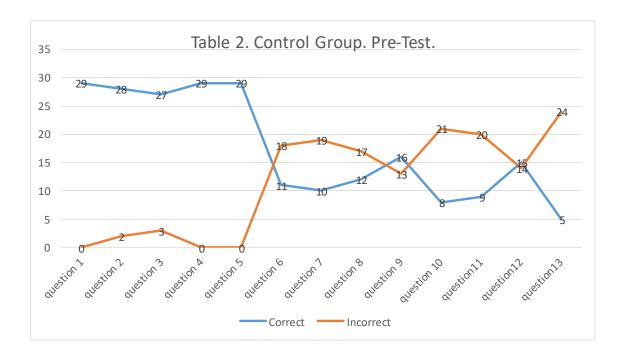
As it was seen in the experimental group, students do not have major problems by answering literal questions, the results do not show big difference in comparison with the experimental group.

## 11.2.2 Inferential Questions:

Question 6 was answered correctly by 11 students, 37%; and incorrectly by 18 students, question 7 was answered correctly by 10 students, 34%; and incorrectly by 19 students, question 8 was answered correctly by 12 students, 41% and incorrectly by 17 students, and finally, question 9 was answered correctly by 16 students, 55% and incorrectly by 13 students. Again, we can see that the results had a big change in comparison with the results obtain in the literal questions. Then I can say students are not well trained to answers questions beyond literal form.

## 11.2.3 Evaluative Questions

The evaluative questions, questions 10 to 13 showed the next results: question 10, 21 incorrect out of 29, 72%; question 11, 20 incorrect out of 29, 68%; question 12, 14 incorrect out of 29, 48%; and question 13, 24 incorrect out of 29, 82%. *See table 2*.



Again, in comparison to the results obtained by the experimental group, these are very similar, unfortunately these are not the best results, as we can see in table 1 and 2, after question 6, the results change drastically. Then, we continue confirming that students show some skills in reading comprehension when literal questions and answers are posit, but when they have to analyze the text, it does not matter if it is not a very deep analysis, most of students do not perform as well as it is supposed they should do it according to their grade. Then when comparing both groups, the experimental group and the controls group, we find results very similar with low variance in some answers, but not big differences. And the main find in this pretest is to get know that students are able to answer literal questions, but most of them fail to answer inferential and evaluative questions. For a better illustration see the tables below where both groups are compared according to the correct answers obtained in the pre-test.

Table 3					
Table 5	Exper. Group.	Contro. G.		Exper. Group	Control G.
Questions	Correct	Correct	Questions %	Correct %	Correct %
Question 1	30	29	Question 1	100%	100%
Question 2	25	28	Question 2	83%	97%
Question 3	29	27	Question 3	97%	93%
Question 4	26	29	Question 4	87%	100%
Question 5	28	29	Question 5	93%	100%
Question 6	9	11	Question 6	30%	38%
Question 7	8	10	Question 7	27%	34%
Question 8	12	12	Question 8	40%	41%
Question 9	15	16	Question 9	50%	55%
Question 10	9	8	Question 10	30%	28%
Question 11	5	9	Question 11	17%	31%
Question 12	14	14	Question 12	47%	48%
Question 13	5	5	Question 13	17%	17%



# 11.3 Analysis of posttest of the experimental group

After analyzing the pre-test, and the implementation of the action plan, I decided to implement the post-test. This posttest consisted in two short readings, each reading had five questions, there were not literal questions, there were three inferential questions, and two evaluative question in which students had to give their own point of view. I have to make clear that in the action plan, the evaluative level was not strengthened. The way the students answered the questions was by using the digital platform named *Socrative*. Socrative is a platform in which anyone can create tests with open ended questions and multiple choice. In this case the two options were used. Question 1, 2 and 3, were multiple choice questions, and question 4 and 5 were open ended questions. Question 1, 2, 3 were inferential questions, and 4 and 5, evaluative questions.

These readings were selected according to the English level of the students. To do this post-test, 28 students were present in the moment of its implementation, two students less in comparison with the pre-test. This post-test was presented in the computers 'room. Every student

worked individually using a computer. The teacher gave the students the Pin number to access to the virtual classroom.

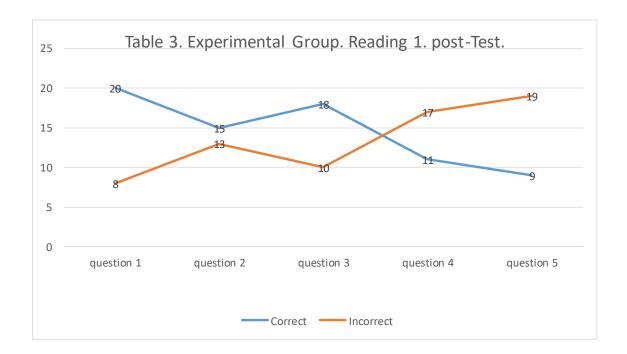
# 11.3.1 Reading 1.

# 11.3.1.1 Inferential question.

In question number 1, 20 students out of 28 answered correctly, this is the 71%, in question 2, 15 students answered correctly, 53%, in question 3, 18 students answered correctly, 64%. Comparing these first results with the pretest we can see that students improved in their inferential level.

#### 11.3.1.2 Evaluative questions.

In question 4, 11 students answered correctly, 39%, and 17 answered incorrectly. In question 5, 9 students answered correctly, 32%, and 19 incorrectly. See table 3.



The results showed that students continue having problems with the evaluative questions, although this level was not foster with the activities in the action plan, it was evaluated to see if there was any effect according to the action plan. In these questions, 4 and 5, students had to argument and express their own point of view. Reading is a long process therefore it has to go step by step. Then the first step was the improvement when they had to answer inferential questions, thus more practice will be necessary to scaffold correctly the process.

### 11.3.2 Reading 2

As the reading 1, reading 2 was comprised of 5 questions, questions 1, 2 and 3 were inferential questions, and questions 4 and 5 were evaluative questions.

#### 11.3.2.1 Inferential questions:

Question 1 was answered correctly by 15 students, 53%, and incorrectly by 13 students; question 2 was answered correctly by 11 students, 39%, and incorrectly by 17 students; and question 3 was answered correctly by 14 students, 50%, and answered incorrectly by 14 students. These results are consistent in comparison with reading 1, and students showed to have improved if we see, results in the pre-test. Then this second reading shows that students are able to make a reading, and most of them can answer correctly if the reading is according to their English level.

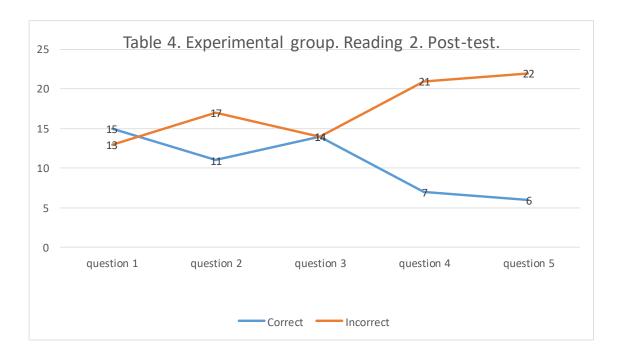
# 11.3.2.2 Evaluative questions.

In reading 2, questions 4 and 5 were implemented for the sake of students give their own point of view. These were the results.

Question 4, only 7 students were able to give an answer according to the questions, here there were not correct or incorrect answers, students only had to show that they had understood the question and give their own point of view, this aiming to foster critical thinking, and goes beyond giving answers taken from the reading.

In questions 5, only 6 students, out of 28, were able to answered the question, as in the previous question, most of students were not able to give their own point of view, this means students lack of deep understanding, or they do not have enough vocabulary that allow them to create meaning in English language and share with others.

In the same way as it was shown in reading 1, in this reading, students showed that they have improve by answering inferential questions, but they still lack of the ability for answering open ended questions, they did not no showed to have improved when answer evaluative questions. *See table 4*.



# 11.4 Analysis of the post test for the controlled group

The controlled group was comprised of 28 students, and the form students presented the post-test was different to the Experimental group. Although the reading was the same, and the same questions, in this case students presented the post tests by using paper sheets, and in the classroom.

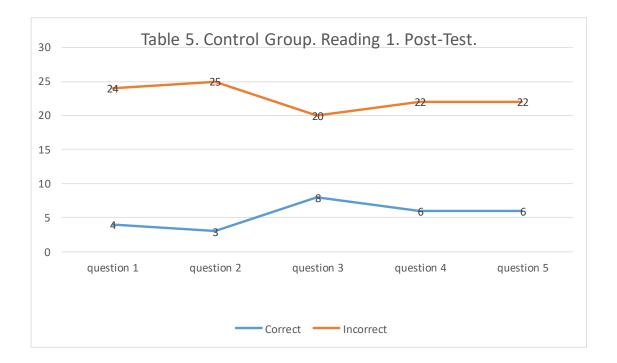
## 11.4.1 Reading 1.

## 11.4.1.1 Inferential question.

In question number 1, 4 students out of 28 answered correctly, this is the 14%, in question 2, 3 students answered correctly, 10.7%, and in question 3, 8 students answered correctly, 28%. Comparing these results with the results obtained by the experimental group, we can see that there was a big change. While the experimental group improved, the control group remained with low performance.

## 11.4.1.2 Evaluative questions.

In question 4, 6 students answered correctly, 21%, and 22 answered incorrectly. In question 5, 6 students answered correctly, 21%, and 22 incorrectly. The tendency in evaluative questions do not show improvement, the results continue being poor. *See table 5*.



#### 11.4.2 Reading 2

As the reading 1, reading 2 was comprised of 5 questions, question 1, 2 and 3 were inferential questions, and questions 4 and 5 were evaluative questions.

## 11.4.2.1 Inferential questions:

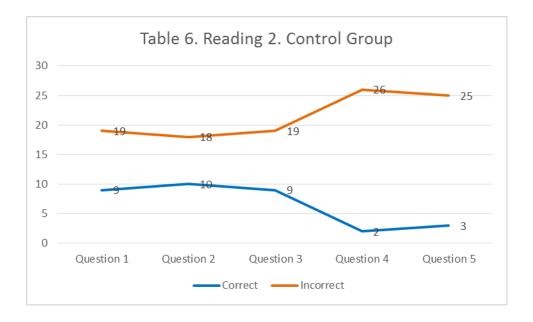
Question 1 was answered correctly by 9 students, 32,1%, and incorrectly by 19 students; question 2 was answered correctly by 10 students, 35%, and incorrectly by 18 students; and question 3 was answered correctly by 9 students, 32,1%, and answered incorrectly by 19 students. These results are consistent in comparison with reading 1, here we can see that students continue struggling to answer inferential questions.

### 11.4.2.2 Evaluative questions.

In reading 2, questions 4 and 5 were implemented for the sake of students give their own point of view. These were the results.

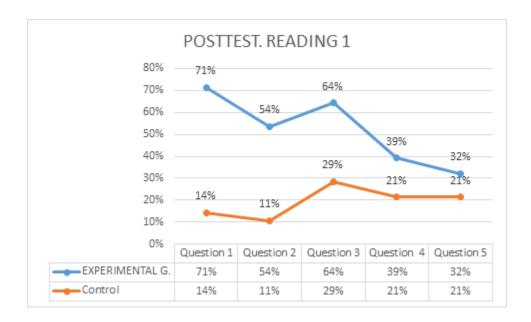
Question 4, only 2 students, 7,1%, out of 28 were able to give an answer according to the questions, there were not correct or incorrect answers, they had to show to have understood the question and give their own point of view.

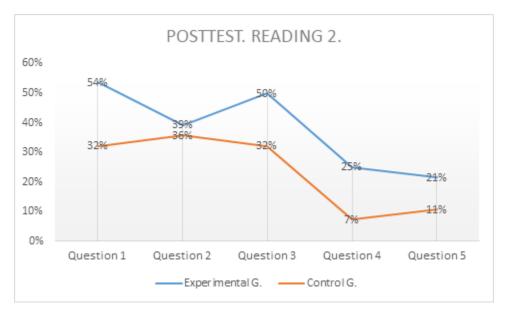
In questions 5, only 3 students, 10,7%, out of 28, were able to answered the question, as in the previous question, most of students were not able to give their own point of view, this means students lack of deep understanding, or they do not have enough vocabulary that allow them to create meaning in English language and share with others. *See table 6*.



After analyzing data in both groups, the experimental group and the control group, we can see that in both tests students in the experimental group performed better when answering inferential questions, but there were not significant changes when responding evaluative questions. Despite these relevant changes and differences, I cannot state what was or were the factors that lead the research to get to such results. As stated in the literature review, reading is a complex process which needs to be fostered since early ages. Then the factors that can have had certain influence in the score changes or gains are not clear. What is clear is that students continue having a low performance in reading comprehension in general, then it is imperative that the teacher continues working by looking strategies that help students to develop their reading process. Mikulecky (2008) argues about the need of making effective reading, then it is necessary to find the correct strategies to develop reading beyond the literal level. Students need to understand what they read and be able to support their ideas. Reading is not just a matter of extracting information from a text, and it is the ability to get information and put it into context, and be able to connect with the writer's reality. For a better illustration of the results in both

readings by both groups. See the table below. The two tables below show the percentage of correct answers every group obtained in each reading. reading one and two from the posttest.





# 11.5 Survey

The second data collection tool implemented in order to know students' attitudes toward English language and reading in FL, was a survey. The survey was filled out by both groups, the experimental and the control, but some questions were changed, taking into account that the

instructions for both groups were different at a certain point. In order to get the most accurate information, the survey was set in Spanish.

# 11.5.1 Experimental group

To fill out the survey an amount of 25 students were present, the survey had 22 statements, and 1 open question. The 22 statements had 5 options to select: strongly disagree, agree, neither agree or disagree, agree, and strongly agree. Statements 1 and 2, were about students positive attitudes toward English language, statements , 3,4,5,7,9,10,11,12, 16, examine students attitudes toward reading in English language, statements 6 and 8, examine students negative attitude toward the language, and statements 13,14 and 15 are related with students beliefs and purposes of reading, and statements 17 to 22 are related with students favorite tools for practicing reading. And the last question is an open question about students' preferences over reading tools implementation.

#### 11.5.2 Experimental Group Survey's Results

In statement 1, "I like learning English, 16 students answer agree, and 5 answer strongly agree, this means that 84% of students have a positive attitude toward English learning; in the second statement, English classes are my favorite, 10 students answered nor agree or disagree, 10 students answered agree, and 4 students answered strongly agree, with this we can see that 56% students have a positive opinion over the class, and 40%, are neutral in their opinion.

In statement, 3,4,5, 7, 9, 10,11,12, 16, which are directly related to students attitudes toward English reading, it can be observed that the positive answers show a positive attitude toward language, over the statements, but in questions 16, 11 students, which is the 46 percent, answered that reading is not their favorite leisure time, then in this section of the test we can see

that most of students do not have a bad attitude toward reading in English, but it is not an activity that most of them practice for enjoyment.

Now about statements 6 and 8, which are related with the negative perception students have toward English reading, only 3 students answered that they do not like reading in English, 20 students disagreed with the statement "I do not like reading in English", and 2 students had a neutral position. If we compare these results with the results in the first section, it is clear that in general, students have a positive position toward the language, and reading.

The third sections, although the survey is not organized in this way, the statements 13, 14, and 15 are related with students beliefs and purposes toward English reading, statements 13 and 14 states that students read for making homework or for increasing their knowledge, most of students answered in a positive way, only the 20% answered in a negative way, which continue showing that pupils have a good perception for English reading.

In the next section, statements 17 to 22, which are related with favorite tools and materials for enhancing reading. Statement 17 and 18 talk about printed paper as the favorite material for practicing reading. The results showed that most students were neutral, and in question 17, 10 students agreed, and in question 18, 7 students agreed that they can learn reading better by using printed material. As using printed materials has been the tendency in English classes, and it is the favorite tool used by teachers when teaching reading, making the analysis, not most of students enjoy this practice, and they do not have a positive attitude toward this form of teaching and learning.

The last statement, which is an open question is in relation with the way students think they can enhance reading comprehension. The question says: "¿Desde su experiencia en las

actividades de lectura en inglés, que prefiere: ¿Quedarse en el salón de clase, y leer usando un libro o fotocopias? O ¿hacer actividades de lectura en la sala de sistemas utilizando alguna plataforma digital? ¿Porqué?" "Since your experience in the different English reading activities, what do you prefer, staying in the classroom using an English book or any paper sheets, or doing reading activities in the computers room using any digital tool or platform? Why?"

With this question I pretended to get to know what was the perception of the students toward reading, taking into account that, in that moment they had had the experience of practicing reading in both ways, by using printed materials what is what we usually do in English classes, and on the other hand by using the digital platforms what was what we did in the last classes.

To analyze the results obtained in the open-ended questions I used the thematic analysis model, according to Guest, MacQueen & Namey (2014. p, 9) the "Thematic analyses move beyond counting explicit words or phrases and focus on identifying and describing both implicit and explicit ideas within the data, that is, themes". In this order of ideas, what I did was identifying patterns in students' answers and grouped then into themes to see what their more common answers were about each question.

The results show that most of the students prefer doing the activities in the computer room. some of their answers are: the classes in the computer room are more interesting, they are more dynamics, it is the way of the modern teaching, is fun, there is more interaction, it increase the motivation, 23 out of 25 answers are for the use of digital tools as a way of improving classes and enhance reading comprehension, and two students thinks they can learn either way, by using new technologies, or printed materials.

This means that students are highly positive about the use of digital tools. These answers are in concordance to the answers 17 to 22, which show that most of students prefer reading by using digital tools or platforms rather than using printed materials.

As using digital tools and a platform for teaching and learning reading comprehension with this group, the experimental group, is a new methodology, it can be seen that their attitude toward making this kind of activities is very positive. The results obtained by students showed that they performed better when answering inferential questions, and their attitude toward reading seems to have had a positive impact. *See table 7*.

Table 7.

Survey. Experimental Group. Number of students 25.

	Strongly disagree	Disagree	Nor agree or disagree	Agree	Strongly Agree
Statemet 1.	1	1	2	16	5
Statemet 2	0	1	10	10	4
Statemet 3	1	2	8	13	1
Statemet 4	1	8	12	5	1
Statemet 5	0	1	11	9	4
Statemet 6	4	10	6	5	0
Statemet 7	1	2	5	14	3
Statemet 8	8	12	2	2	1
Statemet 9	4	6	12	3	2
Statemet 10	3	2	7	11	4
Statemet 11	0	6	7	9	3
Statemet 12	1	9	8	5	2
Statemet 13	0	5	6	9	5

Statemet 14	0	4	9	12	0
Statemet 15	3	15	4	3	0
Statemet 16	1	10	8	4	2
Statemet 17	3	7	9	5	1
Statemet 18	0	5	13	4	3
Statemet 19	1	1	7	13	3
Statemet 20	0	1	2	12	10
Statemet 21	0	1	5	7	12
Statemet 22	7	12	2	4	0

Question 23: when questioned students about the use of ICT for enhancing reading, most of them were on favor of using new technologies as a strategy for learning better. Students said that the classes using ICT are more interesting, and they pay more attention. The learners also said that the use of ICT foster the interactivity and this help the process of leaning. Some other students highlight the importance that ICT have nowadays in education, and the need to integrate both. They also stated that motivation increase when using ICT because the classes are more dynamics and interactives. Finally, another common answer was that when classes are implemented this way, students can learn better. All these answers let us know the importance that the use of ICT have nowadays as a strategy for improving classes, not necessary reading classes. To say that students improve in inferential reading because of the implementation of technology would be risky because there is not enough evidence, but what it is evident is that student's attitude increase due to the implementation of a new strategy, the use of ICT.

#### 11.6 Control group survey

As it was mentioned before, this survey is very close to the one presented by the students in the experimental group, but two questions were changed taking into account that students in the control group did not do any reading activity by using any digital tool.

In this case the survey was comprised of 20 statements, and two open ended question. As in the experimental group, students had to read the statements, and they had to choose one of the options, strongly disagree (1), disagree (2), neither agree or disagree (3), agree (4) and strongly disagree (5).

To fill out the survey an amount of 28 students were present, the survey had 20 statements and 2 open ended questions. Statements, from 1 to 18, are similar to the statements in the experimental group's survey. Statements 1 and 2 examine the attitude toward the language, statements 3,4,5,7,9,10,11,12 and 16 examined students' attitudes toward reading in English language, statements 6 and 8 examine students' negative attitude toward the language, statements 13 and 14 are related with students beliefs and purposes for reading, statement 15, presents the support parents give to students to encourage them to read, statements 17 and 18, are related with favorite materials for practicing reading by students, and number 20 and 21 are two questions about students preferences toward reading. Taking into account that students did not use digital tools, questions related directly with this topic were omitted in this survey.

# 11.6.1 Controlled Group Survey's results:

In statement 1, "I like learning English, 11 students answered nor agree or disagree, 8 students answered agree and 5 strongly agree, this means that more than 50 percent of learners have a positive position toward the language. In the second statement, English classes are my

favorite, 11 students answered nor agree or disagree, 7 agree, and 3 students strongly agree, here we can see that less than 50 percent of pupils have English as his/her favorite class.

In statements, 3, 4, 5, 7, 9, 10, 11, 12, 16, which are directly linked to students attitudes toward English reading, as it happened in the survey with students in the experimental group the answers over the 50 percent are neutral, most of the answers were nor agree or disagree. This means they are indifferent to the process of reading. in the statement 16 for example, the 50 percent of students do not have English reading as a leisure time activity, then if students do not like reading or do not enjoy it, definitely they are going to struggle to develop abilities in reading comprehension, and they will hardly get an acceptable level when present different kind of reading comprehension tests.

Now about questions 6 and 8, which are related with the negative perception students have toward English reading, in question 6, 16 students answered that they do not like reading in English, in question 8, 7 students think that reading in English is a waste of time, and 13 students disagree with this statement.

Although the survey is not organized in this way, the statements in the third sections are related with students' beliefs and purposes toward reading in English, statements 13, 14, "I read in English for doing homework, and I read in English for increasing my knowledge". the results show that 12 students read for doing homework, and 11 students answered nor agree or disagree in statement 15, which is about the support students get from their parents for enhancing reading, only 5 students answered that they get some stimulus and support from their parents for practicing reading and English language. This answer really is not a surprise taking into account the context and the background of the parents, who in many cases have not finish high school. Some of them are in the process of graduating from high school.

In the next section, statements 17 and 18 and 20, talk about the perception students have when reading using printed materials, in statement 17, "I rather to read in English when I use a book or a paper sheet, 8 students disagree, and 10 answered nor agree or disagree, with this I can see that not most of students enjoy reading by using printed materials. In statement 18, "I think I can learn better when I use a book, or a paper sheet, 9 students disagree, 10 are neutral and 11 agree. If we analyze, less than 50% of students think that they can learn better when they use printed materials.

In statement 20, "I prefer stay in the classroom and doing reading activities by using printed materials, 8 students agree, 12 are neutral and 11 disagree. Bearing in mind that this group did not practice using any digital tool, the number of students that show a positive attitude toward reading in the classroom is low.

Finally question 21 and 22, intend to get information from students about reading and their preferences. Question 21, "since your experience in reading activities in English, how would you like that the English reading classes were? As this, and question 22 were—open-ended questions, all answers were analyzed to get the most accurate information in order to avoid bias. The answers of most of students were focused in implementing different dynamics for understanding new vocabulary, some of them suggested the use of electronic devices, some other students proposed the use of games, and in general that the activities be student centered where they can interact more.

In question 22, "Do you consider that the use of electronic devices and the use of internet would help you improve in reading skills? Most of students answer yes. Some of them said: it is funnier, young people like electronic devices, it is dynamic, is more interesting. In conclusion

even though students did not use any help by using electronic devices, they think it would be a good idea. *See table 8*.

Table 8. Survey.

Control Group. Number of students 28.

	Strongly disagree	Disagree	Nor agree or disagree	Agree	Strongly Agree
Statemet 1.	2	2	11	8	5
Statemet 2	0	7	11	7	3
Statemet 3	3	7	9	7	2
Statemet 4	1	10	13	3	1
Statemet 5	0	8	12	6	2
Statemet 6	0	8	4	10	6
Statemet 7	4	12	8	4	0
Statemet 8	5	8	8	5	2
Statemet 9	5	8	12	3	0
Statemet 10	2	5	11	7	3
Statemet 11	4	6	10	7	1
Statemet 12	2	7	14	5	0
Statemet 13	0	5	11	9	3
Statemet 14	3	7	11	6	1
Statemet 15	3	14	6	4	1
Statemet 16	2	12	9	3	2
Statemet 17	3	7	9	7	1
Statemet 18	2	7	10	8	1
Statemet 19	2	4	3	9	10
Statemet 20	5	6	12	3	5

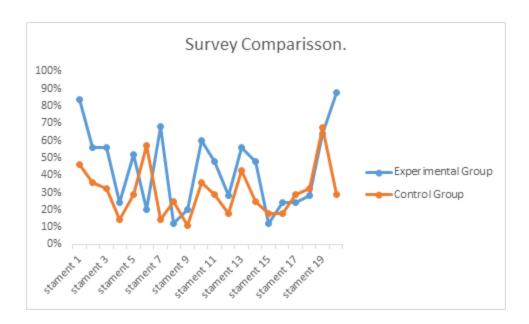
**Question 21:** since your experience by doing English reading activities, how would you like the reading activities were?

The answers students gave were; the classes should be more active, it would be nice if we all have the chance to interact with our classmates, and they also say that it would be good to do different activities instead of making a reading and answer questions. Then students are asking for more interactive classes. Although the activities proposed to do in the classroom were students centered, because they had the opportunity to work by groups, they seen to be unhappy, and they think new strategies should be implemented.

**Question 22**: Do you consider that the use of electronic devices and the internet would help you to enhance your reading skill?

In this question, the most common answers were: The use of different technologies would help us to understand, it also would help to focus in the activities. When using ICT would be more interesting, and Students would enjoy it more if we use ICT instead of being in the classroom. It may be that the use of new technologies represents innovation to the students and that they think this is the solution for understanding better. Due to, new technologies are something students use frequently, and they enjoy it, they immediately think it is the solutions for learning better. Then it is the conception they have about technologies implementation in the classroom.

Survey's Analysis.	EXPERIMENTAL G.	CONTROL G.	
Statements	Agree/S. Agree	Agree/S. Agree	
Statement 1	84%	46%	I like learning English.
Statement 2	56%	36%	English classes are my favorite.
Statement 3	56%	32%	Reading in English is a experience I enjoy.
Statement 4	24%	14%	Reading is one of my favorite leisure time activities.
Statement 5	52%	29%	I really enjoy Reading in English.
Statement 6	20%	57%	I do not like Reading in English.
Statement 7	68%	14%	I find Reading in English very easy.
Statement 8	12%	25%	I think that when I read in English I waste my time.
Statement 9	20%	11%	When I read in English I understand everything.
Statement 10	60%	36%	I like the English class when I have to read and give answers about what I read.
Statement 11	48%	29%	I like Reading in English and writing about what I read.
Statement 12	28%	18%	I like Reading in English for pleasure.
Statement 13	56%	43%	I read in English for doing homework.
Statement 14	48%	25%	I read in English for increasing my knowledge.
Statement 15	12%	18%	I read in English because my parents encourage me to do it.
Statement 16	24%	18%	I read in English as a leisure time activity.
Statement 17	24%	29%	I rather to read in English by using a book or paper sheets.
Statement 18	28%	32%	I think I can learn better when I read by using a book or paper sheets.
Statement 19	64%	68%	I rather Reading in English by using a computer, a Tablet or the cellphone.



To summarize, the students in the experimental group showed a better attitude and disposition toward English language and reading. Although the pre-test showed scores very similar, after the implementation of the different strategies, students from the experimental group performed better by answering inferential questions in the posttests. Then, if there was a change it is necessary to analyze the correlation between the different results. It is not clear so far if the implementation of ICT had a direct interference in the process of learning per se, to say that would be risky, and it would need deeper studies. But what is evident is the correlation that exist between the use of ICT, the pre-test results and the survey results. Students in the experimental group, who showed better attitude and motivation raised their inferential reading level in comparison with the control group. Then as it was stated in the literature review, attitudes are a key point to stimulate students in behalf of improving their reading process, and it is the teacher the one who has the task of creating appropriated environments that allow students improve day by day in their learning process.

The results obtained from both groups, the experimental group, and the control group, as well as in the posttests as in the surveys, showed that students have big problems with reading

comprehension, and students in the experimental group could enhance a little their reading process in the inferential level, but no in the evaluative level. Then, the results showed by the experimental group could be directly correlated to the student's attitudes and motivation showed during the presentation of the different activities. Motivation and good attitudes are highly linked to better learning results.

### 12 Conclusions

After analyzing the results in the pre-test, the tests and the survey, and considering the objectives of the current research paper I can conclude that:

Firstly, in the pre-test, the diagnostic showed that most of students were able to get literal information in an easy form from the text handled to them. Fukazawa, (2008), Brandao & Oakhill, (2005); Geiger & Millis, (2004); and Raphael and Wonnacott, (1985), state that generally, recognizing literal questions appears to be easier to answer than other questions such as inferential questions. But in reading comprehension the objective is not to decode a text, it is a deeper process. Norris and Phillips (1987) state that reading is more than say what is written in a text, that it involves reasoning. Then to extract information from a text only shows the ability of getting literal information, but not the ability to analyze, reasoning, and confront a text.

Therefore, the first conclusion is that nine graders students are in a low stage in reading comprehension, according to the MEN and CEFR, students in 9 grade should be in level B1, which is for independent users, but the pre-test was for students in level A2, basic users, and most of them were unable of answering inferential and evaluative questions. Then, nine graders students at school have not developed reading comprehension skills, as it is supposed they should have done in their current school level.

Secondly, the students who worked with the ICTs tools showed to have improved in comparison with the pre-test and with the results obtained by the control group, when answered inferential questions about the readings. The reason to explain this phenomenon could be related to the correlation existing between the use of technological tools and the motivation and attitudes students from the experimental group showed.

If we compare the two groups, there is a big difference when answering inferential questions, the results obtained by the experimental group as well as their attitudes were much better comparing with the control group. Students presented a better performance in reading comprehensions, as well as their attitude toward reading was more positive. While the experimental group showed interest and enjoyment for accomplishing the activities, the control group was passive and in certain occasions their learning process was instrumental, their objective was accomplished with a task, and getting the grade. Then maybe the way the activities were planned with the experimental group, and the tools implemented in every section were the key point for having such results. The experimental group was motivated and eager to go to the computers room, while the control group only tried to accomplish with the activities planned to do in the classroom. It is possible that the experimental group have experimented an extrinsic and intrinsic motivation, external factors like the use of technologies which is something of their daily used, mix with their own motivation for learning, against the need for accomplish with a task, and the only motivation was getting a good grade.

Thirdly, although there was a big change and improvement when the experimental group had to answer the inferential questions, there was not significant changes when students answered evaluative questions. This clearly shows that making reading comprehension is a long process, and a few sections are not enough to be successful in a process which might take years.

But this is a good start, paying attention to the results obtained in the post-test, and comparing them with the results from the pre-test, I could say that the use of technological tools did contributed in the process of fostering reading comprehension. As I already mentioned, to say to what extent is difficult, due to some few sections are not enough to evaluate such a demanding task.

Fourth, I think that we teachers have a big challenge at school, and this is developing students' critical thinking through reading. Bearing in mind that most of students do not enjoy reading, we can raise their interest by using ICTs tools as a strategy, the use of new technologies is something that most learners love, then if we, teachers, want to make our classes more interesting, we need to start to use what students like and want to do. We cannot change students' attitudes, and we cannot increase their curiosity and love for learning if we reject the implementation of the technology.

A con point in this particular case, is that the computers, and the computers' room are not always available, as well as the internet connection, then classes must be very well planned just in case we cannot count on these, but alternative like the use of video projector and PowerPoint activities must work. Students, especially in the context I work enjoy, everything related with technologies, then, if we have the opportunities it is necessary to create these environments.

Another aspect to take into account, is that in the school I work, many teachers refuse to using ICT, the reasons can be different, like poor training, the process to get equipment is tedious, or just because some teachers do not like using ICT. Whatever it is the reason, it is necessary that we raise awareness about our duty, and start improving our practices.

Summarizing, according to different results, students in Colombia lack of high levels of reading comprehension, most of them scarcely reach the literal level, and it is evident in the school where this research took place. But that the implementation of new strategies like the use of ICT can influence students attitude and this leads students improve in their reading process. Thus, taking into account that reading comprehension is a skill needed to be mastered not only for getting information from a text but to be able to analyze and set a position over it, it is imperative that to take actions over it, in order to empower students for enhancing the reading comprehension skills.

### 13 Recommendation

Taking into account the great importance that the development of reading skills has in EFLS, for enhancing their language competences, and observing the results obtained in the present research just in few language sections, there are some aspects I propose could be of interest for further researches.

First, the experimental group showed better results by answering inferential questions, futures investigations could go deeper to see if the results can be given just because of the influence of technologies in the cognitive process leaving aside the attitude and motivation factors. I mean, if it is possible that the use of technology makes a great difference in the learning process just due to its implementation. This would require a deep study in relation with cognitive process and technologies implementation.

Second, as it was shown, the use of technologies motivates students in their learning process, but unfortunately the few sections implemented in this research do not give a wide vision of what could happen if this process last longer, therefore, I would propose the implementation of a deeper qualitative research in which all aspects about students' feelings and expectations can be described when implementing technological tools for improving reading comprehension, this could be an Action Research in which the teacher has the possibility of making changes and evaluate during a long process, I think this would be of great help to understand better how students learn and what they want for fostering their learning process.

Finally, as it was mention a long this research work, reading is a key point to be enhanced when teaching English as a Foreign Language, then is the teacher's duty to find strategies that allow students to develop this skill, it does not matter what strategies but innovation in the classroom raise curiosity in students.

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## 15. Appendix

### **PRE-TEST**



Maestría en Enseñanza de Inglés como Lengua Extranjera.

#### Arles Eduardo Bautista

The use of digital platforms to strengthen the English reading comprehension process, in nine graders in Harold Eder high school, in Palmira.

Diagnostic reading comprehension test.

Objective: To get to know the reading comprehension level of nine graders in Harold Eder School.

Level A1

Name: \_\_\_\_\_\_ Date: \_\_\_\_\_\_ Time: \_\_\_\_\_\_

Hi! Nice to meet you! My name is John Smith. I was born in 2000 and I am a student in college. I go to college in New York. My favorite courses are Geometry, French, and History. English is my hardest course. My professors are very friendly and smart. It's my second year in college now. I love it!

I live in a big house on Ivy Street. It's near the college campus. I share the house with three other students. Their names are Bill, Tony, and Paul. We help each other with homework. On the weekend, we play football together.

I have a younger brother. He just started high school. He is 14 and lives with my parents. They live on Mulberry Street in Boston. Sometimes they visit me in New York. I am happy when they visit. My Mom always brings me sweets and candy when they come. I really miss them, too

### ¿Has entendido el texto? ¡Por favor conteste las preguntas!

Pregunta 1:	Where does	John	study?
0			_

1 New York 2 Boston 3 Berlin 4 Paris

Pregunta 2:	What is John Smith	's hardest	course?				
1 English	2 Math	3	3 French	4	Art		
Pregunta 3:	Who shares a house	e with John	Smith?				
1 Anna, Marg Tony, and Pa	garet, and Tanya ul	2 Frank	, Tony, and M	like	3 Bill, John, and T	Гот	4 Bill,
Pregunta 4:	How old is John S	Smith's you	inger brother?				
1 thirteen	2 eleven		3 seven		4 fourteen		
Pregunta 5: 1 Sweets and and ice cream	•	nith's Mom owers and	_		ey visit? uits and vegetables	4	l Candy
Pregunta 6:	What is the intention	on of the au	thor in the tex	xt?			
1. To tell how 3. To talk abo	v is life at college. out a sports.		<ul><li>2. To tell how</li><li>4. To introdu</li></ul>		ppy is the student at audent.	: colleg	ge.
Pregunta 7:	how old is John at	the current	days?				
1. 15	2. 19	3. 20	4. 200	0			
Pregunta 8:	A good title for thi	s text could	d be:				
1. My name myself.	is John. 2. Life	at college.	3. Living	withou	at parents. 4. Intro	oducin	g
Pregunta 9:	Why John does not	live with h	nis parents?				
<ol> <li>Because he</li> <li>Because of</li> </ol>	e is a grown- up mar his studies.	1.			kes independence. kes football.		
Pregunta 10:	: what do you think	it could ha	appen if John's	s fami	ly does not visit him	1?	
1. He would be 3. He would be	110		I have more ting t have candies		playing football.		
Pregunta 11:	why does john stu	dy in a diff	ferent city to h	is livi	ng place?		
	e does not like his ci ew York is nicer.	•			colleges in Boston. option for studying	what	he
Pregunta 12:	: According to the	description,	, what career,	do you	ı think, is John stud	ying?	

1. Something related with sports.	2. Something related with engineering.
3. Something related with arts.	4. Something related with teaching.
Pregunta 13: if you were in John's shoes	and you have to move from your living town for
achieving any of your goals, would you do	o it?
1. Yes 2. No	
Why? Justify your answer:	

 $\begin{tabular}{ll} \textbf{Adapted from:} & $\underline{https://lingua.com/es/ingles/lectura/john/} \\ \textbf{Post-test.} \end{tabular}$ 



Maestría en Enseñanza de Inglés como Lengua Extranjera.

#### Arles Eduardo Bautista

The use of digital platforms to strengthen the English reading comprehension process, in nine graders in Harold Eder high school, in Palmira.

Name:	Date:	_
Grade:		
READING COMPREHENSION TEST	<b>I.</b>	
Answer questions 1-3 according	o the following text.	
make a successful reading, meteorodata required are collected several gather this information, special typ These data are of course valuable t	tudy the weather and make weather predictions. In ordelogists must take a lot of things into consideration. In things a day from different sources all over the world. The soft instruments are used. To everybody since the reports and warnings that the able. Failing to take their advice could, in some cases,	fact, the
1. The underlined word valuable ca	n be replaced with	
a. Expensive. b. useless.	c. necessary. d. useful.	
2. The underlined expression usual	ly reliable supports one of the following ideas:	

- a. Weather information is generally accurate.
- b. Meteorologists read very successfully.
- c. Meteorologists work really hard.
- d. Weather information is rarely precise.
- **3.** The underlined sentence, <u>failing to take their advice could</u>, in some cases, be a matter of life or death, communicates the idea that
  - a. Meteorologists, observations are sometimes right.
  - b. It is necessary to ignore scientists, recommendations.
  - c. It is prudent to pay attention to meteorologists, suggestions.
  - d. Scientists, directions are usually inefficient.

<b>4</b> . What is the intention of the author in the text?
5. How do you think meteorologist register can help you in a given situation in your daily life?



Maestría en Enseñanza de Inglés como Lengua Extranjera.

### Arles Eduardo Bautista

The use of digital platforms to strengthen the English reading comprehension process, in nine graders in Harold Eder high school, in Palmira.

Name:	Date:	
Grade:	Time:	

#### READING COMPREHENSION TEST 2.

## ANSWER THE QUESTIONS 1 TO 3 ACCORDING TO THE NEXT TEXT.

A few years ago, scientists videotaped mothers, and their reactions to young babies. They needed a baby for their research. Although it was a boy, they dressed it in pink. They then gave it to several mothers to hold. Because the baby was dressed in pink, everyone praised its appearance and said things like, "There's a pretty girl". When the baby made a noise, or moved, they tried to calm it down by saying, "Stop crying, darling".

The scientists then dressed the same baby in blue. In spite of the fact that it was the same baby, the mothers' reactions were completely different. This time they said things like, "What a big strong boy!" When the baby moved or made a loud noise, they laughed and encouraged him by saying, "Listen to that shout! What strong lungs!" Although the baby's size hadn't changed and the cries were identical, mothers reacted differently to the baby in blue.

- **1.** The underlined sentence, everyone praised its appearance, means the same as:
  - a. People criticized the boy's looks.
  - b. People expressed positive feelings about the baby's physical aspect.
  - c. People censured the boy's clothes.
  - d. People demonstrated negative attitudes towards the baby's actions.
- **2.** According to the two types of reactions that the mothers showed, we can state that:
  - a. If the mothers thought the baby was a boy, they talked to him softly.
  - b. If the baby boy cried, the mothers were very rude
  - c. If the mothers thought the baby was a girl, they talked to her energetically.
  - d. If the baby girl cried, the mothers were very gentle.

- **3.** Based on the text, we can say that:
  - a. People's behavior towards babies is influenced by colors.
  - b. There is a strong natural relationship between color and a child's sex.
  - c. Babies, behavior depends on the color they are wearing.
  - d. There's a poor association between a baby's actions and the mother's reactions.

4. Do you agree or disagree with the mothers' reactions for the clothing color? Why?	
5. Do you think people's behavior should change according to the gender of the person? Why?	



The use of digital platforms to strengthen the English reading comprehension process, in nine graders in Harold Eder high school, in Palmira.

## Surveys in Spanish and English.

# Attitude toward English language and Reading.

# Experimental group.

Por favor responda las siguientes preguntas encerrando el número de la respuesta que sea la más acertada para usted. Responda de forma sincera. El éxito de esta investigación depende de ello. Recuerde, no hay respuesta incorrectas. Las respuestas están numeradas de 1 al 5.

1 = Fuertemente en desacuerdo. desacuerdo 4 = de acuerdo.			2	2 = en desacuerdo	3 = ni de acuerdo ni en 5 = fuertemente de acuerdo.		
Name				Gender			
Age _				Grade:			
1.	Me gusta apren	der inglés	<b>5.</b>				
1	2	3	4	5			
2.	Las clases de in	iglés son	mis pre	feridas.			
1	2	3	4	5			
3.	Leer en inglés e	es una exp	erienci	a que disfruto.			
	1 2	3	4	5			
4.	La lectura es un	o de mis	pasatie	mpos favoritos.			
1	2	3	4	5			
5.	Realmente disf	ruto leer	en ingle	és.			
1	2	3	4	5			
6.	No me gusta lee	er en ingl	és.				
1	2	3	4	5			
7.	Encuentro que l	leer en ing	glés es i	muy fácil.			
1	2	3	4	5			
8.	Creo que cuano	do leo en	ingles o	desperdicio mi tie	mpo.		
1	2	3	4	5			
9.	Cuándo leo en i	inglés, en	tiendo t	codo.			
1	2	3	4	5			
10.	. Me gusta la clas	se de ingl	és cuan	do tengo que leer	v dar respuesta sobre lo que leí.		

1	2	3	4	5
11.	Me gusta lee	r en ing	lés y esc	cribir sobre lo que leí.
1	2	3	4	5
12.	Me gusta lee	r en ing	les por p	placer.
1		3	4	5
13.	Leo en inglés			
1		3	4	5
14.	Leo en inglés	^		mi conocimiento.
1 15	L oo on inclos	3	4 . mis no	5
13.	2		ams pac 4	dres me animan a hacerlo. 5
16.	Leo en inglés	-	-	vidad de tiempo libre.
1	2	3	4	5
17.	Prefiero leer	en ingle	es cuand	lo son libros o fotocopias.
1	2	3	4	5
18.	Creo que pue	edo apre	nder me	ejor, cuando leo desde un libro o fotocopias.
1	2	3	4	5
19.	Prefiero leer	en ingle	es usando	lo un computador, una Tablet o el celular.
1	2	3	4	5
20.	Creo que pue	edo apre	nder má	ás, cuando leo en inglés, usando algún aparato electrónico.
	(computador,	, Tablet	, celular)	•)
1	2	3	4	5
21.	Creo que es 1	nás inte	resante l	hacer actividades de lectura en ingles usando algún aparato
	electrónico. (	compu	tador, Ta	Cablet, celular)
1	2	3	4	5
22.	Prefiero qued	darme e	n el saló	on de clases y hacer actividades de lectura usando material
	impreso.			
1	2	3	4	5
23.	Pregunta abie			
	Desde su exp	eriencia	a en las a	actividades de lectura en inglés, ¿qué prefiere: quedarse en e
		•		un libro o fotocopias, o hacer actividades de lectura en la
	sala de sisten	nas utili	zando al	lguna plataforma digital?
ć	Por qué?			



The use of digital platforms to strengthen the English reading comprehension process, in nine graders in Harold Eder high school, in Palmira.

# Attitude toward English language and Reading.

# Experimental group.

Please answer the next questions circling the most accurate answer for you. Please be honest at the moment of answering; the success of the current research relies upon it. There are not incorrect answers. Answers are numbered from 1 to 5.

		ongly disag ongly agre		2 = disa	gree	3 = nor agree or disagree	4 = agree
Na	ıme					_ Gender	
A٤	ge					Grade:	
	1.	I like lea	rning En	glish.			
1		2	3	4	5		
	2.	English c	lasses are	my favo	rite.		
1		2	3	4	5		
	3.	Reading i	in Englisl	n is a expe	erience l	I enjoy.	
1		2	3	4	5		
	4.	Reading i	is one of	my favori	te leisui	re time activities.	
1		2	3	4	5		
	5.	I really e	njoy Rea	ding in E	nglish.		
1		2	3	4	5		
	6.	I do not la	ike Readi	ng in Eng	glish.		
1		2	3	4	5		
	7.	I find Rea	ading in I	English ve	ry easy.		
1		2	3	4	5		
	8.	I think th	at when	I read in I	English !	I waste my time.	
1		2	3	4	5	•	
	9.	When I re	ead in En	glish I un	derstand	d everything.	
1		2	3	4	5		
	10.	. I like the	English	class whe	n I have	e to read and give answers abo	out what I read.
1		2	3	4	5	_	
	11.	. I like Rea	ding in E	English an	d writin	g about what I read.	

1		2	3	4		5
	12. I	like Re	ading i	n English	for pl	easure.
1		2	3	4	5	
	13. I	read in	Englis	h for doir	ng hom	nework.
1		2	3	4	5	
	14. I	read in	Englis	h for incr	easing	my knowledge.
1		2	3	4	5	
	15. I	read in	<b>Englis</b>	h because	e my pa	arents encourage me to do it.
1		2	3	4	5	
	16. I	read in	Englis	h as a leis	sure tin	me activity.
1		2	3	4	5	
	17. I	rather t	o read	in English	h by us	sing a book or paper sheets.
1		2	3	4	5	
	18. I	think I	can lea	ırn better	when l	I read by using a book or paper sheets.
1		2	3	4	5	
	19. I	rather I	Reading	g in Engli	sh by i	using a computer, a Tablet or the cellphone.
1		2	3	4	5	g
-	20 I	– Tthink I	-	=		I read in English by using any electronic devices.
				et, cellph		a rough in English by using any electronic devices.
1		2	3	4	5	
1		_		· · · · · ·		ing English Reading activities by using any electronic
				ter, tablet		
1		ievice. ( 2	3	4	_	none)
1		_	-	=	5	and data. Particle Deading a window have also actived
		-	•	in the cla	ssroom	and doing English Reading activities by using printed
		naterials			_	
1		2	3	4	5	
		Open Qı				
Siı	•	-			_	h reading activities, what do you prefer? Staying in the
						g printed materials, or doing reading activities in the
	C	compute	r room	by using	any di	gital platform? Why?
	_					
	_					
	_					
	_					
	_					
	_					
	_					
	_					
	_					



The use of digital platforms to strengthen the English reading comprehension process, in nine graders in Harold Eder high school, in Palmira.

# **Reading attitudes**

# Control group.

Por favor responda las siguientes preguntas encerrando el número de la respuesta que sea la más acertada para usted. Responda de forma sincera. El éxito de esta investigación depende de ello. Recuerde, no hay respuesta incorrectas. Las respuestas están numeradas de 1 al 5.

1 = Fuertemente en desacuerdo. desacuerdo 4 = de acuerdo.				2 = en desacuerdo 3 = ni de acuerdo ni en 5 = fuertemente de acuerdo.		
Name				Gender	Age	grade:
1.	Me gusta ap	orender ingl	és.			
1	2	3	4	5		
2.	Las clases d	le inglés so	n mis pre	eferidas.		
1	2	3	4	5		
3.	Leer en ingl	és es una e	xperienc	ia que disfruto.		
1	2	3	4	5		
4.	La lectura e	s uno de mi	is pasatie	empos favoritos.		
1	2	3	4	5		
5.	Realmente	disfruto lee	er en ingl	és.		
1	2	3	4	5		
6.	No me gusta	a leer en ing	glés.			
1	2	3	4	5		
7.	Encuentro q	ue leer en i	inglés es	muy fácil.		
1	2	3	4	5		
8.	Creo que ci	uando leo e	n ingles	desperdicio mi ti	iempo.	
1	2	3	4	5		
9.	Cuando leo	en inglés, e	entiendo	todo.		
1	2	3	4	5		
10.	Me gusta la	clase de in	glés cua	ndo tengo que le	er y dar respuesta	a sobre lo que leí.
1	2	3	4	5		
11.	Me gusta le	er en inglés	y escrib	ir sobre lo que le	eí.	

1	2	3		4	5
-	Me gusta l	_	oles no	· ·	-
12.	2	3	4	5 5	•
13.	Leo en ing		-	-	
1	2	3	4	5	
14.	Leo en ing	lés para	aument	ar mi co	onocimiento.
1	2	3	4	5	
15.	Leo en ing	les porq	ue mis į	padres n	ne animan a hacerlo.
1	2	3	4	5	
16.	Leo en ing	lés com	o una ac	ctividad	de tiempo libre.
1	2	3	4	5	
17.	Prefiero le	er en ing	gles cua	ndo son	libros o fotocopias.
1	2	3	4	5	
18.	Creo que p	uedo ap	render i	mejor, c	uando leo desde un libro o fotocopias.
1	2	3	4	5	_
19.	Creo que e	s más in	teresan	te hacer	actividades de lectura en ingles usando algún aparato
	electrónico				• • • • • • • • • • • • • • • • • • • •
1	2	3	4	5	
20.	Prefiero qu	iedarme	en el sa	alón de c	clases y hacer actividades de lectura usando material
	impreso.				•
1	2	3	4	5	
21.	Preguntas	abiertas.			
	•			vidades o	de lectura en inglés, como le gustaría que fueran las
Ü	actividades				
22	:Considere	ana al s	uso do s	norotos	electrónicos y el uso del internet ayudaría a mejorar su
22.	habilidad p	-		-	electronicos y el uso del internet ayudaria a mejorar su
	naomuau p	oara leer	. Grord	ue?	



The use of digital platforms to strengthen the English reading comprehension process, in nine graders in Harold Eder high school, in Palmira.

# Attitude toward English language and Reading.

2 = disagree

# Control group.

1 =strongly disagree.

Please answer the next questions circling the most accurate answer for you. Please be honest at the moment of answering; the success of the current research relies upon it. There are not incorrect answers. Answers are numbered from 1 to 5.

3 = nor agree or disagree

4 = agree

5 = str	ongly agree		J		Ç
Name				Gender	
Age _				Grade:	
1.	I like learn	ing English	l <b>.</b>		
1	2	3	4	5	
2.	English cla	sses are my	favorite		
1	2	3	4	5	
3.	Reading in	English is a	an experi	nce I enjoy.	
1	2	3	4	5	
4.	Reading is	one of my f	avorite l	sure time activities.	
1	2	3	4	5	
5.	I really enj	oy Reading	in Engli	1.	
1	2	3	4	5	
6.	I do not like	e Reading is	n English		
1	2	3	4	5	
7.	I find Read	ing in Engli	ish very	asy.	
1	2	3	4	5	
8.	I think that	when I rea	d in Eng	sh I waste my time.	
1	2	3	4	5	
9.	When I read	d in English	I under	and everything.	
1	2	3	4	5	
10	. I like the E	English class	s when I	ave to read and give answers abo	ut what I read.
1	2	3	4	5	
11	. I like Readi	ing in Engli	sh and w	ting about what I read.	

1				
12. I like Read	3	4	v	
1 2	3	4	5	
13. I read in Er				
1 2	3	.4 	5	
14. I read in Er				owledge.
1 2	3	4	5	
	_	ause my 4	_	encourage me to do it.
1 2 16 I mad in Er	5	•	5	.:4
16. I read in Er	_			vity.
1 2	3	4	5	
				oook or paper sheets.
1 2	3	4	5	
			en I read b	y using a book or paper sheets.
1 2	3	4	5	
		Ū	_	glish Reading activities by using any electronic
device. (co				
20. I prefer to s materials.	stay in the	classro	om and do	oing English Reading activities by using printed
2	3	4	5	
reading ac			gg	reading activities, how would you like the
22. <b>Do you co</b>	nsider tha	nt the u	se of elect	cronic devices would help you to foster your
22. Do you correading sk			se of elect	cronic devices would help you to foster your
-			se of elect	tronic devices would help you to foster your
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