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DEVELOPING READING COMPREHENSION

Developing Reading Comprehension through Content Based Activities

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Research Report submitted

in partial fulfillment of the requirements for the degree of

Master in English Language Teaching – Autonomous Learning Environments

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Chía, Colombia

June 2016

Abstract

In this information era reading comprehension is an essential skill. Recent standardized international and national test results have demonstrated the students' low level in reading comprehension skills, especially those who attend public schools. Bearing in mind this fact, this qualitative research study intends to determine to what extent the implementation of content-based activities might develop A1 (CEFR) eleventh grade students' reading comprehension and higher order thinking skills (HOTS) of a public school. This proposal is a qualitative action research study in which the teacher is involved in the research as a researcher and as a teacher. Data were collected by implementing a pre and post students' questionnaires, a pre and post reading comprehension KET test as well as students' artifacts. The data collected were analyzed by following the stages proposed by the grounded theory principles which are open coding, axial coding and selective coding to determine the most relevant aspects to examine during the implementation of content based activities at this specific context. The analysis of data revealed that content based activities foster learners' reading comprehension, analysis and evaluation thinking skills. This study extends the understanding of the effectiveness of implementing content based activities in A1 (CEFR) students' reading comprehension and higher order thinking skills in non-bilingual schools. It also presents noteworthy activities to facilitate the integration of content and language learning into beginner levels, ensuring students' lifelong learning and success in their academic and professional lives.

Key words: content-based instruction; reading comprehension; thinking skills.

Resumen

En esta era de la información, la comprensión lectora es una habilidad esencial. Los resultados de pruebas estandarizadas nacionales e internacionales recientes que evalúan esta habilidad han evidenciado el bajo nivel en la comprensión de lectura de los estudiantes colombianos especialmente en las instituciones educativas públicas. Teniendo este hecho en cuenta, esta investigación cualitativa busca determinar en qué medida la implementación de actividades basadas en contenidos puede desarrollar la comprensión de lectura y habilidades de pensamiento de nivel superior de estudiantes de nivel A1 de inglés según el Marco Común Europeo de Referencia para las Lenguas. Los datos fueron recolectados a través de la implementación de encuestas y pruebas de comprensión de lectura KET aplicados a los estudiantes antes y después de la intervención y artefactos de los estudiantes. Estos datos fueron analizados siguiendo las etapas propuestas por los principios de la teoría fundamentada, las cuales son codificación abierta, axial y selectiva para determinar los aspectos a analizar en la implementación de actividades basadas en contenidos en este contexto específico. El análisis de los datos reveló que la implementación de actividades basadas en contenidos mejora la comprensión de lectura y habilidades de pensamiento (análisis y evaluación). Este estudio amplía el entendimiento de la efectividad de la implementación de la enseñanza de lenguas basada en contenido en la comprensión de lectura y habilidades de pensamiento de estudiantes de nivel básico en colegios no bilingües y presenta actividades para facilitar la integración de aprendizaje de una lengua extranjera y contenidos en niveles principiantes garantizando el aprendizaje permanente de los estudiantes y éxito en su vida profesional y académica.

Palabras claves: comprensión de lectura, enseñanza de lenguas basada en contenidos, habilidades de pensamiento.

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Chapter 1: Introduction

1.1 Introduction to the study

Nowadays, reading comprehension has become one of the most important skills in order to succeed in modern society not only as an ability used to pursue and achieve academic goals but also as a tool to understand and face every day challenges. It is due to the substantial amount of information that people are expected to deal with on a daily basis, especially with the information boom provoked by the internet, which is permanently changing the way the former is spread around the world, that developing reading comprehension has turned into a requirement at several human settings, mainly scholarly. In this line of thought, it is students who are in need to be able to identify, select and value information in order to make informed decisions about it so that they can account for the best use of such data. To this respect, the new challenge attempted by teachers relies on the fact to enable learners to not only decode words and phrases for meaning, but also to make connections between the written texts and their reality. Particularly, to the purpose of the present study, this has not gone unnoticed by researcher.

To this respect, the importance of improving students' reading comprehension level for their professional and social development, gains high relevance in education fields. In fact, researchers Duke and Pearson (2002), Nuttall (2005), and Tovani (2000) implemented studies to uncover the causes and aspects involved in the reading comprehension processes. Their reports indicated most of the benefits pupils discover and later, apply at varied subjects once their reading comprehension was fostered.

The aforementioned reasons have inspired Colombian schools to search for the best way to encourage their students to develop their reading skills. Specifically, curriculums have accounted for the important task to qualify learners to read texts comprehensively; however,

most of the times the attempts to fulfill the expectations are simply related to include sample papers of standardized tests of the country, as they are: ICFES² (Instituto Colombiano para el Fomento de la Educación Superior) or SABER test³ without pragmatically focusing on the real needs of the students' language skills. Therefore, the lack of effectiveness of the strategies used so far is evidenced in the poor scores of the students on the ICFES/ SABER (Appendix A), PIRLS (Progress in International Reading Literacy Study) (ICFES, 2012) and PISA (Programme for International Student Assessment; Clavijo, 2014) tests as claimed by Bos, Ganimian, Vegas and Álvarez (2014). Additionally, according to the Centro Regional para el Fomento del Libro en América Latina y el Caribe⁴ (2012) and the Departamento Administrativo Nacional de Estadística⁵ (2014), a large number of students do not actually read or only spend little time doing it. It seems either they are not interested in improving their reading skills or the exposure to the activity is not rewarding enough. From this point of view, it urges the need to look for different tools to help students improve their reading comprehension as well as to raise their awareness on the importance reading has in achieving their academic and personal goals.

In this perspective, the present study is intended to use content-based activities in order to enable EFL students to improve their reading comprehension, as so it is a necessary skill for daily success. The implementation of this kind of activity allows students to learn the Foreign Language (FL) by using this target language with a real purpose, instead of involving them in artificial circumstances.

² Colombian institute responsible for the promotion and monitoring of higher education.

³ A standardized test administered prior graduation in high schools in Colombia.

⁴ An intergovernmental organization which is responsible of promoting the development of book publishing in Latin America and the Caribbean.

⁵ The entity responsible for the planning, collection, processing, analysis, and dissemination of Colombia's official statistics.

1.2 Rationale of the study

1.2.1 Needs analysis and problem statement

This project was conducted with a group of eleventh graders of a public school. These students are expected to be B1 (pre-intermediate) level according to El Ministerio Nacional de Educación⁶ (MEN). However, needs analysis results indicate that this population does not achieve the expected level requirements (Appendix B).

According to the Common European Framework of Reference (CEFR) these students are classified at the A1 level, which points out their proficiency is two levels behind.

Characteristically, students involved in this research study are able to:

- understand the general idea of simple informational texts and short simple descriptions.
- understand very short, simple texts, putting together familiar names, words and basic phrases.
- follow short, simple written instructions.
- recognize familiar names, words and very simple phrases on simple notices in the most common everyday situations.
- understand short, simple messages. (Verhelst, Van Avermaet, Takala, Figueras, & North, 2009, p. 26).

Although these standardized tests evaluate the knowledge of the students in different content areas and language separately, students are required to have an optimal level of reading comprehension to be able to get good scores in all of the subjects evaluated. The results also evidence the low scores obtained by language students in which reading comprehension skills

⁶ It is the Colombian state agency responsible for monitoring the appropriateness and accurateness of the education processes in public and private educational organizations.

are evaluated directly (Subdirección de Calidad y Pertinencia, Dirección de Evaluación de la Educación Secretaría de Educación del Distrito, 2014). These tests demonstrate the need for a new methodology aimed at improving learners' reading comprehension.

Equally, PIRLS (Progress in International Reading Literacy Study) report (ICFES, 2012) also presents the perceptions of the students about their reading comprehension skills, which seems to be an area where Colombian students have the most room for improvement. Expressly, only 24% of fourth grade students is confident about their reading skills which interestingly, according to the aforementioned study, may affect the accurate performance of the students likely in academic and social goals.

Importantly, the test demonstrated that there is a link between the high confidence of the students about their skills and higher students' achievements obtained in the test (ICFES, 2012). This fact might constitute a proof of shortage of reading skills of the students which represents a difficulty when they are administered national and international proficiency tests.

1.2.2 Justification of problem's significance

Most of the students in public schools of Bogota score the lowest levels of performance on SABER tests. These tests are implemented by ICFES and were taken by students at different grades in 2009, 2012, 2013 and 2014 in order to be graded at diverse knowledge and skills. Hence, after being assessed, eleventh graders could be more aware of their reading comprehension difficulties as mirrored in their scores. This is known because SABER test classifies high school students according to their abilities to analyze and understand written information related to school subjects.

However, good results have been elusive to the majority of the learners. Getting good results in this test opens doors and gives students better opportunities to join to well-known

university programs and in the same way, confers these pupils' teachers a higher academic status in schools. "Helping students perform well on state academic assessments is no longer optional but rather essential to a teacher's career and financial well-being" (Tankersley, 2007, p. 9). Therefore, the development of reading comprehension skills has become a priority in the teaching and learning process in schools all over the country.

Although the national and district governments have implemented different reading and writing strategies to improve these students' abilities such as the Plan Nacional de Lectura y Escritura –PNLE⁷- (Ministerio de Educación Nacional, 2011) and Plan Distrital Inclusión en la Cultura Escrita⁸ –DICE- (Secretaría de Cultura, Recreación y Deporte (Coordinación Plan DICE), Secretaría de Educación Distrital, Biblored, 2011), the efforts have not been enough to overcome this issue, it is reflected in the results achieved on international tests in which Colombia has participated, as they are PISA and PIRLS tests. On these tests, students have indicated a progressive improvement in reading comprehension, but these results are still below accepted international standards levels (Clavijo, 2014; ICFES, 2012). Hence, there is a clear need to implement a strategy which engages students learn the foreign language in a natural way without feeling the pressure to learn but the pleasure to understand, instead.

1.2.3 Strategy selected to address problem

Reading comprehension is a process that involves the use of different strategies to decode a text. However, mastering these strategies requires training and precise selection of activities to properly exercise those (Duke & Pearson, 2002). Purposely, the implementation of content based activities makes students connect their prior knowledge with the text which leads students into

⁷ It is a project created to promote reading in Colombia. It is led by MEN.

⁸ It is a district plan created to establish the policies regarding reading and writing skills development in Bogota.

better textual comprehension and provides students with a natural context to learn the language (Corrales & Maloof, 2011). For this reason, content-based activities appear to accurately fit the purpose of the present study once they serve as key strategies to enrich the reading comprehension level of students and the attempt to enhance their language proficiency as well.

Accordingly, the development of reading comprehension through the implementation of content based activities could memorably encourage students to get involved in classroom reading activities that not only include the schools subjects but also would increase the acquisition of the L2 in a more independent mode (Dueñas, 2004). It is also possible that the students involved in learning a second or foreign language through content instruction can certainly obtain better results in the learning of the target content than the second language learning itself. In fact, another possibility can be to experience the contrary. Thus, they might develop their second language competence more than their competence in the target subject competence, which as a matter of fact, constitutes the objective of this study.

Additionally, other subject teachers could acknowledge a positive effect on their classes because it is possible to weave English into the other subject areas; that is to say, once students are able to recall vocabulary and knowledge acquired specifically in English lessons, other subjects lessons are academically enriched and nurtured by this advantage . Hence, this experience provides students with the opportunity to learn more specific lexis related to different topics, and subsequently, be used to better score in SABER test.

1.3 Research questions and objectives

The target population of the present study showed constant difficulty in: understanding main ideas, detailed information, extracting ideas and organizing a text; nevertheless the areas with major drawbacks were: understanding the gist of the message and organizing ideas

(Appendix C). After identifying the points in question and analyzing the need to implement strategies to develop these learners' reading comprehension, the researcher intends to answer the following questions:

- “How does implementing content based activities affect the reading comprehension of eleventh graders with A1 (CFER) English?”
- “How can the implementation of content-based activities contribute to the enhancement of eleventh graders' higher order thinking skills?”

Accordingly, this study's research objectives were:

- To analyze to what extent the implementation of content based activities might develop students' reading comprehension.
- To determine the impact of the implementation of content based activities in the improvement of students' higher order thinking skills.

1.4 Conclusion

Reading comprehension is a skill by which students need to accomplish the goals they have set for themselves. Therefore, the significance of finding strategies to foster students' reading comprehension should not be underestimated. Duke and Pearson (2002) highlight reading, as one important aspect in reading, which they call, “reading for real purposes” which can be achieved through the implementation of content based activities. Thus, it is necessary to review the main constructs that support this study, which are Content based Instruction (CBI), reading comprehension and higher order thinking skills.

Chapter 2: Theoretical Framework & State of the Art

2.1 Introduction

The former chapter described the aspects taken into account by the researcher to conduct this study. Respectively, this chapter presents the literature review about the main constructs of this research project, namely: Content- based approach, reading comprehension, and thinking skills with a special focus on higher order thinking skills. The chapter also reports the findings of different studies regarding these matters.

2.2 Theoretical framework

2.2.1 Content-based approach

The content- based approach or Content Based Instruction (CBI) uses the content of another topic as a vehicle for learning a second language (SL). In this approach, students learn a target language different from their first language through the learning of content (Madrid & García, 2001). Brinton, Snow and Wesche (2003) define CBI as “the integration of particular content with language-teaching aims”. Thus, learners are expected to learn SL and content simultaneously which for the purpose of the study addresses the needs of the target population.

Banegas (2012) highlights that there is no single pedagogy or model to integrate language and content learning. However, he asserts that different authors suggest five models in secondary levels: dual-school education, bilingual education, interdisciplinary module approach, language based projects, and specific-domain vocational CLIL (Content and Language Integrated Learning). These models differ primarily in that they are more language or content driven in their theoretical basis and accordingly, promote the learning of language and content at the same time without specifically addressing either of the two components (Dale & Tanner, 2012).

Furthermore, in order to intensify reading comprehension at language and content levels, Madrid and García (2001) outline the main hypotheses and rationales involved in content-based approach as follows:

- The use of the SL to improve students' proficiency level.
- Content, topics and themes developed in different areas are the focus of the lessons based on learners' interests and needs.
- Language and content are integrated. Therefore, students develop SL and content learning at the same time.
- It promotes the connection of students' prior knowledge with the new content. Thus, students are involved in meaningful learning.
- It includes intralingua, experiential and implicit teaching and learning techniques.

Regarding the strategies used in CBI, Crandall (Cited in Stoller, 2004) highlights cooperative learning, task based, experiential learning, whole language strategies and the use of graphic organizers as strategies that support the implementation of content-based lessons successfully. Grabe and Stoller (1997) also point out the effectiveness of collaborative learning in CBI contexts based on some classroom training research as well as the implementation of metacognitive/learning strategy instruction and extensive reading.

To the same degree, Gallardo del Puerto, Gomez and Garcia (2009) present and analyze the findings of different research conducted in European countries and in Canada in which students' outcomes in regular foreign language classes were compared to the results obtained by students involved in immersion programs in which the second or foreign language was used as a means to learn content. The author outlines the positive and higher results of the latter students in all their language skills. This study also analyzes the effects of the implementation of content

based activities on students' reading comprehension and discusses key considerations about this skill based on literature findings.

Moreover, considering that CBI entails using language as a real tool of communication, it encompasses learning the language in a natural way by making students more autonomous (Stryker & Leaver, 1997) since students take advantage of both subject matters, either language or content both independently and integrated. Another benefit of CBI is that it presents language within a context, which is more challenging for students and improves their academic skills (Pessoa, Hendry, Donato, Tucker, & Lee, 2007, p. 103; Wei, 2006); thus, when facing varied challenging topics, learners are enabled to cope with the different topics of detailed contents as well as make appropriate language use.

In conjunction, Spratt (2012), addressing the negative findings about integrating content and second or foreign language learning, presents some researchers' conclusions. For instance, some studies have indicated better results when learning a subject in L1 than learning it in L2 and, another shows how the reduction of L1 instruction may cause confusion in younger students. What is more, Gallardo del Puerto, Gomez and Garcia (2009) also highlight that there is no evidence of pronunciation gains when implementing second or foreign language to teach content. Nonetheless, this study analyzes the effects of the implementation of content based activities on students' reading comprehension and will discuss key considerations about this skill based on literature findings.

2.2.2 Reading comprehension

Reading has become one of the most important skills to develop in students because of the large amount of information human beings have to process on a daily basis. Therefore, it is essential that teachers enable students to comprehend written texts not only to successfully

accomplish the achievements of a subject or course but also to analyze these texts and build new knowledge based on this process.

From this standpoint, reading becomes the core of this process which attempts to take the best of the target language and the content of the different subject matters in order to value comprehension as one of the most important aspects to attain high order thinking skills. To begin with, Wallace (1992) defines reading as “meaning-making”. Therefore, in this process there is the need to take into account the writer’s and the reader’s purposes, contexts and experiences as well as the different ways in which the reader interacts with the text with the intention of making meaning. Thus, learners can see texts can have different levels of understanding and positions.

On the other side, Tovani (2000) presents reading as “thinking”; in specific, it occurs when readers construct meaning with and through the text and connect it with their previous knowledge and experience. In regards to the concept of reading, students must not only decode a text but also understand it by connecting it with their own context.

In addition, Nuttall (2005) defines reading as “the transfer of meaning from writer to reader”. This indicates that the only way in which the reading process may be conceived is when the reader gets meaning from reading. In fact, Nuttall (2005) also highlights the need of having foreign language reading as a purposeful activity more than a subject of study so that learners can embody meaning. Markedly, a reading process focused only on developing language discourages students regarding their reading process. Concerning these considerations, Nuttall (2005) establishes as a general aim for reading instruction processes - to enable students to enjoy and understand authentic texts.

The aforementioned authors have stated important aspects which make the need of exploring the implementation of content based activities to improve reading comprehension

significant since, in this approach, students are expected to read in order to achieve a content goal. This gives reading a *purpose*, that is, pupils are used to reading for meaning along with reading to understanding and developing their reading skills. Because of the power of reading, it is necessary to know what the different processes that make up what is understood as “reading” are. Accordingly, this paper will present some considerations about reading skills below.

The reading process involves the recognition of phrases or sentences (bottom up and text-driven) and the processing of what it is read with background knowledge (top-down and conceptually-driven). These two actions result in a certain degree of comprehension, however, *comprehending* a text is not always an easy task. Essentially, reading offers teachers different strategies to be purposely applied, nevertheless, it is common to afford comments about the lack of competence students experience on this aspect; however it is not usual that teachers determine which part of the reading process is not developed in their students. Basically, Nuttall (2005) affirms that individual skills exist, and are linked; in fact, they work together in the reading process which establishes a close relationship between skills and strategies, showing the skill or strategy training as essential aspects in the development of students’ reading skills.

In this order of ideas, Carrell, Devine and Eskey (1988) state the most important perspectives of reading - during the recent history of second language reading theories - which are condensed in three main views: bottom up, top down and interactive driven approaches. Initially, reading was seen as a bottom up process of decoding the meaning of a text from its smallest units (letters and words) to its larger units (phrases and clauses). Later, reading was taken as a top down process in which the readers’ background about the topic and their linguistic knowledge were essential in the language skill. Finally, current theories state the need of bottom up and top down processes to ensure effective and efficient reading processes.

Duke and Pearson (2002) outline some effective reading comprehension strategies based on the characteristics of good readers which have been adequately stated in different research studies. For instance, these strategies are predicting, thinking aloud, textual structure, visually presenting the text, summarizing and questioning. Recognizing the characteristics of good readers facilitates teachers to set appropriate goals to develop students' reading comprehension skills and, to identify what strategies are more effective to support the enhancement of students' reading skills.

Remarkably, reading has a social dimension. In general, human beings have the ability to read almost every printed paper that comes to their hands, for instance, the newspaper in the morning, a menu in a restaurant, the movie listings and the like. Every day people are usually involved in tasks based on what they have read, such as commenting, asking for opinions or replying to others' opinions on a written work. Therefore, reading does not happen at very specific places or moments to be done; it can happen everywhere, anytime.

To tell the truth readers need a large number of strategies to decode and understand a written text, such as skipping words they do not know, predicting meaning, trying to understand the meaning of a word by the syntax of a sentence, and studying pictures and illustrations. To make sense of a written text, readers could overtly use some strategies that are related to the eye movement, for example to read the newspaper headline and the first paragraph to determine what the whole piece is about. Within all strategies, the most common are: skimming (a quick reading to find a general idea) and scanning (a quick reading to locate specific information) (Gebhard, 2006).

Regarding the development of reading skills through the implementation of content based activities, there are several studies which claim better outcomes in students involved in second or

foreign language and content and language integrated learning than those who are learning the language in regular EFL lessons (Dalton-Puffer, 2006). In the same line, Wolff (2009) states the importance of reading and reading skills in CLIL due to the fact that students are required to interact with written texts in order to acquire content knowledge. Therefore, CBI and CLIL students have a real communicative purpose when they are asked to develop reading comprehension tasks.

2.2.3 Higher level thinking skills - Bloom's taxonomy

Wong (2014) defines Bloom's taxonomy as "a classification system for level of cognitive processes, learning and intellectual behavior-" (p. 359) used to determine goals and objectives in educational contexts. The original model presents six levels of cognitive skills: knowledge, comprehension, application, analysis, synthesis and evaluation, these levels are organized from basic to a more complex level. Bloom's taxonomy was revised by other authors who adapted the levels to the educational challenges. As a result, the revised levels are remembering, understanding, applying, analyzing, evaluating and creating (Wong, 2014).

In the revised Bloom's taxonomy, Anderson and Krathwohl (2001), (Cited in Forehand, 2010) provide an explanation of the levels (figure 1). Each level is described and includes subcategories called cognitive processes presented with verbs (Krathwohl, 2002). The exercise of accurate activities attempting to develop thinking skills tend to properly assist reading comprehension at educational settings

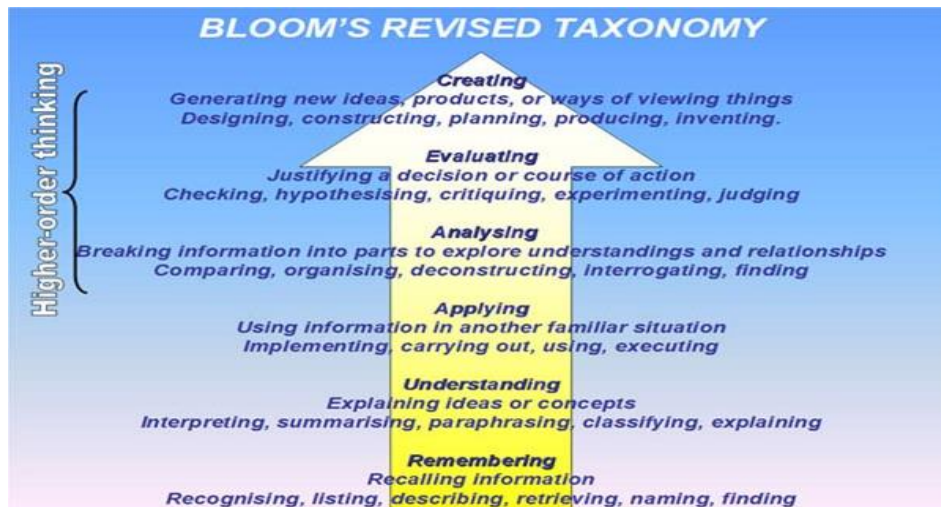


Figure 1 Revised Bloom's higher order thinking skills

The main objective of a teaching and learning process must be to provide students with activities through which they can foster their higher order thinking skills due to the requirements of the actual society (Miri, David, & Uri, 2007). Specifically, higher order thinking skills involve critical and creative thinking. For this reason, learners who have somehow developed critical thinking are able to analyze situations in a different way; that is to say, these pupils are able to evaluate them logically and reflect upon what they have come to learn. Meanwhile, enhancing creative thinking involves providing students with opportunities to develop tasks of inventing and synthesizing (Conklin, 2011).

In order to achieve the goal of enhancing higher order thinking skills in students, teachers must incorporate the analysis, evaluation and creation skills of what their second language aims entail. Such purposes can be developed with scaffolding activities that can promote higher order skills of the students, - activities which according to Iakovos, Iosif and Areti (2011) are involved in CBI processes.

2.3 State of the art

CBI is not a new approach. It has been implemented around the world and there are several research projects that have determined the impact of this approach on foreign language teaching and learning processes. In substance, some researchers have presented their findings and implications in different compendiums such as Ruiz de Zarobe and Jimenez (2009), Dalton-Puffer (2011) and Escobar, Evnitskaya, Moore and Patiño (2011) or have analyzed in depth the findings made by different researchers (Grabe & Stoller, 2011; Ruiz de Zarobe, 2008; Tedick & Wesely, 2015) describing the effects of the integration of content and second language learning on students' language and content learning.

These research studies have been devoted specifically to determining which strategies that have implemented CBI have been more effective (Kong & Hoare, 2011; Lo, 2014; McBain & Mhunpiew, 2014; Padilla & Armellini, 2013; Pessoa et al., 2007). Such strategies have been administered to feed students' collaborative work, graphic organizers and reading strategies and the benefits of implementing CBI primarily in language outcomes (Brevik & Moe, 2012; Corrales & Maloof, 2011; MacNeill, 2014; Rodgers, 2006; Várkuti, 2010; Wei, 2006). In Colombia, Mariño (2014), Bryan and Habte-Gabr (2008) and Rojas (2011) analyzed the strategies for implementing content based courses having similar outcomes as concerns reading comprehension benefits.

Regarding reading comprehension, the researchers have focused their attention on determining the effectiveness of the implementation of different reading strategies (Lahuerta Martinez, 2009; Ruiz de Zarobe & Zenotz, 2015) and vocabulary instruction (Zhang & Anual, 2008) to develop or improve learners' reading skills. Being the analysis of the implications of vocabulary instruction thoroughly discussed.

In particular, The National Reading Panel (2000) analyzed the findings of 203 studies for reading comprehension texts developed from 1979 to 2000. Its analysis was mainly focused on the following aspects: vocabulary instruction, text comprehension instruction and teacher preparation and comprehension strategies instruction. They Panel members outlined the importance of vocabulary and reading strategies instruction as well as the teachers' preparation on reading comprehension instruction. In effect, in Colombia, there are also plenty of researchers interested in finding strategies to foster students' reading comprehension, some of them are Lopera (2012), Aguirre and Ramos (2009), Gómez (2012), Romero (2013) and Moreno (2013) whose findings exposed the relevance reading strategies have when enhancing comprehension at diverse academic stages.

In relation to the development of High Order Thinking Skills (HOTS), there are several studies analyzing the effects of involving the implementation of ICTs (Barak & Dori, 2009; Stoney & Oliver, 1999; Yaniawati, 2013) and different strategies (Menden, 2012; Vijayaratnam, 2012) in the development of thinking skills in diverse areas of instruction. In these aforementioned studies, authors outline the importance of including HOTS instruction in learning processes.

In regards to the effects of the implementation of content based activities in EFL learners' reading comprehension, Eguiluz (2013), McKeown, Beck and Blake (2009) and Tsai and Shang (2010) analyzed the effects of CBI on students' reading comprehension concluding great benefits. Although, these studies were implemented with different populations (elementary, secondary and university students), they agree in concluding that CBI fosters students' reading comprehension. Furthermore, Eguiluz (2013) outlined that CBI increases students' motivation

towards foreign language learning and Tsai and Shang (2010) mentioned the enhancement of critical thinking skills as a result of involving students in CBI practices.

Other research studies have focused their attention on analyzing the development of reading comprehension through reading strategies instruction in CBI contexts. To illustrate, Skogen (2013) analyzed the difference between the process of reading in CLIL and regular EFL classes regarding reading proficiency and reading strategies used with tenth graders in Norway. In effect, the research findings showed that the L2 content subject classes obtained better results regarding their reading proficiency and use of reading strategies.

In Colombia, different research studies have been conducted, particularly, in reading comprehension of science and math texts in which the implications of involving reading strategies instruction were deeply examined. Some of these research studies were developed by Reina (2013), Bogoya (2011) and Blanco(2014). All of them focused their analysis on the implementation of intensive reading skills to improve students' reading comprehension. Although Bogoya's (2011) study was developed in a private bilingual school and the other two (2012) studies were developed in non-bilingual public schools, their findings revealed the effectiveness of involving reading strategies instruction to enhance students' reading comprehension. Genuinely, Reina (2013) and Bogoya (2011) also highlighted the improvement in students' knowledge of the subjects content, whereas Blanco (2014), pointed out the enhancement of vocabulary learning via the implementation of reading strategies and CBI.

Regarding the development of higher order thinking skills in CBI contexts, there is a plethora of research studies focusing on adults' language learning. A few of them are the studies developed by Hopson, Simms and Knezek (2001) and Heong, Yunos, Othman, Hassan and Mohamad (2011). On the one hand, the former one analyzed the effects of the implementation of

a technology-enriched classroom environment in the development of higher order thinking skills of fifth and sixth grade adult students and, on the other hand, the latter one determined the needs of learning higher order thinking skills for generating ideas in a group of technical students. Both in their results show that technology-enriched classroom dynamics which had a positive effect on students' acquisition of higher order thinking skills, disclosing higher levels of improvement in analysis and evaluation skills and the importance of involving students in HOTS instruction.

In the case of Hanesová's (2014) and Shen's (2005) conducted studies, the researchers evaluated the effectiveness of the implementation of some proven techniques and instructional approaches in the development of learners' thinking skills. Positively, Hanesová (2014) evaluated some of the techniques proposed in the revised Bloom's taxonomy (Forehand, 2010) by analyzing 11 seminal empirical studies on three instructional approaches to L2 reading comprehension. Similarly, Shen (2005) analyzed the implementation of book clubs, literature circles and instructional conversations. The authors concluded that students improved their thinking skills by doing activities based on the proven techniques in both higher educational levels and primary schools.

In Colombia, Norato and Cañón (2008) and Echeverri and McNulty (2010) developed studies involving the use of reading strategies to advance secondary students' HOTS in a private and a public school. Their results showed that HOTS instruction increases students' motivation and enhances the development of students' thinking skills. Precisely, Echeverri and McNulty (2010) determine that activating background knowledge, making predictions, completing graphic organizers and answering questions also foster learners' reading comprehension.

Liaw (2007) developed a study in Taiwan in which the effectiveness of promoting learners' critical thinking skills and EFL skills with a content-based approach was examined

through the design and implementation of a content-based syllabus. Participants involved in this study were thirty two junior high school students who are between 12 to 13 years old. Findings revealed that students gained in content area knowledge, English language proficiency, thinking skills, confidence and motivation towards their foreign language learning.

The aforementioned research studies reveal the positive effects of the implementation of content based activities on the development of reading comprehension and higher order thinking skills. Thus, they have been bear in mind and used as reference to the design and implementation of this research study since they are close to analyze its main constructs. However, only one of these studies involved all of three components, which was Liaw's (2007). In the study reported by Liaw (2007) the participants had a higher level of proficiency compared to the target population of this research project. Moreover, although Liaw's study (2007) presented important findings about CBI effects on reading and, writing and critical thinking in general, the author did not present findings related to specific aspects of reading comprehension and higher order thinking skills. Therefore, a deeper inquiry into the real effects of content based activities on the development of learners' reading comprehension and HOTS would be beneficial.

2.4 Conclusion

According to the different research studies mentioned, the implementation of content based activities is an effective means to improve students' reading comprehension. However, it is necessary to include the use of effective strategies to achieve these goals. Additionally, there is a gap in research as concerns the effects of the content based activities on this skill at the A1 (CEFR) level for students of public and non-bilingual schools.

Regarding the development of higher order thinking skills, there are research studies that demonstrated the need for implementing strategies to develop them; usually, by involving

students in the use of reading strategies. However, there are few research studies that have analyzed the effects of the implementation of content based activities in students' higher order thinking skills development which gives research foundations to the present study.

This chapter reviewed significant theoretical framework regarding the importance of the implementation of content based activities, reading comprehension and the development of higher order thinking skills in students as well as research findings about the main constructs of this research study. The following chapter will describe different aspects considered in the implementation of this study such as the type of study, research method, the context and instruments chosen to carry out the current proposal.

Chapter 3: Research Design

3.1 Introduction

The previous chapter demonstrated the encouraging effects of content-based implementation on the development of students' reading comprehension in different contexts supported by different theories and research findings. It also validated the importance of conducting this research study to fill the gap in researching about the effects of the implementation of content based activities in students' reading comprehension at public schools. To this respect, this chapter is intended to state an overview of the principles of the type of study; additionally, it describes the context, participants and data collection instruments considered to carry out this proposal. In point of fact, the aim is to determine the effects of the implementation of content based activities on the development of the students' reading comprehension. In the same way, students' pre and post questionnaires, a pre and post KET (Key English Test) tests were selected to be applied before and after the implementation of the study and a reading comprehension progress rubric was designed to analyze the participating students' artifacts, namely, worksheets which are also considered to be data collection instruments for the purposes of this study.

3.2 Type of study

This study is a qualitative action research study in which the teacher is involved in the research as a researcher and as a teacher. According to Burns (2010), an action research study “involves taking a self-reflective, critical, and systematic approach to exploring your own teaching contexts” (p. 2). Similarly, Crane (2011) states “Action Research combines getting a better understanding of a context we are part of with trying to improve aspects of it” (p. 3). Thus, the researcher not only analyzes a problem but also designs and implements strategies to solve

the target problem by following a systematic processes and principles which facilitate the researchers comply with both roles they assume in the study (Koshy, 2005). This study focuses on students who have difficulties to comprehend English texts and in response to this fact, after having analyzed different strategies, the researcher decided to implement content based activities as a strategy to foster students' reading comprehension.

3.3 Context

This study was implemented at José Joaquín Castro Martínez Institución Educativa Distrital School, a public school located in the South of Bogotá (Localidad San Cristobal). José Joaquín Castro Martínez Institución Educativa Distrital School has two branches, branch A for pre-school, primary and secondary levels and branch B for pre-school and primary. This school does not have a special emphasis on academic achievement, instead students are involved in the learning of the common school subjects and its PEI (Proyecto Educativo Institucional) is "Toma de Conciencia". Therefore, the school also aims to promote human values to guarantee positive social interactions due to the difficult context where students live.

In regards to EFL, the school provides its students with 4 hours of instruction a week from the sixth grade and up. There is no text book and worksheets are used. This school is not bilingual, the English lessons are mainly grammar focused. Thus, students are not familiarized with CBI practices and consequently, their reading comprehension does not cope with the syllabus expectations; as a matter of fact, these reasons are some of the facts that need to be taken into account to reach the B1 level expected. .

3.3.1 Participants

The participants were 14 eleventh graders from which 9 were women and 5 men between 16 and 19 years old and who have had four hours of English instruction per week. Most of them

presented difficulties in their reading comprehension process and disliked reading for various reasons. Essentially, they understood words in isolation and the strategy that they used to comprehend a text was translating it into L1. Moreover, their vocabulary was mainly basic and limited to simple expressions related to personal details and everyday activities. As the target population was a group of teenagers, the fear of public embarrassment was an imperative factor to be considered at the moment of planning the lessons. Additionally, the lack of motivation to learn a foreign language was another key hard point for this population. For such a reason, when planning the lessons and instruments for this research study, motivation played a key role. Actually, the lessons had to be especially appealing to in order to spark their interest.

Due to the fact, these students were not used to sharing their ideas in public, they did not feel comfortable enough when they were expected to create new original work that involved their prior and new knowledge studied during the lessons. Essentially, it was noticeably these students had more training in basic thinking tasks than in the higher order ones. For, example, they could introduce themselves, but expressing their opinion on things constituted a much more difficult task. Thus, it was necessary to include activities in the lesson plans in which critical and creative thinking were enhanced.

3.3.2 Researcher's role

The researcher was involved in the study as the person who implemented the strategy as well as the person who observed the pedagogical intervention. As it is stated by Bell (2010) "It is applied research, carried out by practitioners who have themselves identified a need for change or improvement" (p. 8). Therefore, the researcher taught, researched and analyzed the implications of the implementation of the proposed strategy. Even though it seems to be hard work, many more are the benefits which embrace these roles for the teacher-researcher, as they

are: the fact to know what the learners' needs are, lesson plan activities based on contextual facts, and observe, analyze and motivate pupils to reinforce their academic skills

3.3.3 Ethical considerations

Bell (2010) asserts that “special care needs to be taken both for data collection and the dissemination of findings as it would be easy to recognize people and events within local situations”. Banegas and Villacañas (2015) emphasize that “collaboration and participation need to be voluntary and participants must be autonomous and free to withdraw at any time without any consequences” (p. 60). Hence, in this study, participants were involved and completed the activities concerning this research study voluntarily. Additionally, they were informed of two considerations, to begin with, they were free to opt out whenever they considered it necessary and, secondly, they were informed about the confidentiality and anonymity of their participation. Therefore, two consent letters were designed, one for the permission of the school and another for the students' parents authorization (Appendices D and E). Moreover; the students were asked to use nicknames in all the questionnaires, tests, worksheets and activities implemented in this study.

3.4 Data collection instruments

3.4.1 Descriptions and justifications

The data collection instruments were designed to: first, gather evidence of the effects of the implementation of the proposed strategy, also, the perception of the students about their reading comprehension process, and to obtain data to answer the research questions proposed in this study. In order to obtain these data, a pre and post questionnaires, a pre and post KET test, students' artifacts, namely student worksheets, and a reading comprehension rubric were implemented with all of the 14 participants.

3.4.1.1 Students' perceptions questionnaires

Koshy (2005) asserts that “the use of a questionnaire provides you with a simple means to collect information on student attitudes before any intervention takes place”. For this reason; a questionnaire was implemented to determining the students' perception about their reading comprehension process before and after the pedagogical intervention. (Appendix G and H). This method was most appropriate since participants were required to answer similar questions which allowed the researcher to describe, compare, establish relationships and demonstrate that certain features were important and needed to be taken into account (Bell, 2010).

3.4.1.2 KET tests

These tests were administered to evaluate the students' level of reading comprehension. In nature, these tests are designed to certify the level of A2 students (*Key English Test: Handbook for teachers*, 2012). In this perspective, the implementation of this standardized general English test allowed the researcher to analyze the level of the students' reading comprehension; thus, the data collected avoided the possible biased conclusions with tests designed by the researcher which could have included specific content or questions whose answers students may already have known and which sometimes can be answered with the knowledge that the students have about the topic without implying the use of reading comprehension skills.

In its characteristics, the complete test includes 3 papers, reading and writing, listening and speaking, Taking into account that the main objective of this research study is to analyze the effects of the implementation of content based activities on students' reading comprehension only some selected parts of the reading and writing paper were applied. This paper comprises a total of nine sections from which only 1, 2, 3a, 3b, 4, 5 and 8 were taken and later, analyzed once

the target population' reading comprehension was tested. (Appendix I and J). Although, the complete reading and writing test is planned to be taken in 70 minutes, participants of the study were given an hour to answer the chosen sections of the test since the participants exposure to this kind of tests had been little previously. That is to say, they might have needed a little more time in order to answer the test. Despite the level expected for this grade according to the standards from the Ministerio Nacional de Educación is B1 according to the Common European Framework of Reference, to this target population administering a PET test, which certifies B1 level students, was not applied as the researcher considered that it could frustrate them due to their level of proficiency in the use of the foreign language

3.4.1.3 *Artifacts*

Content-based reading comprehension worksheets were designed to be completed by the students. These worksheets were collected in order to analyze the implementation progress of the strategy during the whole process. According to Koshy (2005), this kind of source “can often provide a useful background and context for the project and also can be very illuminating, especially when you are comparing what is claimed and what has happened in practice” (p. 96). Thus, this instrument allows the researcher to follow the progress of the study during and after the implementation of this research study. These worksheets were designed taking into account the students' level of English and knowledge of the subject (Appendix O).

Additionally, students were involved in the development of tasks from which they were asked to present a product such as a video or a comic strip based on the concepts worked in the lessons. These products and the answers provided by the students in the reading worksheets were analyzed with a reading comprehension rubric (Appendix K).

3.4.1.4 Reading comprehension rubric

A reading comprehension rubric was designed to analyze the development of the thinking skills in reading comprehension of the students during the implementation (Appendix K) , this instrument is useful when the researcher knows precisely what he needs to observe (Sagor, 2000). Therefore, a predefined rubric helped to collect specific data according to the objectives of this study allowing the researcher to evaluate the effects of the proposed strategy on the students' reading comprehension during the implementation. In fact, this instrument made it possible to recognize the activities that could be more effective in improving students' reading skills, so that research and academic results could be much more attainable.

3.4.2 Validation and piloting

The validation and piloting of this research study was carried out taking into account the concepts of validation, reliability and triangulation. According to Siniscalco and Auriat (2005) “validation concerns the degree to which a question measures what it was intended to measure” and “reliability concerns the consistency of a measure”. Thus, the data collection instruments aforementioned were piloted with a similar group of students as the group involved in this research to validate the accuracy and appropriateness of these tools for this study purposes. Moreover, identical questionnaires and two different KET test were applied to each one of the students before and after the pedagogical intervention. Later, a KET test was applied to validate the effects of the strategy proposed in students' levels of reading proficiency which is the main objective of this study.

Finally, Burns (2010) defines triangulation as a combination of the different types of instruments to collect data that are applied to give more objectivity to the results. Therefore, a

questionnaire and KET test were implemented to collect not only students' perceptions about reading comprehension but also information about students' real level of proficiency.

Moreover, the progress of the effects of the strategy during the process was evidenced with the data collected with students' artifacts. In this case, students' artifacts were analyzed to strengthen research reliability. In such case, all triangulation procedures were effectuated.

3.5 Conclusion

This study was made following the principles of a qualitative action research study taking into consideration the students' academic and social background and needs as well as the context and the purpose of the project. Additionally, the research design included the consent of the school and participants' parents equally, ensuring the participants' anonymity and confidentiality. In the same way, the planning and piloting of the data collection instruments were clearly presented; furthermore, the stages to implement and collect the data and the role of the researcher were claimed. For such reasons, this chapter established the fundamental parameters that constitute this research study. In this order, the next chapter offers a detailed description of the pedagogical implementation.

Chapter 4: Pedagogical Intervention and Implementation

4.1 Introduction

The previous chapter presented a description of the distinctive traits that compose this research study. This present chapter describes the basic foundations taken into consideration during the design and the development of the pedagogical intervention, a detailed description of the instructional design, and lesson planning and implementation processes.

4.2 Visions of language, learning, and curriculum

4.2.1 Vision of language

In this study, language is seen as a tool used by human beings to communicate their ideas and feelings. Unreservedly, it entails that language is conceived within a sociocultural perspective in which according to Mitchell, Myles and Marsden (2013), language is defined as a collaborative process of making meaning in which culture is involved (p. 200). In the same manner, Halliday (cited in Jordan, 2004) states language as a systematic resource for expressing meaning in context. Therefore, the act of learning a language implies interaction with others in a context. In this respect, this study provides students with opportunities to learn the language by reading in an academic context through the implementation of content based activities which eventually will nurture not only their comprehension but also their high order thinking skills.

Furthermore, the implementation of content based activities motivated students to learn the foreign language in a natural way since pupils repeatedly used language for real purposes. In brief, learners in this case, truly learn content and were exposed to more authentic opportunities to use the foreign language to communicate their ideas (Grabe & Stoller, 1997). Thus, as it is stated by Smagorinsky, Hansen and Fink (2013) citing Vygotsky's work, speech –relevant social language component - is conceived “as a tool for generating new ideas through the process of

speaking”. In this perspective, language learning is a process that focuses more on enabling students to produce ideas more than the correctness of the language and to promote the development of students’ thinking skills. Besides, the inclusion of effective content based activities that involved students in negotiating meaning, highly contribute benefits to language learning as well as to reading comprehension.

4.2.2 Vision of learning

This research study conceived learning as a process in which the student plays an active role that is the learners construct their own learning. However, the construction of learning itself is a process in which interaction and collaborative work are essential aspects as knowledge and learning are social products obtained by the interaction of the individuals with their culture and context (Pritchard & Woollard, 2010). Therefore, in this proposal, students were involved in collaborative work in which they could interact with their peers and context to ensure the effectiveness of the learning process. According to Smith and MacGregor (1992) collaborative work “demands responsibility, persistence and sensitivity, but the result can be a community of learners in which everyone is welcome to join, participate and grow”. Therefore, participants in the study were involved in an environment in which everybody constructed knowledge by interacting and supporting their peers’ learning process. In brief, a whole social experience of learning through collaborative methods.

Additionally, supporting learning process entails promoting the use of learning strategies which are habits that learners acquire to be more effective in their learning process. These habits may be acquired without training by some students (Simister, 2007). However, teaching and learning processes should ensure every student is able to use effective learning and thinking strategies so their academic performance is enriched at the development of any task. Another

important aspect taken into consideration in this study was to provide students with meaningful learning in the classroom. Hence, activities intended to recall students' prior knowledge and relate it with the new, facilitating students' understanding of the old and new concepts and lifelong learning were deemed to be vital (Getha-Eby, Beery, Xu, & O'Brien, 2014). Therefore, activities were carefully planned taking into account students' prior knowledge and interests to ensure students' motivation and engagement through the exploration of content.

4.2.3 Vision of curriculum

Learners are the focus of any teaching and learning process. This study assumed that the curriculum planning would bear students' interests, background, context and culture in mind to determine what was to be learned. In short, this is a relevant issue that should be the main concern when planning and designing any sort of curriculum (Kelly, 2004). Thus, when having these considerations in mind, the researcher determined that content-based curriculum is the most appropriate approach for the needs of the target population and for the purposes of this research study.

As concerns the content-based approach, this study had at its core philosophy to plan and design a curriculum, objectives and activities intended to lead students into real-life tasks or singular simulations of them including interdisciplinary knowledge in order to achieve rich outcomes (Cenoz & Genesee, 1998). For this reason, students were involved in content based activities in which the connection with their prior knowledge, real context and new knowledge and the interaction with their peers were the basis of the effectiveness of the learning process.

4.3 Instructional design

The chapter fully describes the steps and processes followed to solve the problem, a description of materials and how the didactic units and lessons were built.

4.3.1 Lesson planning

The lesson planning process was carried out accounting for the principles of the content-based approach, which entailed that the activities were designed to promote communication and meaningful use of language (Larsen-Freeman, 2000; Nunan, 2015; Richards & Rodgers, 2001). Bearing these considerations in mind, the content included in the lessons was related to social studies and science so learners were more acquainted with this nature of topics. One of the lessons of the week was devoted to involving students in the learning of the new concepts and the other to lead the students to understand the written texts by connecting their prior knowledge of the topic of the reading with the new information to facilitate their comprehension of the texts. Thus, students were enabled to answer questions about the reading and so propose new ideas based on the information that they have understood from the text (Appendix M).

The lessons plans were structured in five sections, as known: warm up, input, scaffolding, and freer practice and wrap up. This outline allowed students to link their prior-knowledge with the new one and involve them in a scaffolding process until students feel able enough to use the new knowledge to build their own concepts (Appendix L). Therefore, this process includes involving students in the development of activities such as completing graphic organizers, matching activities, creating new products based on the texts and self and peer evaluating activities, respectively. Some further information is provided to clarify the aims at each category.

Warm up: in this section of the lesson, students were involved in activities in which students recalled their prior knowledge about the topic.

Input: in this section, students were guided to construct the new concepts by collaborative work. This practice enabled students to use their prior knowledge about the topic

and in the case of those students who do not have any knowledge about the topic, they were allowed to recall or know new information with the help of their peers.

Scaffolding: in this section, students developed activities in which new knowledge was connected with real-life situations.

Freer practice: students were involved in discussions where they could develop their critical thinking.

Wrap up: in this section, activities were used to check students' comprehension of the new concepts that were assigned. Besides, students were encouraged to create a product based on the content studied in the week.

4.3.2 Implementation

The pedagogical intervention stage was designed to be implemented in a total of twenty-five hours during the first semester of the current scholar year. All of the 14 students were involved in learning social studies and science topics taking into account their preferences according to the resulting findings after conducting the needs analysis questionnaire implemented in the initial stage of this research study (Appendix F).

Consequently, three topics of social studies and three of science that were covered during the implementation stage, were studied in two-hour-long sessions weekly (Appendix N). Progressively, the first week students completed the activities planned for studying a social studies topic, while the next week science topic activities were assigned. Thus, for a week, students were involved in social studies based activities and in the next, their focus was on science based activities.

After, in the third week, a reading comprehension test was implemented to monitor students' reading and thinking skills progress. This test includes a text about the content worked

in the previous lesson and questions to evaluate the different skills involved in reading comprehension. However, monitoring students' progress was done during the six weeks of implementation to determine the effects of each one of the activities planned to address the target problem. The test results and students' progress were analyzed by means of the reading comprehension rubric.

4.4 Conclusion

This chapter presented the key ideas explored in this study as well as the steps taken and the materials designed and implemented in it. The following chapter will analyze the effects of the pedagogical intervention in more detail.

Chapter 5: Results and Data Analysis

5.1 Introduction

Chapter 4 deals with the most important aspects related to the pedagogical intervention design and implementation stage of this study. In this chapter, the process followed to analyze the collected data is described and a detailed explanation of the core category and subcategories, taken from an interpretation of the data, is also included. Likewise, a description of the data analysis that was conducted is also comprised. This analysis was conducted keeping in mind the need to answer the research questions and sub question: “How does implementing content-based instruction affect the reading comprehension of eleventh graders with A1 (CFER) English?”, and “How can content-based instruction contribute to the enhancement of eleventh graders’ higher order thinking skills?”

5.2 Data management procedures

The data were collected by implementing a pre and post questionnaire, a pre and post KET test and students’ artifacts. This data were digitized and organized in Excel sheets to make the analysis, interpretation and comparison of the questionnaire and students’ questionnaire answers easily. The tests results and analysis of three students’ different products from the intervention and implementation stage of this study were also taken in mind.

5.2.1 Validation

Data were validated through triangulation procedures which according to Burns (2010) are to collect evidence from more than one source of information to provide objectivity to the findings and hence, avoid biased conclusions or present assumptions without sufficient supporting data. Regarding the aforementioned considerations, the analysis and conclusions

drawn in this research study were done based on a triangulation process among the qualitative data collected.

5.2.2 Data analysis methodology

The data analysis in this research study was done following the principles of grounded theory methodology which according to Corbin and Strauss (2014) is “a qualitative methodology that aims at constructing a theory from data”. Likewise, Creswell (2009) defines grounded theory as a “systematic, qualitative procedure used to generate a theory that explains, at a broad conceptual level, a process, an action, or an interaction about a substantive topic”. Thus, researchers do not have a list of concepts identified before the implementation, but concepts emerge from the constant analysis of data and these emerging concepts are integrated around a core category (Corbin & Strauss, 2014).

Corbin and Strauss (2014) established the process to analyze data which starts with constant comparisons and continues by classifying similar data under the same label. These concepts are organized into categories according to their properties and dimensions. Then, these categories are integrated into a core category which is the major theme of the study. In this way, this core category and other categories are the structure of the theory. Therefore, collected data were analyzed to construct theory based on the findings by comparing the data to find similarities and differences among them (Strauss, 1987).

5.3 Categories

The first step in analyzing data is coding which is the process of labeling and categorizing pieces of data (Charmaz, 2006; Creswell, 2009). The coding process is developed in three stages: open, axial and selective coding (Cohen, Manion, & Morrison, 2007; Creswell, 2009; Strauss, 1987)

5.3.1 Overall category mapping

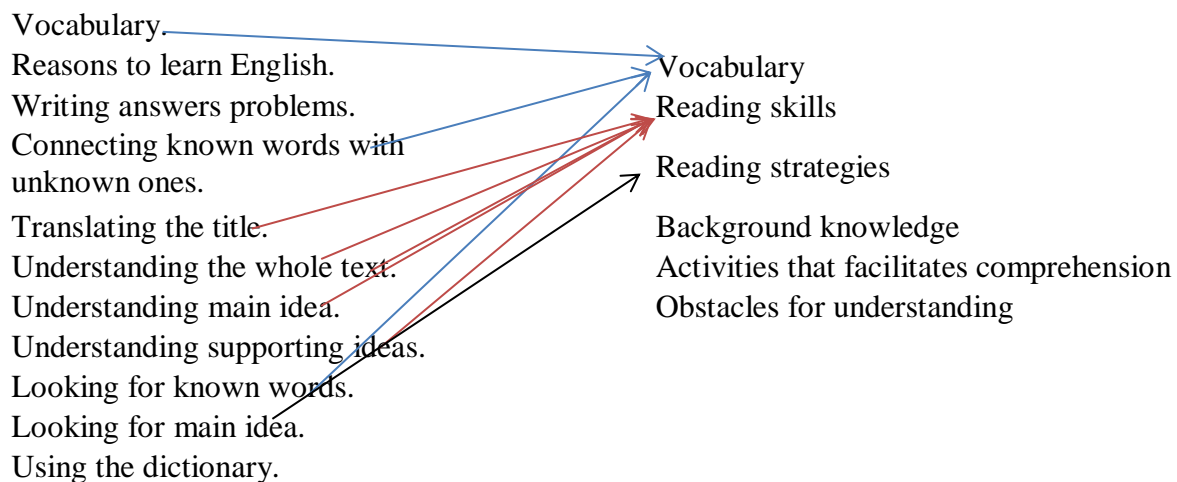
Once the data were collected and organized, open coding was done by analyzing the collected data, breaking it into segments and labeling the different pieces of data in order to identify conceptual categories (Creswell, 2009; Punch, 2013). The information was organized in charts and analyzed by assigning different colors to each type of data or data segment. The following table shows the initial codes which emerged from the open coding stage in this study:

Table 1 Initial coding after open coding

Research question	Initial codes
How does implementing content-based activities affect the reading comprehension of eleventh graders with A1 (CFER) English?	Structure understanding problems Vocabulary Writing answers problems Reasons to learn English. Connecting known words with unknown ones Translating the title Understanding the whole text Understanding main idea Understanding supporting ideas Looking for known words Looking for main idea Using the dictionary Reading the questions Reading each paragraph Problems with very long texts Previous knowledge about the topic Methodology Facilitate making videos Facilitate making mind maps Discussions about the topic Matching activities Making billboards Connecting ideas Drawing conclusions about the text

In the second stage of coding process, the codes which emerged from the open coding were interrelated to establish a set of concepts and determine categories to analyze in a broader approach of how these aspects are interconnected and affect the reading comprehension process (Creswell, 2009; Punch, 2013). The following figure provides a sample of the process done to develop the axial coding:

Table 2 Axial coding sample



Finally, the third stage in coding was selective coding in which according to Creswell (2009), “the analyst delimits coding to only those codes that relate to the core codes in sufficiently significant ways as to be used in a parsimonious theory”. Therefore, at this stage the emergent categories developed in the axial coding were analyzed to determine if they were important to the objectives of this research study. In this way, the core category for integrating and refining the theory was developed through the analysis of the data collected during this research process.

Category mapping

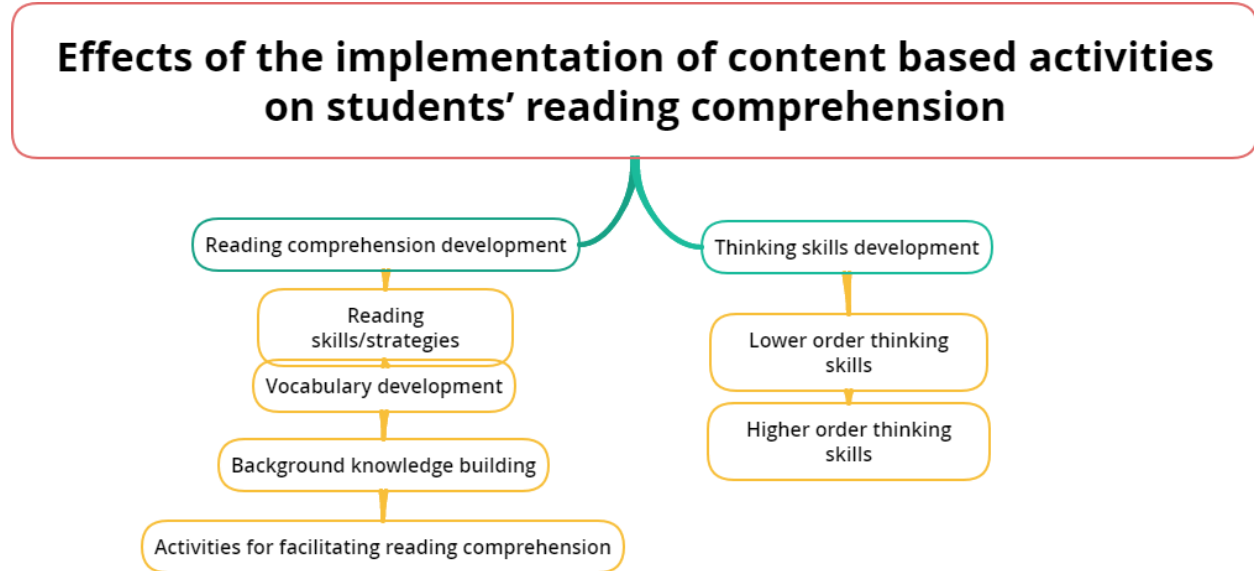


Figure 2 Mapping

5.3.2 Discussion of categories

After the coding process, five categories were found and determined: *Enhancing reading skills, vocabulary development, background knowledge building, activities for facilitating reading comprehension and thinking skills development*. These categories emerged in response to the research questions and objectives of this research study.

5.3.2.1 *Enhancing reading skills*

Taking into account pre KET and post KET exam results and students' perceptions pre and post questionnaires (figure 3), data analysis revealed students involved in content based activities enhanced understanding of main ideas by identifying and organizing ideas and understanding supporting ideas questionnaire. Results also showed meaningful improvement in students' understanding of supporting ideas and identification and organization of ideas and a slight improvement in the understanding of supporting ideas. However, extracting information

from the text still did not indicate any improvement in students' KET exam results as it is shown in Figure 3.

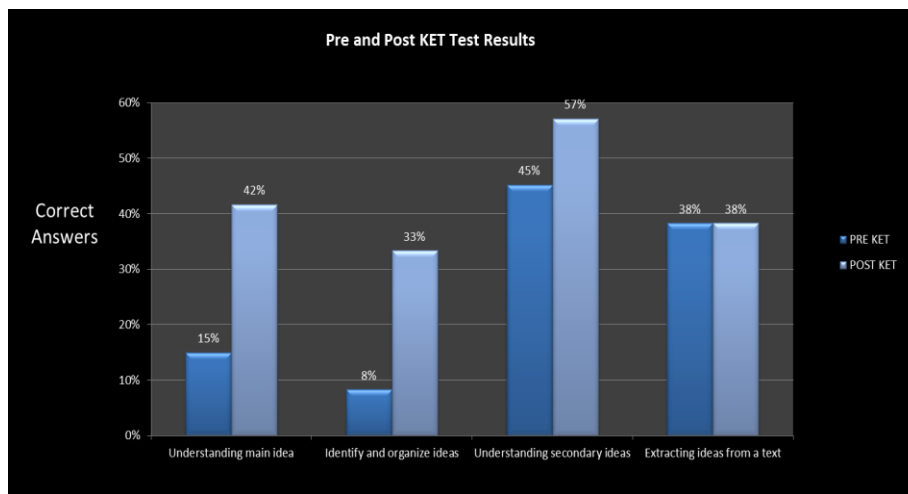


Figure 3 Pre KET and post KET results

The results suggest that involving students in activities focused on content developed the learners' ability to establish relationships among the ideas of the text. The most developed skill of students before the implementation was the comprehension of supporting ideas. However, their abilities to establish the main idea as well as to organize ideas were very low. Regarding the extraction of ideas, students had limitations to produce texts which could have affected their confidence to write the answers.

Regarding students' perceptions, there was an improvement in students' reading skills. Most of the students claim their skills to understand written texts improved after the implementation of this research study. This is supported by comparing students' pre-questionnaire answers about their reading comprehension level before the implementation with those which answers about their reading performance in the post-questionnaire implemented at the end of the intervention process, as it is shown in excerpt 1.

Question	Student 1 Pre-questionnaire answer	Student 1 Post-questionnaire answer
<p>¿Cuál cree que es su desempeño en lectura de textos en inglés?</p> <p>(How was your reading comprehension performance?)</p>	<p><i>Deficiente. Porque no lo entiendo mucho. Me cuesta entender las palabras.</i></p> <p><i>(Poor. Because I did not understand a lot. It is difficult to understand the words.)</i></p>	<p><i>Bueno. Se sabia de que trataba el tema tenía un refuerzo sabiendo de que era el tema, conocía las palabras.</i></p> <p><i>(Good. I knew about the topic. I had some help knowing about the topic. I knew the words.)</i></p>

Excerpt 1. Pre-questionnaire and post-questionnaire students' answers.

This example shows that the student relates his/her level of reading comprehension performance to their vocabulary knowledge before and after the implementation. However, there is a new aspect involved in the post-questionnaire answer, which is the knowledge of the topic. It suggests that the students find a new and more effective strategy to understand the written texts.

In this regard, students mentioned, in the post questionnaire, the use of a different approach to understand the texts. They started to connect their prior knowledge with the text and tried to understand ideas instead of words in isolation which was the strategy they mainly used before the implementation of this study. However, after trying to understand the complete texts, students mentioned that they tried to understand individual words as a strategy for comprehending the assigned readings. Thus, after being involved in content based activities, students used top down and bottom up strategies. This was a change from the bottom up

approach that was primarily used by the participants prior to being involved in this study and which was not enough to support their reading comprehension skills' development.

These positive effects of CBI are also highlighted in Tsai and Shang (2010) who concluded that reading strategy instruction via the content area develops students' reading comprehension. Similarly, this study presents positive effects of content based activities on students' reading comprehension level and improvement of students' perception of their reading skills.

5.3.2.2 *Vocabulary development*

Pre-questionnaire data revealed that participants related their reading performance to their vocabulary knowledge. In this regard, students stated they faced difficulties in understanding texts due to lack of vocabulary that put them away to understand the whole message. In contrast, in the post-questionnaire, they linked the improvement in their reading skills to their pre-knowledge of the vocabulary related to the target topic. Tennent (2014) supports the idea of a reciprocal link between vocabulary knowledge and reading comprehension since the development of both of them may be enhanced through the explicit instruction of these two aspects. The positive effects of the implementation of content based activities in vocabulary development according to students' perceptions are evidenced in data collected in pre and post questionnaire and information emerging from the results presented in the students' artifacts rubrics as shown in excerpt 2.

Student 3 Pre-questionnaire answers	Student 3 Post-questionnaire answers
<p><i>A veces no entiendo muchas palabras, entonces no entiendo el texto.</i></p> <p><i>(Sometimes I do not understand a lot of words. Then, I do not understand the text.)</i></p>	<p><i>Mi desempeño es bueno. Porque he tenido mejor capacidad a los temas de inglés. Tenía mayor conocimiento del vocabulario...</i></p> <p><i>(My performance was good. Because I understood more of the topics in English. I had more vocabulary knowledge.)</i></p>

Excerpt 2. Student 3 answers about vocabulary development

This excerpt illustrates the bottom up approach that was followed by the students, regarding the way they process written texts. This approach made the students feel insecure when they did not know the vocabulary and it is assumed that they did not comprehend any of the ideas of the texts.

In relation to this aspect, the number of key words from the text used by students in their assignments increased. Moreover, the use of these words was much more appropriate. They expressed their ideas using words from the text according to the situation and although there was no difference in respect to accuracy, in terms of understanding the meaning of the words, participants demonstrated a significant improvement in comparison with the initial stages in which students did not use any word or only used a few from the texts when they completed the assigned activities. It suggests students reached a higher level of thinking processing, since they did not only understand the words but also used them in different academic situations. As a matter of fact, it implies the thinking process of differentiating and categorizing to be able to use the new words appropriately; both processes included in the analysis thinking skill.

5.3.2.3 *Background knowledge building*

Students perceived having background knowledge about the topic of the reading as the main aspect due to it facilitated their reading comprehension of the texts. Accordingly, learners found out two important aspects which enhanced this knowledge: content input and lesson organization, both coming from the teacher. Regarding the first aspect, participants found the topic explanations to be very beneficial for textual understanding. Actually, they considered that this content input strengthened their pre-knowledge about the main topic of the text. (Excerpt 3)

Student 5: Me sentía bien haciendo estas lecturas. Ya que se tenía más conocimientos del tema al momento de realizar actividades.

(I felt confident when I was reading. I felt I knew about the topic when I had to do the activities.)

Student 12: Si. Bien. Porque entendía un poco más del tema, eso me ayudaba a conocer el vocabulario.

(Yes, confident. Because I knew a little more about the topic. That helped me know the vocabulary.)

Excerpt 3. Students' answers regarding knowledge about the topic as reading comprehension facilitator.

The excerpts above show that the students recognized the knowledge they had about the topic as a means for comprehending the written texts. The students not only recalled their prior-knowledge, but also used it to do other sorts of activities. Thus, they were able to establish higher levels of connection among the ideas of the text, which enabled them to analyze them and reach a higher level in the scales of the thinking processes.

In relation to the structure of the lessons, students pointed out that being involved in activities related to the topics of the texts before reading, considerably facilitated their understanding of the texts. Most of them felt better when they read the texts as well as more confident of their reading skills. According to Seidel, Perencevich and Kett (2005), connecting students' prior knowledge with the new information is essential in the reading comprehension

process (excerpt 4). Therefore, involving students in content-based activities assisted them to connect their prior knowledge with the new one, which enhanced their reading performance and increased their confidence towards their reading skills development.

Student 7: Me sentí bien. Porque primero se hace la teoría y luego la práctica del tema, conocía más vocabulario

(I felt well. Because first we had the theory and then the practice, I knew more vocabulary)

Student 13: Se siente mejor realizando las actividades primero. Uno ya sabe más conceptos y puede traducir y entender mejor.

(I felt better by doing the activities first. I already know more about the concepts and I can translate and understand better.)

Excerpt 4. Students' answers about the organization of the lessons.

5.3.2.4 Activities for facilitating reading comprehension

Most of the students see graphic organizers and matching activities as important tools to foster their reading skills. Wells (2011) states that graphic organizers “provide students with a visual representation of the content in a text which may facilitate the learning of both content knowledge and the English language as well”. On his side, Grellet (1981) presents matching activities as tasks used to determine students' understanding of meaning with non-linguistic response to the text. This may entail that students find it easier to develop this kind of tasks even if they do not have a high writing skill level. (Excerpt 4). The implementation of graphic organizers and matching activities allowed students to demonstrate their understanding of the text using the FL. It was observed that students wrote more elaborate answers and used FL when

conducting those kind of activities compared with the answers they gave to open ended questions.

Question	Students' answers
<p>¿Cuál o cuáles actividades le facilitaron más la comprensión de textos en inglés? (Which activities facilitated your reading comprehension?)</p>	<p><i>Student 7: Mapas conceptuales y gráficos (Mind maps and graphs)</i></p> <p><i>Student 9: Clasificación de las ideas en gráficas. (Classifying ideas in graphs)</i></p>

Excerpt 4: Students' answers about activities that facilitate their reading performance

5.3.2.5 *Thinking skills development*

Taking into account data emerging from the analysis of pre and post questionnairequestionnaire, students' perceptions about their thinking skills development and the artifacts collected, indicated that they have improved their thinking skills. Additionally, students' perceptions in the pre-test and post-test were substantially different since they thought that their skills were poor in the pre-questionnaire but in the post questionnaire, most of them considered that their skills improved. As shown in Table 3, there is evidence of a participant's perception of his/her thinking skills before and after the implementation of this research project.

Table 3 Student 12's perceptions of his/her thinking skills.

<p>¿Cómo evalúa su habilidad al realizar las siguientes tareas cuando lee un texto en inglés? (How do you evaluate your performance when you do the following tasks when you read in English?)</p>
--

Escriba 0: Deficiente 1: Regular 2: Buena 3: Excelente (Write 0: Poor 1: Standard 2: Good 3: Excellent)		
Skill	Pre-questionnaire	Post-questionnaire
Identificar el significado de las palabras (To identify the meaning of the words)	1	2
Identificar la idea principal (To identify the main idea)	0	1
Identificar las ideas secundarias (To identify the supporting ideas)	0	1
Inferir ideas (To infer ideas)	0	2
Sacar conclusiones (To draw conclusions)	0	1
Clasificar y organizar ideas (To classify and organize ideas)	0	1
Proponer soluciones o crea nuevas ideas partiendo del texto (To propose solutions or new ideas taking into account ideas in the text)	0	1

The data analysis of artifacts reveals that students presented improvement in higher order thinking skills. However, this improvement in the students' creation skills was not meaningful. Initially, students analyzed, evaluated and created or proposed new ideas based mainly on their opinions without making connections with the texts. However, after participating in the project, students connected some of the ideas of the text with their prior knowledge. This improvement

was only presented in evaluation and analysis skills, due to students primarily developed proposing or creating new ideas activities by using their opinion about the topic, without making any connection with the ideas expressed in the texts. Hence, involving students in content based activities enabled them to make connections between ideas within the text and their prior knowledge (Grabe & Stoller, 1997). Interestingly, this promoted the enhancement of evaluating and analysis skills (Van Blerkom, 2012). As it is shown in Excerpt 5 and Table 4.

Global warming Video's script

S8: Global warming and how we help at school.

S10: Hello, teacher and students. This is our school. I am going to speak about contamination in the school. These are my friends Mout, Melliza and Jerith.

S7: Hi, my name is Melliza. In my school, there are a lot of plant and I like it. I have that look after it.

S3: My name is Jerith. We look after the middle atmosphere, because

Table 4 Student 8's human rights reading chart

S8 Case 3			
Problem	Solution	Your solution	Similar situation
His family was killed and he was a child soldier	He lives with his uncle and later with a foster mother	Government must pay him money for the problems that he lived.	Guerrilla have children to fight in battles.

The excerpts above illustrate how the students connected their prior-knowledge to the new knowledge; also, it is evident they applied this knowledge to real life situations and evaluated the ideas of the text. Moreover, the comparison between the two samples showed that

students conveyed more and more complex ideas in the second sample which was collected two weeks after the first sample.

5.3.3 Core category

After analyzing and reducing data, the core category of this research study is: *effects of the implementation of content based activities on students' reading comprehension*. Reading comprehension is a skill that requires more than the ability to decode written symbols or recognize words. It requires the reader's ability to connect their prior knowledge with the content of written texts as well as with their context and the context of the text to to construct meaning (Corrales & Maloof, 2011; McLaughlin, 2012). Besides, CBI provides the learners with opportunities to expand on their prior knowledge about specific topics. This supports students' reading skills development since it promotes the use of more effective strategies and enhances students' motivation and confidence when reading a text.

5.4 Conclusion

The results of this research study have shown that the implementation of content based activities fosters students' reading comprehension and higher order thinking skills. According to the analysis of the data from the study, students improved their reading comprehension and felt more confident and motivated when they read. It can be said that the implementation of content based activities is effective in developing vocabulary, background knowledge, reading and thinking skills in elementary students at a public school. These findings offer insights into how to enhance students' reading skills in EFL and how to integrate the development of students' thinking skills in EFL teaching and learning processes. Moreover, this study may provide an initial basis to further research on different subjects' instruction and other skills development. In this order of ideas, the following chapter will discuss the findings and limitations of the study

while developing it and strategies to support the development of students' lifelong learning skills.

Chapter 6: Conclusions and Pedagogical Implications

6.1 Introduction

The previous chapter described the procedures used to analyze and consolidate the data and the findings that emerged from this process. This chapter presents the conclusions, pedagogical implications and further research aspects derived from the examination of the effects of implementing content based activities with eleventh graders whose English proficiency level ranked A1 (CEFR). It also presents the impact on students' reading comprehension and higher order thinking skills. These findings intend to provide support and new insights into the development of appropriate and effective strategies to facilitate students' reading and thinking skills development which is one of the main difficulties presented in the participants of this study according to the pre questionnaire's results.

Thus, this study reports how the implementation of content based activities fosters students' reading comprehension and higher order thinking skills. In this process it became evident that there was need to involve students in self-evaluation processes. Additionally, there is a need to see what effect, if any, of implementing the strategy for a longer period of time would have on the students' performance and motivation. Furthermore, it becomes highly important to mention that further research studies should be conducted in order to analyze the impact of the implementation of content based activities in A1 (CEFR) students' content learning to determine if the implementation of this strategy may enhance the development of students' language skills.

The results of this research study have shown that the implementation of content based activities fosters students' reading comprehension and two explicit higher order thinking skills. According to data analysis, the students acknowledged improved reading comprehension and indicated that they had built confidence and motivation to read. The previous theses are evident

in the improvement presented in the level of students' reading skills, and evaluation and analysis thinking skills. These findings may offer: first, insights for enhancing students' reading skills in EFL, and also, elements on how to integrate the development of students' thinking skills in EFL teaching and learning processes.

6.2 Comparison of results with previous studies' results

EFL reading comprehension processes benefited from the implementation of content based activities. Participants used the prior knowledge of the topic activated in the first lesson of each week to facilitate the understanding of texts and besides, they enabled themselves to understand subject content- based and general English texts This finding is aligned with previous research studies which involved students in CBI and that purposely fostered their reading comprehension (Bogoya, 2011; Brevik & Moe, 2012; Reina, 2013; Skogen, 2013).

In relation to the development of reading skills, the inclusion of different activities in order to enhance students' understanding of the content worked in a lesson designed to facilitate both, the students' main and supporting ideas understanding and their ability to organize ideas from a text. The improvement of these reading skills has been evidenced in some studies conducted with different populations (Brevik & Moe, 2012; Eguiluz, 2013).

Surprisingly, the skill in which students did not present any improvement was the extraction of ideas from a text. It is considered unusual how these results have differed from those findings presented in Várkuti's (2010) research study in which students demonstrated a lesser improvement in inferring meaning from context. The difference in these studies results perhaps due to the difficulties students may have in reading and the strategies they used. Specifically, participants in this study expressed their difficulties in answering questions using FL. Unquestionably, students seemed to use bottom up strategies to understand texts, which

made it easier for them to comprehend the meaning of each word in the text. This fact appears to be in contrast with the other studies in which students used mainly top-down strategies to understand a text. The aforementioned considerations support the need of promoting the use of both kinds of strategies, bottom up and top down, in L2 learning processes to reach adequate and higher reading comprehension levels (Carrell, Devine & Eskey., 1988).

Another finding was the positive effect of CBI on vocabulary development. Noticeably, students increased the use of different vocabulary in the analyzed artifacts and perceived the increase of their lexis of knowledge which influenced their reading comprehension performance positively. Thus, this finding supports research studies which highlight the enhancement of vocabulary in learners involved in CBI practices (Eguiluz, 2013; Jiménez & Ruiz, 2009; Várkuti, 2010).

Methodology focused on content instruction was found as an important factor to support reading comprehension improvement by students. Pupils mentioned that teacher's content input, organization of the lessons and meaningful and appropriate activities were essential to enable them to understand the texts effectively. These findings confirm Corrales and Maloof's (2011) findings, who also found evidence of the positive effects of methodologies and content based activities on learners' language development.

With reference to the abovementioned aspects, students highlighted having prior-knowledge and the use of graphic organizers as pertinent features that assisted them to understand texts effectively. These conceptions support studies in which the students' reading comprehension benefited from the activation of students' prior knowledge about the target topic (Corrales & Maloof, 2011; Pardo, 2004) and the use of graphic organizers (Brevik & Moe, 2012; Echeverri Acosta & McNulty, 2010; Pardo, 2004).

Finally, the implementation of CBI promoted students' self-confidence regarding their own thinking skills development. However, this improvement was slight in analysis. In regards to evaluation and creation skill, there was no increase according to the analysis of students' artifacts. These conclusions support Hopson, Simms and Knezek's study (2001) in which they claim positive effects of CBI in higher levels of analysis and evaluation skills.

6.3 Significance of the results

The implications of this study at a public school revealed that administering the implementation of content based activities strengthens students' reading comprehension and higher order thinking skills in non-bilingual schools and schools with limited resources. In fact this is challenging the idea that only bilingual and elite schools are capable to adopt this kind of approach - supported by the fact that most of the bilingual schools in Colombia are private and it is associated with high quality education (McDougald, 2009) -. Furthermore, this study demonstrated that integrating language and content learning to improve students' reading and thinking skills entailed the use of content-based activities with which the main goal is not to develop language but to have students develop their thinking skills.

This study presented evidence of the positive effects of the implementation of content based activities as a strategy to assist: the improvement of students' performance in general English standardized national and international tests administered at public schools. Surely, these students have access to the benefits and scholarships offered by local, national and international governments and institutions which are conditional about high scores on standardized exams; particularly, in reading comprehension. Moreover, this study demonstrated that higher thinking skills can be fostered with the use of graphic organizers and matching activities which can be implemented using the contents of different school subjects.

Furthermore, this study provides remarkable ideas to be implemented in foreign language learning processes. Thus, it provides findings which EFL teachers may take into account to determine what strategies are appropriate to be applied at initial stages of the implementation of CBI and the most effective activities to improve EFL learners' reading comprehension and higher order thinking skills.

6.4 Limitations of the present study

Implementing this study demanded the researcher to overcome some difficulties which may have limited the effectiveness of the strategy. One of these constraints was time. The pedagogical intervention was planned to be executed in 25 hours in which only three topics of science and social studies were developed. Having students involved in the study of more topics and for a longer period of time, would have allowed the researcher to analyze more in depth the effects of the strategy as well as to present broader findings.

Additionally, there were some extracurricular and administrative activities which impeded that the intervention sessions were developed as they had been initially planned. It provoked that in some weeks, the intervention sessions were only once a week or none within a whole week. Consequently, the process was constantly interrupted which may have affected the performance of the students in all the activities included in the intervention process.

Finally, the researcher had planned to implement the proposed strategy and the collection of the data from 20 participants. Nonetheless, there were some students who changed to other schools and others who experienced some health problems which made them withdraw from the school or to miss most of the intervention lessons. All effects out of these situations reduced the target language. A larger sample size would have provided more validity to the findings of this research project.

6.5 Further research

This study analyzed the effects of content based activities on A1 (CEFR) learners' reading comprehension and higher order thinking skills. Bearing in mind the effects of learning content, it would be useful to develop further research studies in which the impact of the implementation of content based activities in an English class on other content subjects learning is analyzed. In fact, it could be done with collaboration of other content teachers to examine the effects on the students' content learning. The results of this study could: guide teachers in determining the best strategies to develop students' learning skills, and also find ways to know how to support this development in each content subject which may contribute in students' lifelong learning.

An additional recommendation would be to implement research studies in which effective ways of fostering creative thinking skill are analyzed since this is a skill in which participants of this research study did not show any improvement. Besides, this could be done by implementing scaffolding activities to promote students' development of this skill as well as it could provide teachers with strategies to go beyond the present teaching processes, especially in Colombian contexts where teaching is usually devoted to memorize content without strengthening students' learning skills.

A final recommendation for further research would be to develop a study that values to what extent the transfer of FL thinking skills development on L1 thinking skills is possible and also, which content subjects would be most beneficial to include in a CBI implementation focused on the development of language skills. This could be done by employing the same strategies in English classes and content subjects, so that insights about the effects of CBI on content and language development can be provided. From this perspective such implementation

could improve not only language teaching practices but also teaching practices in general – especially - in those contexts where language and subjects are taught without making any connection between them.

6.6 Conclusion

Nowadays, students need to have a series of skills to accomplish a successful life. These skills include not only being able to understand all the information emerging from mass media and social networks but also the ability to analyze, evaluate and create new knowledge based on what these sources bring along (Cohen & Cowen, 2007). Thus, developing students' reading comprehension and thinking skills has become one of the main goals of education. Bearing these considerations in mind, foreign language teaching and learning should not only promote learning language skills but also the strengthening of students' thinking skills, especially, those of high order. Therefore, the need for identifying and determining the appropriate and effective strategies to support the improvement of the students' reading comprehension and thinking skills is vital. This is made more urgent as, according to different standardized tests results, the students are not at the expected level (Bos, Ganimian, Vegas, & Álvarez, 2014; ICFES, 2012).

Accordingly, this research study analyzed the effects of the implementation of content based activities on students' reading comprehension and higher order thinking skills with the aim of identifying strategies by which reading comprehension could be boosted. The study revealed that content based activities fosters students' reading comprehension, *analysis and creation* thinking skills. Moreover, this study presents how to implement CBI practices in a public school and what activities provide students with the most opportunities to develop these essential skills.

In conclusion, this study demonstrated the benefits content based activities may offer to the development of reading comprehension and higher order thinking skills. Moreover, this study

revealed the effectiveness of the implementation of this strategy not only in the development of students' skills, but also in the increase of students' motivation and self-efficacy towards the overall foreign language learning process. To that extent, this study provides teachers and schools with tools for implementing CBI effectively and thus, promote students' reading and thinking skills. Such an implementation can embrace a change from the traditional approach of teaching language, which is often meant to merely develop language skills. From this view, teaching language in the way to develop students' thinking skills would be embodied into better student performance in both, their academic and professional lives.

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Appendix A: Reading comprehension ICFES Results

The graph shows a gradual slight rise in the level of reading comprehension of the Colombian eleventh grade students between 2011 and 2014 from 46.03 to just 50.16. However, students are still demonstrating low levels of reading comprehension, provided that the test total score is 100.



Instituto Colombiano para la Evaluación de la Educación -ICFES-

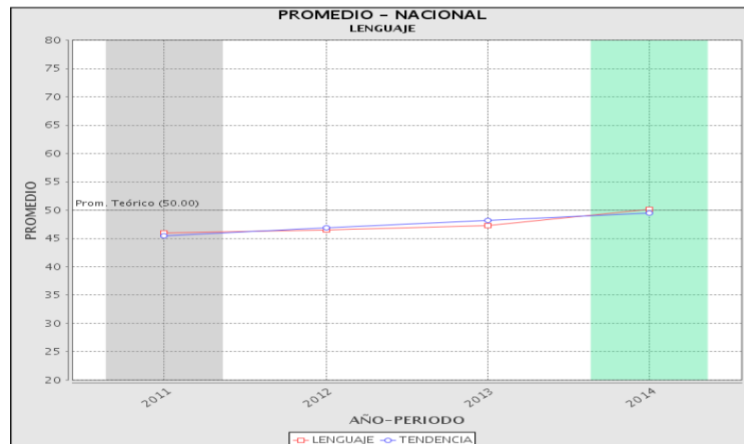
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Nivel Agrupamiento: NACIONAL

Año(s): 2011 - 2014

Prueba: LENGUAJE



LENGUAJE	
AÑO-PERIODO	PROMEDIO
2011	46.03
2012	46.50
2013	47.23
2014	50.16

Figure 4 Reading comprehension ICFES test results

Appendix B: Need analysis KET test results

The graph shows the participants' reading level according to the number of correct answers they obtained in a KET test. Almost two thirds of the students (13) got 8 correct answers or less, nearly a third of the students (6) had 14 marks or less and only a student (5% of the sample) got more than 14 marks in the reading test. Taking this data into account, there is only one student who is A2 (CEFR).

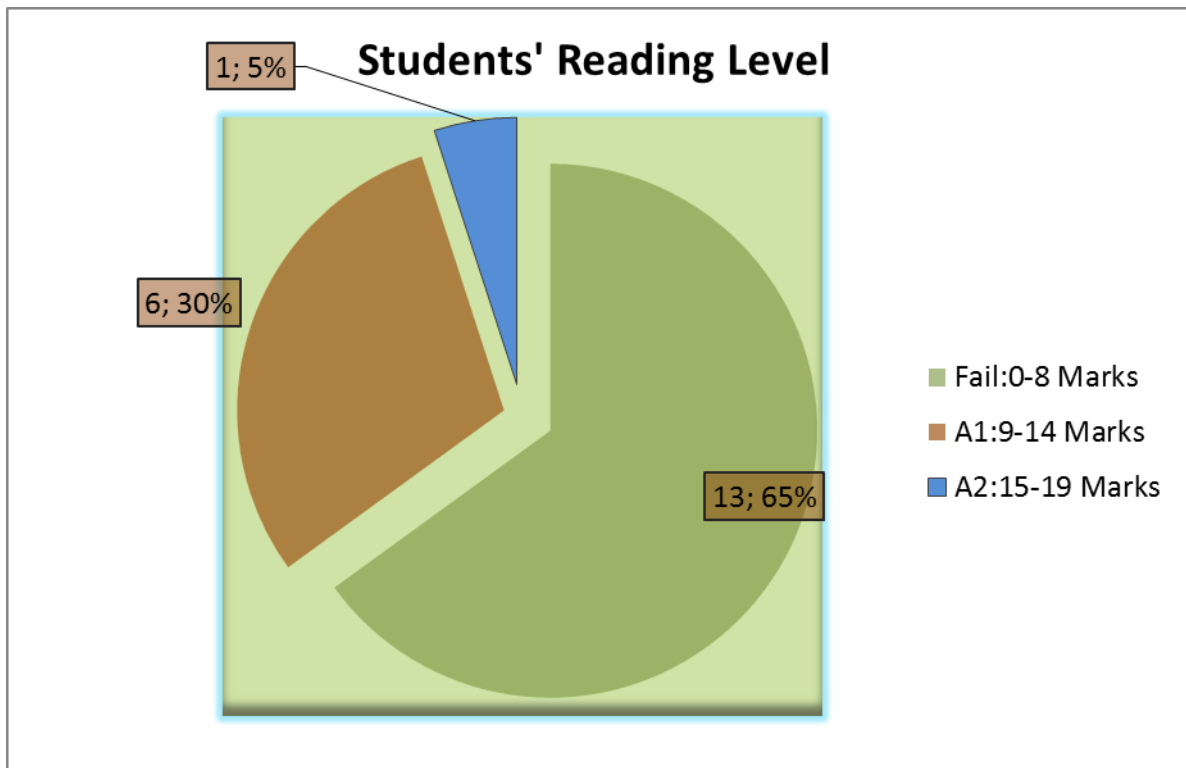


Figure 5 Need analysis KET test results

Appendix C: Need analysis KET test results

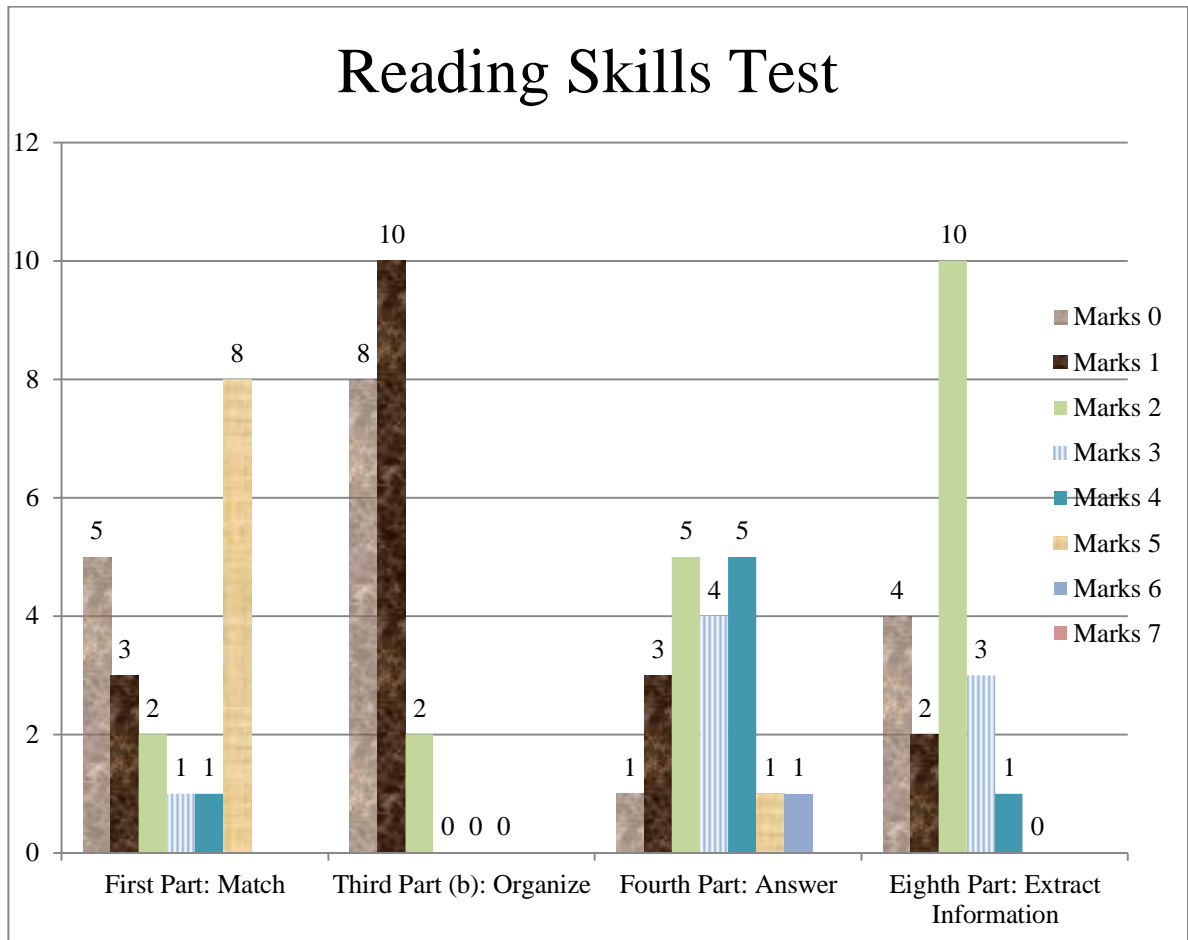


Figure 6 Need analysis KET test results

Appendix D: Consent letter for students' parents

Bogotá, 11 de Abril de 2014

Señores

PADRES DE FAMILIA**Colegio José Joaquín Castro Martínez IED**

Respetados Señores:

La Secretaria de Educación de Bogotá dentro de su programa de formación docente, en su plan de mejorar los procesos educativos en los colegios distritales y en busca de la excelencia académica de los estudiantes ha convocado a los docentes en programas de especialización y maestría en diferentes universidades de Bogotá. Asumiendo este compromiso, me encuentro desarrollando un programa de **Maestría en didáctica del Inglés con énfasis en ambientes de aprendizaje autónomo en La Universidad de la Sabana** dentro del cual se desarrollan procesos de investigación con el fin de fortalecer y mejorar los procesos de aprendizaje de los estudiantes, particularmente en lo relacionado con la lengua inglesa.

Por lo tanto, implementaré un proyecto de investigación aplicando el aprendizaje de contenidos para fortalecer las habilidades lectoras de la lengua extranjera. Por esta razón, es necesario que los estudiantes respondan unos cuestionarios, unas encuestas y desarrollen actividades propias del proyecto, como también en algunas ocasiones será necesario hacer grabaciones de las acciones propuestas.

Durante este proceso se mantendrá la confidencialidad de los participantes, por lo tanto sus nombres serán mantenidos en el anonimato. Las actividades **se desarrollarán dentro de las clases normales de inglés y en ningún momento esto implicará cambios en los porcentajes**

de las notas ni costos adicionales para ustedes. Los participantes podrán tener acceso a los resultados de la investigación en el momento en que ellos lo soliciten, durante o al finalizar dicho proceso. Este proyecto será realizado en el transcurso de este año y el siguiente.

Cordialmente,

NUBIA GUALTERO ARANDA

Docente de Inglés

Yo, _____ acudiente del estudiante _____
identificado con c.c. _____ de _____ autorizo a mi hijo (a) a
participar en este proyecto de investigación durante el tiempo que éste se lleve a cabo.

Appendix E: Consent letter for School

Bogotá, 11 de Abril de 2014.

Señora

XXXXXXXXXXXXXXXXXX

Coordinadora

Colegio José Joaquín Castro Martínez IED

Respetada señora:

La Secretaria de Educación de Bogotá dentro de su programa de formación docente, en su plan de mejorar los procesos educativos en los colegios distritales y en busca de la excelencia académica de los estudiantes ha convocado a los docentes en programas de especialización y maestría en diferentes universidades de Bogotá. Asumiendo este compromiso, me encuentro desarrollando un programa de **Maestría en didáctica del Inglés con énfasis en ambientes de aprendizaje autónomo en La Universidad de la Sabana** dentro del cual se desarrollan procesos de investigación con el fin de fortalecer y mejorar los procesos de aprendizaje de los estudiantes, particularmente en lo relacionado con la lengua inglesa.

Por lo tanto, implementaré un proyecto de investigación aplicando el aprendizaje de contenidos para fortalecer las habilidades lectoras de la lengua extranjera. Por esta razón, es necesario que los estudiantes respondan unos cuestionarios, unas encuestas y desarrollen actividades propias del proyecto, como también en algunas ocasiones será necesario hacer grabaciones de las actividades propuestas.

Durante este proceso se mantendrá la confidencialidad de los participantes, por lo tanto sus nombres serán mantenidos en el anonimato. Las actividades **se desarrollarán dentro de las clases normales de inglés y en ningún momento esto implicará cambios en los porcentajes**

de las notas ni costos adicionales para los padres de familia. Los participantes podrán tener acceso a los resultados de la investigación en el momento en que ellos lo soliciten, durante o al finalizar dicho proceso. Este proyecto será realizado en el transcurso de este año y el siguiente.

Cordialmente,

NUBIA GUALTERO ARANDA

Docente de Inglés

Yo, _____ Coordinadora Colegio José Joaquín Castro Martínez

IED autorizo a la docente **NUBIA GUALTERO ARANDA** docente de inglés a realizar las actividades propias de este proyecto de investigación.

Appendix F: Needanalysis questionnaire**Querido Estudiante:**

Este cuestionario está orientado a recoger información importante para el proyecto de investigación aplicando el aprendizaje de contenidos para fortalecer las habilidades lectoras de la lengua extranjera que desarrollaré en el colegio para mejorar los procesos de enseñanza y aprendizaje en el aula.

Agradezco su colaboración respondiendo las siguientes preguntas.

Intereses

5. ¿Cuál es su materia preferida?

6. ¿Le gusta leer?

¿Por qué? -

7. ¿Tiene algún problema cuando lee?

8. ¿Sobre qué temáticas le gusta leer?

9. ¿Cuál cree que es su desempeño en lectura?

Excelente: _____ Bueno _____ Regular _____ Deficiente _____

¿Por qué? _____

Appendix G: Pre- pedagogical intervention questionnaire

Querido Estudiante:

Este cuestionario está diseñado para recopilar información importante para el proyecto de investigación que desarrollaré en el colegio con el fin de fortalecer la comprensión lectora en la lengua extranjera y de esta forma mejorar los procesos de enseñanza-aprendizaje en el aula.

Agradezco su colaboración respondiendo las siguientes preguntas.

1. ¿Le gusta leer textos en inglés?

Si _____ No _____

¿Por qué?

2. ¿Cuál cree que es su desempeño en lectura de textos en inglés?

Excelente _____ Bueno _____ Regular _____ Deficiente _____

¿Por qué?

3. ¿Tiene alguna dificultad cuando lee en inglés?

Si _____ No _____

¿Cuál?

4. ¿Qué es lo primero que hace cuando debe leer un texto en inglés?

5. ¿Qué otros procesos o pasos sigue cuando debe leer?

6. ¿Cómo evalúa su habilidad al realizar las siguientes tareas cuando lee un texto en inglés?

Escriba 0: Deficiente 1: Regular 2: Buena 3: Excelente

- Identificar el significado de las palabras. _____
- Identificar la idea principal. _____
- Identificar ideas secundarias. _____
- Inferir ideas. _____
- Sacar conclusiones. _____
- Clasificar y organizar ideas. _____
- Proponer soluciones o crear nuevas ideas partiendo del texto.

Appendix H: Post-pedagogical intervention questionnaire

Querido estudiante:

Este cuestionario está diseñado para recopilar información importante para el análisis de los efectos de la implementación de la enseñanza de contenidos como estrategia para mejorar la comprensión lectora en estudiantes de grado undécimo. Agradezco su colaboración respondiendo todas las preguntas.

1. ¿Cómo se sintió al realizar la lectura de textos en inglés después de las actividades de presentación de los temas?

¿Por qué?

2. ¿Cómo evalúa su desempeño en la lectura de textos en inglés después de las actividades de presentación de los temas?

Excelente _____ Bueno _____ Regular _____ Deficiente _____

¿Por qué?

3. ¿Cree usted que las actividades de presentación de los temas le facilitaron la comprensión de textos en inglés? Si _____ No _____

¿Por qué?

¿Cuál o cuáles actividades le facilitaron más la comprensión de textos en inglés? (Solo responda si su respuesta en la pregunta 3 fue afirmativa)

4. ¿Presentó alguna dificultad al leer los textos en inglés después de las actividades de presentación de los temas? Si _____ No _____

¿Cuál o cuáles? (Sólo responda si su respuesta en la pregunta 4 fue afirmativa)

5. ¿Qué era lo primero que hacía cuando debía leer un texto en inglés después de las actividades de presentación de los temas?

6. ¿Qué otros procesos o pasos seguía cuando debía leer un texto en inglés después de las actividades de presentación de los temas?

5. ¿Cómo evalúa su habilidad al realizar las siguientes tareas cuando realizaba la lectura de los textos en inglés después de realizar las actividades de presentación de los temas?

Escriba 0: Deficiente 1: Regular 2: Buena 3: Excelente

- Identificar el significado de las palabras. _____
- Identificar la idea principal. _____
- Identificar ideas secundarias. _____
- Inferir ideas. _____
- Sacar conclusiones. _____
- Clasificar y organizar ideas. _____
- Proponer soluciones o crear nuevas ideas partiendo del texto _____

Appendix I: KET test⁹

Reading and Writing • Part 1

Questions 1 – 5

Which notice (A – H) says this (1 – 5)?

For questions 1 – 5, mark the correct letter A – H on your answer sheet.


Example:


0 You cannot use your phone.


Answer:

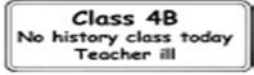
0	A	B	C	D	E	F	G	H
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


- 1 You should put things back in the right place.
- 2 Go here if you have lost something.
- 3 You must walk in this place.
- 4 These students do not have a lesson.
- 5 You cannot go in through here.

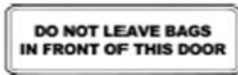
A 

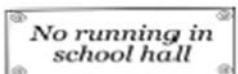
B 

C 

D 

E 

F 

G 

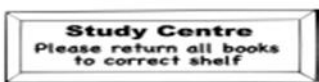
H 

Figure 7 KET test implemented before the pedagogical intervention

⁹ *Key English test: Handbook for teachers.* (2012). Cambridge, UK: University of Cambridge, UCLES. Retrieved from: <http://www.cambridgeenglish.org/images/168174-cambridge-english-key-for-schools-handbook-for-teachers-.pdf>

Questions 16 – 20

Complete the telephone conversation between two friends.
 What does Josh say to Matt?
 For questions 16 – 20, mark the correct letter A – H on your answer sheet.

Example:

Matt: Hi, Josh. It's Matt.

Josh: 0C.....

Answer:

0	A	B	C	D	E	F	G	H
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Matt: Oh, sorry. I'm phoning about the skateboarding competition this afternoon.

Josh: 16

Matt: Really? There was some information about it in our club magazine.

Josh: 17

Matt: Just from 2.30 till 5 pm. They give out the prizes at 6 pm.

Josh: 18

Matt: The prizes are better this time. The top prize is a skateboard.

Josh: 19

Matt: You're much better than you were last year!

Josh: 20

Matt: Great! See you then.

- A I'd like a new one but I don't think I'm good enough to win.
- B I didn't see it. Is the competition on all afternoon?
- C Hi. You're calling early!
- D Do the winners get CDs like last year?
- E I wasn't very good then.
- F I didn't know that was today.
- G I haven't got one of those.
- H Maybe, we'll see. Shall we meet in the park at 2.00?

Reading and Writing • Part 4**Questions 21 – 27**

Read the article about a young swimmer.

Are sentences 21 – 27 'Right' (A) or 'Wrong' (B)?

If there is not enough information to answer 'Right' (A) or 'Wrong' (B), choose 'Doesn't say' (C).
For questions 21 – 27, mark A, B or C on your answer sheet.

Ana Johnson

Ana Johnson is a 13-year-old swimmer who lives in Melbourne in Australia. Her dream is to swim for Australia in the next Olympics.

She swims in both long and short races and she has already come first in many important competitions.

As well as spending many hours in the pool, Ana also makes time for studying and for friends. 'I have lots of friends who swim and we're very close. It's much easier to have friends who are swimmers because they also have to get up early to practise like me and they understand this kind of life. But I'm not so different from other people my age. In my free time I also enjoy going to the movies and parties. There are also some good things about swimming for a club. I travel a lot for competitions and I've made friends with swimmers from other Australian cities and from other parts of the world.'

Ana is becoming well known in Australia and she believes it is important to get more young people interested in swimming. 'I don't mind talking to journalists and having my photograph taken. But last year I was on TV and that was much more fun.'



Example:

0 Ana's home is in Melbourne.

A Right B Wrong C Doesn't say

Answer:

0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A	B	C

21 Ana hopes she will become an Olympic swimmer.

A Right B Wrong C Doesn't say

22 Ana knows that she is better at short races than long ones.

A Right B Wrong C Doesn't say

23 Ana has won a lot of swimming competitions.

A Right B Wrong C Doesn't say

24 It is difficult for Ana to make friends with other people who swim.

A Right B Wrong C Doesn't say

25 Ana likes doing the same things as other teenagers.

A Right B Wrong C Doesn't say

26 Ana has met people from different countries at swimming competitions.

A Right B Wrong C Doesn't say

27 Ana prefers speaking to journalists to being on television.

A Right B Wrong C Doesn't say

Reading and Writing • Part 8

Questions 51 – 55

Read the invitation and the email.
 Fill in the information in Louisa's notes.
 For questions 51 – 55, write the information on your answer sheet.

Come to an ice-skating party
 on Saturday
 at
 Park Ice Rink
 Starts at 1.30 p.m.
 You won't need any money
 but bring a warm sweater.
 Let me know if you can come
 by Thursday.
 Sara

From:	Carla
To:	Louisa

Shall we go to Sara's ice-skating party together?
 My dad will take us in the car but we'll need to
 come back by bus. We'll drive to yours and get
 you at 12.30. Ring me this afternoon on my
 mobile (07816 212185) or after 6 p.m. at home
 (366387) to let me know.

Louisa's Notes	
<i>Ice-skating party</i>	
Person having party:	Sara
Day:	51 <input style="width: 150px;" type="text"/>
Time:	52 <input style="width: 150px;" type="text"/> p.m.
Take:	53 <input style="width: 150px;" type="text"/>
Travel there by:	54 <input style="width: 150px;" type="text"/>
Carla's evening phone number:	55 <input style="width: 150px;" type="text"/>

Appendix J: KET test¹⁰

2

Part 1

Questions 1-5

Which notice (A-H) says this (1-5)?

For questions 1-5, mark the correct letter A-H on your answer sheet.

Example:

0 You can eat here in the mornings. Answer:

0	A	B	C	D	E	F	G	H
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1 You should not swim here.	A	SLOW! DANGEROUS CROSSROADS
2 You must not drive fast here.	B	SWIMMING POOL OPEN AFTERNOOONS Adults - £2.50 Children - £1.00
3 You can play football here after lessons.	C	HALF PRICE FOOTBALL SHIRTS - SALE MUST END THIS AFTERNOON
4 It is cheaper to buy things today than tomorrow.	D	POLICE CARS ONLY
5 You can drive here next week.	E	DANGER! DO NOT GO INTO THE WATER
	F	BREAKFAST SERVED 7.00 - 10.00
	G	ROAD CLOSED UNTIL WEEKEND
	H	SCHOOL SPORTS CLUB NOW OPEN IN THE EVENINGS!

KET Handbook 2007 - Part 1/10 - Sample Test 1

Figure 8 KET test implemented after the pedagogical intervention

¹⁰ *Key English test: Handbook for teachers.* (2012). Cambridge, UK: University of Cambridge, UCLES. Retrieved from: http://www.iltea.org/cambridge/KET/ket_handbook2007.pdf

5

Questions 16-20

Complete the conversation.
What does Anita say to Kim?

For questions 16-20, mark the correct letter A-H on your answer sheet.

Example:

Kim: What are you going to do at the weekend, Anita?

Anita: 0

Answer:

0	A	B	C	D	E	F	G	H
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Kim: Well, I'm going to go to London. Would you like to come as well?

Anita: 16

Kim: Yes. I must study on Sunday. Great! It'll be good to go together.

Anita: 17

Kim: First, I'd like to go shopping.

Anita: 18

Kim: Oh, I can help you choose them. Is there anything else you want to do?

Anita: 19

Kim: OK. There's a good one in Oxford Road. It always has the newest films.

Anita: 20

Kim: I'm not sure, but I'll phone and ask. I know we'll have a good day.

- A Me, too. I need some books for school and a pair of shoes.
- B Yes, I have to work on Saturday.
- C I'd love to. I suppose you want to go on Saturday?
- D Fine. Do we need to book tickets?
- E I have some money for a new jacket.
- F What do you want to do there?
- G Yes, I'd like to go to a cinema afterwards.
- H I don't know.

6

Part 4

Questions 21-27

Read the article about a young man and woman who lost a ring.

Are sentences 21-27 'Right' (A) or 'Wrong' (B)?

If there is not enough information to answer 'Right' (A) or 'Wrong' (B), choose 'Doesn't say' (C).

For questions 21-27, mark A, B or C on your answer sheet.

THE RING AND THE FISH

Thomas and Inger, who live in Sweden, are the happiest couple in the world. Two years ago, they were on a boat a few kilometres from the beach. Thomas asked Inger to marry him and he gave her a gold ring. He wanted to put the ring on Inger's finger, but he dropped it and it fell into the sea. They were sure the ring was lost for ever.

That is, until last week, when Mr Carlsson visited them. He has a fish shop and he found the ring in a large fish which he was cutting up for one of his customers. The fish thought the ring was something to eat! Mr Carlsson knew that the ring belonged to Thomas and Inger because inside the ring there were some words. They were, 'To Inger, All my love, Thomas'. And so Mr Carlsson gave the ring back to them.

Inger now has two rings. When they lost the first one, Thomas bought Inger another one. But they think the one the fish ate is the best one.

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Example:

0 Thomas and Inger's home is in Sweden.

A Right B Wrong C Doesn't say

Answer:

0	A	B	C
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21 Thomas asked Inger to marry him when they were on a boat.

A Right B Wrong C Doesn't say

22 Thomas put the gold ring on Inger's finger.

A Right B Wrong C Doesn't say

23 They returned from their boat trip without the ring.

A Right B Wrong C Doesn't say

24 Mr Carlsson often visited Thomas and Inger.

A Right B Wrong C Doesn't say

25 Mr Carlsson caught the fish.

A Right B Wrong C Doesn't say

26 Mr Carlsson found the ring when he ate the fish.

A Right B Wrong C Doesn't say

27 Thomas and Inger prefer the first ring.

A Right B Wrong C Doesn't say

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Part 8

Questions 51-55

Read these two notes about school books.
Fill in the information on the Bookshop Order Form.

For questions 51-55, write the information on your answer sheet.

<p>Books you'll need this year:</p> <p>Europe, 1815 – 1875 by T Hudson</p> <p>Geography of India by Grant Robinson</p> <p>Order from:</p> <p>Queen's Bookshop 22 Green Street Barking</p>	<p>£7.99 each</p>	<p>14 Park Road Ilford 11 February</p> <p>Jack,</p> <p>I'll give you £4 for your old school geography book. When you're at the bookshop tomorrow, can you order the history book I need?</p> <p>Thanks. Jenny Doyle</p>
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**QUEEN'S BOOKSHOP
ORDER FORM**

Customer: Jenny Doyle

Address:

Name of book:

Writer:

Price:

Date of order:

Appendix K: Reading comprehension rubric

Category	Poor	Satisfactory	Good	Excellent
Identifies the meaning of the words	Recognizes the meaning of only few words.	Recognizes the meaning of some words.	Recognizes a wide range of words. .	Identifies almost all the meaning of the words.
Identifies the main idea.	Understands few sentences in the text with no connection.	Understands some details from the main idea.	Understands the main idea with some gaps.	Understands the main idea having the topic clear.
Identifies supporting ideas	Understands some ideas which are not important in the text.	Understands some supporting ideas.	Understands most of the supporting ideas	Understands all the supporting ideas
Infers and draws conclusions	Identifies only literal information.	Infers some ideas without any connection.	Infers some ideas and connects them with some prior knowledge.	Makes connection between prior knowledge with new information.
Classifies and organizes ideas	Extracts only some	Extracts some important facts	Extracts important facts	Extracts important facts

	information.	without classifying or categorizing them.	and categorizes some of them.	and categorizes them.
Proposes new solutions or creating new ideas.	knows the text only literally.	Proposes new solutions to some inquiries of the text.	Proposes some solutions or ideas connecting only some of them.	Proposes innovative solutions or ideas by connecting their previous knowledge with the new one.

Appendix L: Lesson plan sample

Stage	Aim	Procedure Teacher and student activity	Time and interaction
Warm up	To recall students' prior knowledge of the topic.	Teacher will encourage students to complete a citizenship web with words related to citizenship	10m T – sts
Input	To introduce terms and definition to students.	Students will create a definition of citizenship in pairs. Then, they will discuss their ideas in groups of four to create only one definition. Teacher nominates a student to take notes on the board to take out the most important ideas in their partners' definitions creating only one definition for the entire group. Teacher will discuss about missing elements in the definition if any.	15m T - sts
Scaffolding	To enable students determining importance of being good citizenships.	Students will classify situations in which people have been good citizenships or have not in groups of 3 people. Teacher nominates one student to lead the discussion and have one comparison chart per the whole group.	35m Sts-Sts
Freer practice	To consolidate knowledge.	Based on the situations, students will determine why being a good citizen is an essential skill in a society. Students will label the definition and terms worked in the class and teacher will ask students to relate this definition with their context.	30 m. T-sts Sts- T
Wrap up	To check understanding	Students will solve a crossword puzzle about the words studied in class.	20 m T- sts Sts - T

Appendix M: Reading comprehension lesson plan

Stage	Aim	Procedure Teacher and student activity	Time and interaction
Warm up	To provide students the context of the text.	Teacher will encourage students to answer why being a good citizen is important for the society and the characteristics of a good citizen.	10m T – sts
Input	To elicit vocabulary needed in the lesson.	Students will match some words with their definition.	15m T – sts
Scaffolding	To enable students to skim a text to find the general idea of a text.	Students will read the text and circle the words they consider most important in each paragraph and underline the words they do not know.	35m Sts-Sts
Freer practice	To check students comprehension of the text.	Students will answer questions about the reading. Students will classify steps to be a good citizen in their home, community or country.	30 m. T-sts Sts- T
Wrap up	To promote students' creativeness.	Students will create a Decalogue of a good citizen.	20 m T- sts Sts – T

Appendix N: Pedagogical intervention timeline

# Session	Sub-competences	Content	Activities and assignments
Week 1 4 hours	Creating based on a text	Citizenship	Creating the Decalogue of a good citizen
Week 2 4 hours	Proposing solutions to problematic situations	Global warming	Video: Solutions to stop Global warming effects
Week 3 5 hours	Determining advantages and disadvantages of a democracy	Democracy	Role-play: Actions against democracy Reading comprehension test
Week 4 4 hours	Comparing using graphic organizers	Pollution and its effects on the environment	Comparison chart between past and present
Week 5 4 hours	Analyzing causes and effects	Human rights	Case studies
Week 6 4 hours	Evaluating solutions	Environmental problems solutions	Creating a booklet about pros and cons of some solutions to diminish ecological footprint

Appendix O: Reading comprehension worksheet

Global warming or climate change?

Name: _____ Grade: _____

1. Read the title and look at the pictures.

What is the text about?

Are you concerned about these topics? Have you or community been affected by these phenomena?

2. Read the text and complete the following chart:

Global Warming		Climate change	
Causes	Effects	Causes	Effects

4. Read the text again and answer the questions bellow:

Global Warming or Climate Change?



Climate Change is any significant change in the climate of the Earth. These changes can be temperature, precipitation, wind, humidity, etc. Climate Change occurs because of many things. The heat from the sun and a change in the Earth's orbit may affect

Figure 9 Reading comprehension worksheet

the climate on Earth. The way the oceans on Earth circulate can have an effect on the Earth's climate. And finally, human activity can change the climate of the Earth. For example, burning fossil fuels such as gasoline and coal can affect the climate on Earth. Changing the landscape of the Earth, by cutting forests, filling swamps, laying large amounts of concrete over grasslands can have a great effect on the Earth's environment.

Global Warming is an average temperature increase in the atmosphere of the Earth's surface and troposphere. Global Warming can be caused by natural and human events. Too much carbon dioxide (CO₂) introduced into the air can produce Global Warming. Global Warming often refers to a warming that can occur as a result of increased CO₂ emissions by man. This can create a greenhouse effect. The greenhouse effect traps heat within the atmosphere causing the average temperature of the Earth to increase. This increased temperature causes ice caps to melt. The melting of the Earth's ice caps causes sea levels to rise, thus changing the Earth's landscape.

a. Climate Change is

- significant change in the climate on the Earth.
- significant change in the size of the Earth.
- significant change in the rotation of the Earth.

b. Global Warming is

- an average temperature decrease in the atmosphere of the Earth's surface and troposphere.
- an average increase in the rainfall on the Earth's surface.
- an average temperature increase in the atmosphere of the Earth's surface and troposphere.

c. Too much carbon dioxide in the Earth's atmosphere can cause

- carbon rain.
- high oxide levels.
- Global Warming.

d. Heat trapped in the Earth's atmosphere, causing the average temperature to rise,

is called

- the warming house.
- the changing climate.
- the greenhouse effect.

e. Human activity, such as burning fossils fuels, can

- affect the sun.
- affect the climate on Earth.
- affect the climate on the moon.

Taken from: <http://www.myschoolhouse.com/courses/O/1/83.asp>

5. Choose one effect of global warming and create a video to encourage people to change their habits to help our environment in groups of 4.