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DIRECCIÓN DE POSGRADO

MAESTRÍA EN LA ENSEÑANZA DEL IDIOMA INGLÉS COMO LENGUA EXTRANJERA

Tema: THE EFFECTS OF METACOGNITIVE STRATEGIES ON READING SKILLS

Trabajo de Investigación, previo a la obtención del Grado Académico de Magíster en la Enseñanza del Idioma Inglés como Lengua Extranjera.

Autora: Licenciada Miryan Consuelo Salazar Tobar, Magíster

Directora: Licenciada Lorena Monserrath Meléndez Escobar, Magíster

Ambato – Ecuador

A LA UNIDAD DE TITULACIÓN DE LA UNIVERSIDAD TÉCNICA DE AMBATO

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Lic. Miryan Consuelo Salazar Tobar, Mg.

C.C. 180284083-3

AUTORA

Lic. Lorena Monserrath Meléndez Escobar, Mg.

C.C. 1802190239

DIRECTORA

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C.C. 180284083-3

AUTORA

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Miryan Salazar

UNIVERSIDAD TÉCNICA DE AMBATO DIRECCIÓN DE POSGRADO

MAESTRÍA EN LA ENSEÑANZA DEL IDIOMA INGLÉS COMO LENGUA EXTRANJERA

TEMA:

"THE EFFECTS OF METACOGNITIVE STRATEGIES ON READING SKILLS"

AUTORA: Licenciada Miryan Consuelo Salazar Tobar, Magíster

DIRECTORA: Licenciada Lorena Monserath Meléndez Escobar, Magíster

FECHA: 19 de junio de 2018.

RESUMEN EJECUTIVO

El propósito de este trabajo de investigación es determinar los efectos de las estrategias metacognitivas en las habilidades lectoras de los estudiantes universitarios de nivel A1 del Programa Regular en el Centro de Idiomas de la Universidad Técnica de Ambato. Estos estudiantes participaron en un estudio experimental que consistió en darles a los estudiantes una prueba previa y una posterior. El estudio se realizó bajo un enfoque cuasi experimental diseñando dos grupos de trabajo; el denominado grupo de control conformado por 37 estudiantes y un segundo grupo denominado experimental con un número de 35 estudiantes, a los cuales se les aplicó un plan de intervención con el uso de estrategias metacognitivas para el desarrollo de las habilidades de lectura durante seis semanas. Los resultados obtenidos a través de este estudio evidenciaron que los participantes expuestos a una instrucción de lectura efectiva en el aula están más motivados para leer, tomar más responsabilidad y control de su aprendizaje a medida que desarrollan estrategias efectivas durante el proceso y las fuentes que los respaldan para convertirse en mejores lectores. Además, son conscientes de que su proceso está construyendo el significado del texto al predecir, escanear, rozar, comparar, contrastar y resumir. Además, se diseñó un folleto con diferentes estrategias de instrucción metacognitiva para ayudar a los estudiantes a descubrir su capacidad y como entrenarse en el uso de las estrategias metacognitivas pues éstas tienen efectos positivos en la mejora de la comprensión lectora. Las habilidades de comprensión de lectura mostraron una mejora significativa con el grupo experimental. Estos hallazgos respaldan muchos otros estudios que afirman que los lectores de un segundo idioma que son conscientes y utilizan diferentes estrategias metacognitivas para convertirse en lectores eficientes.

Descriptores: Aprendizaje autónomo, comprensión de lectura, estrategias de lectura, estrategias metacognitivas, habilidades de lectura, instrucción de lectura, lectores eficientes, motivación, proceso de aprendizaje, proceso de metacognición.

UNIVERSIDAD TÉCNICA DE AMBATO DIRECCIÓN DE POSGRADO

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THEME:

"THE EFFECTS OF METACOGNITIVE STRATEGIES ON READING SKILLS"

AUTHOR: Licenciada Miryan Consuelo Salazar Tobar, Magíster

DIRECTED BY: Liencada Lorena Monserrath Meléndez Escobar, Magíster

DATE: June 19th, 2018.

EXECUTIVE SUMMARY

The purpose of this research work is determining the effects of metacognitive strategies on the reading skills at A1 English level university students of the Regular Modality at the Language Center in Universidad Técnica de Ambato. These students participated in an experimental study which consisted of giving learners a pre and a post-test. The study was conducted under a quasi-experimental approach designing two working groups; the one denominated control group conformed by 37 students and a second one named experimental group with a number of 35 students, to which a plan of intervention with the use of metacognitive strategies for the development of the reading skills was applied during six weeks. The results obtained through this study evidenced that the participants exposed to an effective reading instruction in the classroom are more motivated to read, take more responsibility and control of their learning as they developed effective strategies and reflect the process and sources that support them to become better readers. Additionally, they are conscious of their process constructing meaning of the text by predicting, scanning, skimming, comparing, contrasting and summarizing. Furthermore, a booklet with different metacognitive instruction strategies was designed to help learners to their ability to discover that metacognitive strategies have effective effects on their reading comprehension improvement. The reading comprehension skills showed a significant improvement with the experimental

group. These findings support many other studies which assert that L2 readers who are aware of different metacognitive strategies for use become skillful readers

Keywords: Autonomous learning, effective readers, learning process, metacognition process, metacognitive strategies, motivation, reading comprehension, reading instruction, reading skills, reading strategies.

INTRODUCTION

Metacognition is an important concept in pedagogical theory since the end of the last century. Metacognition is the reflection on one's cognition, that is, the action and effect of knowing. In teaching it is about the student reflecting on their own learning. This includes an awareness of one's own mental processes and how this knowledge can be used to learn more and better. Studies show that metacognition influences the student's ability to learn and especially in the process of becoming autonomous, a quality that characterizes the good language learner.

Teachers play a key role in developing engaged students. By understanding their students learning process teachers can help students to overcome their difficulties by applying and instructing them with different effective strategies. One of these strategies is metacognitive strategies which involve a reflection on the learning process and allow students towards optimize learning results. Moreover, according to some studies and research in the field of English teaching metacognitive strategies are a feasible tool to facilitate and enhance reading comprehension that's why universities have to actively improve students' metacognitive reading strategies by understanding some principles of how students learn. One important fact, about metacognitive strategies is that it demands teaching preparation and knowledge of how learners plan, monitor and control their own comprehension in order to internalize their learning and make it more meaningful. Furthermore, the importance of metacognitive strategies in developing reading skills with university students is a key element to promote both performance and understanding of their reading skills. It also contributes to the fact that if learners read with comprehension and are metacognitive aware of the reading strategies to support their learning process they will success in their learning process. Moreover, these strategies allow readers to take more responsibility in their learning. The present investigative work consists of six chapters as follows:

CHAPTER I: Includes the research problem, its approach, the theoretical and practical justification, its temporal and spatial delimitation, as well as the working

and alternating hypotheses that were subjected to verification, contrasting them with the objectives of the realization of the draft.

CHAPTER II: It consists of the antecedents related to previous investigations, the theoretical referents of the dependent variables that consist of the writing process and of the independent variable that is the feedback of learning. Within the theoretical reference have been included the dimensions that make up each of the variables with their respective indicators; as well as a list of the vocabulary of basic terms used during the theoretical investigation.

CHAPTER III: In this section of the study, the research design is included, the level and type of research selected according to the objectives set out above, and the data collection techniques and instruments are pointed out precisely.

CHAPTER IV: This section contains the results obtained from the control and experimental group through the instruments and they are represented in a visual and statistical way that allows illustrating the readers about the relationship between the study variables.

CHAPTER V: This chapter includes the conclusions and recommendations prepared and extracted from the presentation of data and collated with the objectives of the investigation.

CHAPTER VI: Finally, this section of the investigative work presents a didactic intervention plan of metacognitive strategies for the improvement of the reading process.

The final section of this report includes the bibliographic references that are the source of the theoretical framework and of the theoretical supports in general of the work in an integral manner; In addition, the annexes are included as evidence and support for the work carried out.

CHAPTER I

RESEARCH PROBLEM

1.1. Research Topic

The effects of metacognitive strategies on reading skills.

1.2. Problem Statement

1.2.1 Contextualization

English has been the leading world language on the internet and printed materials around the world, consequently most people have to be able to read English texts. People are required to have the ability to read and comprehend texts in order to acquire knowledge as well as to conduct their life in different settings: academic, work places and everyday activities (Argaez, 2010).

According to Vicent (2015) reading in English has a lot of benefits for example reading is one of the best ways for EFL learners to increase vocabulary and consolidate grammar understanding during their learning process by being exposed to different graded and authentic materials which encourage learners to make reading more enjoyable and they use a variety of strategies to construct meaning.

Ching and Lin (2015) also state that reading has been an important component for EFL learners during the last forty years due to reading comprehension is useful for language acquisition. However, reading is a complex and interactive process for learners of extracting meaning from a context. In this process learners face a lot of challenges and difficulties which make them to struggle understanding what they read.

According to Yadav (2014) learners try to understand the reading content by translation because of the difficulty level of the texts provided and the extend and unfamiliar vocabulary which make their reading difficult and boring. As a consequence of this, learners feel demotivated about reading, have low grades and fail their English courses.

Current teaching practice is the result of combining a variety of effective methodologies, techniques and teaching materials which have had a significant impact in the teaching learning process over the years (Freeman, 2011). In this context, understanding some important facts about reading instruction and implementing different learning strategies to enhance reading comprehension is essential for EFL teachers.

One of these strategies is the metacognitive strategy which offers valuable opportunities for learners to enhance their understanding of a text which has been. The application of metacognitive strategy during reading and comprehension lessons helps students to think logically in all the three levels of the reading process before reading, during reading and after reading by developing engaged readers as they provide readers with the strategies they need for effective communication in English. Additionally, recent researchers in second language reading learning have focused on the implementation of metacognitive strategies and the relationship among perception of the strategies, strategy use and reading comprehension (Karbalaei, 2011).

In Ecuador the process of teaching and learning English as a foreign language is not satisfactory. Despite all the efforts and investments that the government has done to improve English among Ecuadorian language learners from grade 2 EGB to 6th year of bachelor, they haven't reached the B1 level as the authorities' expectations. (Ministerio de Educacion del Ecuador, 2016) In this context, there a lot of challenges that teachers face in their instruction. One of them is that learners do not like reading texts. For example, university students struggle when they read texts in English as they have not been trained to use effective comprehension reading

strategies to understand, summarize, recall and infer information from printed texts and enjoy as well. As a result, they find difficulties in developing this skill in English as a foreign language and they have some low-level skills. (Ministerio de Educacion del Ecuador, 2016).

According to the diagnostic test results sent by the teachers to the Evaluation Center of Starter students in the semester April –August 2016, 65% of the students got less than 7 in Reading which is the minimum acceptable. These findings showed that starter students from the Regular Program at the Languages Center have not developed effective reading strategies to understand general and specific information from a text.

Based on the findings mentioned above teaching effective reading strategies is essential for students' success in acquiring a second language. In this regard, reading instruction is a key component and a big concern for teachers that work at the Languages Center at Universidad Técnica de Ambato.

Furthermore, recent researches in teaching English suggest that anything that teachers can do to make reading easier and enjoyable for students is a good idea as it would benefit greatly from a strong focus on reading.

1.2.2.1Problem Tree Analysis

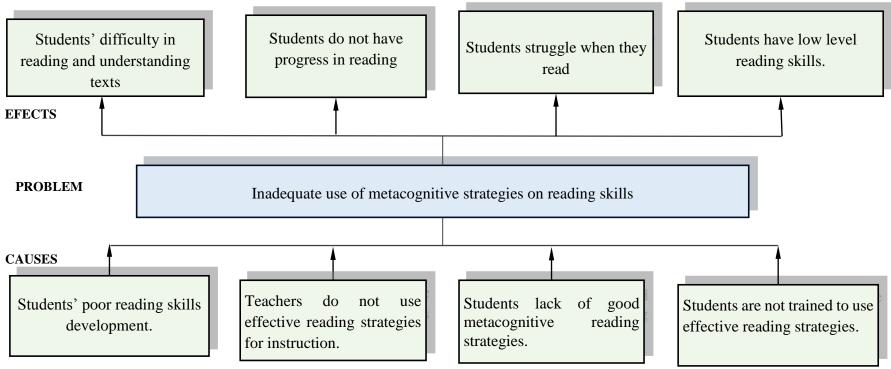


Figure Nº 1. Problem Tree Analysis.

Made by: Miryan Salazar

1.2.2 Critical Analysis

There are some causes and effects that provoke the inadequate use of metacognitive strategies on reading skills. First, students' poor reading skills development causes their difficulty in reading and understanding texts. If teachers do not use effective reading strategies for instruction, as a result student do not have progress in reading. McShane (2005) tells us that mid-level readers who are often the largest percentage of adult learners, have extremely varied reading needs, and although they have learned some word identification skills, they often do not make good use of these skills when reading. Additionally, students' lack of metacognitive reading strategies provokes that they struggle when they read. Proficiency in reading involves many variables, for example, automaticity of word recognition, familiarity with text structure and topic, awareness of various reading strategies, and conscious use and control of these strategies in processing a text (Pang, 2008).

Reading correctly is more than simply running through the words of a text. It is to establish a link with the text that involves the reader intellectually and emotionally. It is to develop the ability to fully understand and feel a writing, a capacity that develops as one attends and exercises the intellectual ability to read, which is something much more complex than simple literacy (Argudin & Luna, 1995). Learning to read can only be achieved by reading. There is no other way. At present, young people have a culture that is very different from the paths that lead to the pleasures of reading. In the past, most people usually went from a childhood of addiction to television to an adolescence addicted to the computer; so they arrived at youth without the motivation of reading selected printed materials, their interests and needs are made up of images as they belong to the age of the technology. According to Gardea (1994), reading has lots of benefits for English learners as it is one of the best ways to increase vocabulary and consolidate their grammar understanding. Furthermore, reading helps learner to improve their language learning process by

Finally, if students are not trained to use effective reading skills students will have a deficient low-level of reading skill. Based on these causes and effects it is necessary for teachers to investigate the most effective EFL reading strategies for students in order to find out what reading strategies they need to use to comprehend what they read, to develop reading skills, and to become effective readers.

1.2.3 Prognosis

If teachers do not use engaging reading strategies to enhance reading skills, students will face some problems. First, learners will not be successful in understanding a text when they read. In addition, students will not feel motivated to read texts in English neither for their careers, for study purposes or simply for pleasure. In addition, students w develop vocabulary knowledge, improve writing and speaking skills. Furthermore, students will have a low reading performance because they are not aware which reading strategies and how to employ them in order to read accurately printed information. Finally, metacognition is a key element in reading comprehension if learners do not use their own metacognitive process they will not become effective readers.

In contrast, if teachers instruct using different meaningful strategies like metacognitive reading strategies into reading instruction effectively, students will ensure their success in reading English comprehension. Consequently, they will be able to develop their academic achievement and their reading skill development as well. Finding ways to help students to learn effective reading strategies is a big teachers' concern to make learners more active and autonomous over their own learning by developing students' metacognitive awareness of specific reading strategies for proficient reading.

Research Problem Formulation

What are the effects of metacognitive strategies on the reading skills development

of the A1 students of the Regular Program at the Languages Center at Universidad

Técnica de Ambato?

1.2.5 Research Questions

Which features from the metacognitive strategies favor students' reading

process?

How metacognitive strategies are implemented during reading development?

• In which extent reading strategies are related to metacognitive strategies?

Which metacognitive strategies can be used by teachers to develop reading

skills?

1.2.6 Delimitation of the Research Problem

1.2.6.1 Content Delimitation

Field: Education

Area: Teaching English in high Education

Aspect: Learning and teaching

1.2.6.2 Time Delimitation

October 2017 - February 2018 Semester

9

1.2.6.3 Spatial Delimitation

This research was carried out at the Language Center of the Universidad Técnica de Ambato, Campus Huachi Chico.

1.3. Justification

This research is of great **importance** for English teachers because its findings will have valuable implications for teachers that need to use and implement effective strategies to develop students reading ability and to respond to their learning needs. In this context, language teachers need to help students not only to know what strategies to use but also how and when to apply them to encourage them reading to learn using successful reading strategies.

The level of **interest** which this project will provoke in the academic circle of English teachers and instructors is expected to be of high relevance, since the implication of metacognitive strategies during the development of reading skills will facilitate students' cognitive skills improvement. To contribute with practical ideas and clear examples of the use of strategies will encourage learners to be active participants during the instruction process due the clearness of their role and the responsibility they might assume within the application of the metacognitive strategies.

In addition, this research will have a positive **impact** on the group of students that are going to be exposed to the use of metacognitive strategies as one solution to the problem of their poor reading comprehension. These strategies also motivate learners to read more and better texts by organizing content which facilitate their comprehension of the new acquired information. In this regard, students 'reading progress will be showed in the effectiveness of the results of developing their reading skill and in the form of getting higher scores of their reading comprehension tests as well.

This project is also **feasible** as it is based on current issues of learning and teaching in reading skills and it has the collaboration of authorities, teachers and students at Languages Center at Universidad Técnica de Ambato.

Additionally, this research is **original** since a research about metacognitive reading strategies has not been developed yet at the Language Center de la Universidad Técnica de Ambato. The main contribution of this research is to challenge teachers to conduct studies in the field of metacognitive strategies as they have positive effects on reading comprehension.

Furthermore, this research will **benefit** students with low level reading skills by supporting them to develop their reading comprehension in a more effective way through the use of effective metacognitive strategies to success in reading.

1.4. Objectives

1.4.1 General Objective

 To analyze the effects of metacognitive strategies on students' reading skills development.

1.4.2 Specifics Objectives

- To identify the features from metacognitive strategies which favor students' reading process.
- To describe how metacognitive strategies are implemented during reading skills development.
- To stablish a relation between reading strategies and metacognitive strategies.
- To systematize the use of metacognitive strategies to develop reading skills.

CHAPTER II

THEORETICAL FRAMEWORK

2.1 Research Background

After reviewing some different studies, research findings and issues about using metacognitive organizers are mainly used as a reading strategy these studies have important implications for developing this research.

Maryam Habibian in the year 2015 for her Doctoral thesis from Putra University Malaysia, observed two main points in the study: the effectiveness of teaching metacognitive strategies and the increasing use of these strategies. Additionally, she concluded that the explicit instruction of metacognitive strategies has contributed to improve the students' ability in reading comprehension by practicing and applying these skills effectively.

Mohammad Reza et al. (2013) study corroborates that metacognitive reading strategy is one of the main important factor to facilitate reading comprehension in university and school learners. Readers who use metacognitive reading strategies in their reading comprehension are more successful than the ones that do not use them.

Maruja Burgos in the year 2016 developing her thesis work, at Universidad Católica del Ecuador for obtaining the Grad Degree in Education, entitled Basic Reading Strategies, found that reading strategies used by teachers for the teaching process in the classroom are traditional and they do not encourage comprehension. The results showed that the reading level was low. The application of new reading strategies will contribute to improve reading comprehension and, also, to the teaching task to propose the development of these metacognitive strategies.

Muso Edwin and Quispe Isidro in their thesis work for getting the degree of Teaching and Education from Universidad Tecnica de Cotopaxi in the year 2015 which name is "Metacognition strategies in reading comprehension in the fifth year of basic general education in Miguel Rivadeneira General School Emilio Terán of Mulliquindil Santa Ana parish of Salcedo canton, Cotopaxi province", concluded that reading comprehension is linked to metacognition strategies students can develop higher and better reading comprehension and reduce their difficulties when understanding a text.

Quintana Samantha in the year 2012 in her thesis work, for achieving the degree in Education from Universidad Casa Grande, entitled "The development of metacognitive learning strategies during an intensive English course for EFL teachers", concluded that metacognitive strategies helped learners to be more organized during reading process development as well as they were able to identify their own mistakes to set up a new goal for its improvement.

It can be concluded that by teaching metacognitive strategies students can learn more effectively by improving their understanding of the target language and to accomplish their goals in learning how to comprehend a text. Furthermore, teachers need to provide with multiple and repeated opportunities to practice the new strategies on a variety of learning tasks and activities. Furthermore, it is essential for teachers to incorporate effective reading strategies in their instruction to make reading more enjoyable and easier for their students especially when they are starting to learn a foreign language.

Finally, these study findings can help to this research by showing some useful issues about the benefits of using metacognitive strategies as an effective reading strategy for teaching a second language.

2.2 Philosophical Foundation

This research will be focused on the Critical-Positivism paradigm which will develop a quantitative and qualitative analysis rating description and interpretation

of the problem to obtain the truth and the hypothesis testing. Paradigm is a term frequently used in the social sciences, but one which can lead to confusion because it tends to have multiple meanings. The definition used here is that as paradigm is a way of examining social phenomena from which particular understandings of these phenomena and provide solutions to specific social issues.

In addition, the Critical-Positivism paradigm develops a descriptive proposal paradigm which is considered as a philosophical and theoretical framework solve to a researching problem in the field of social research (Aram & Salipante, 2003).

The Critical Proactive Paradigm is a transformative paradigm that focuses in the learners' holistic education by developing their knowledge, skills, values, active critical thinking and responsibility for their learning to become successful.

As the social constructivist perspective is considered to be an integrated perspective, Robson (2002) contends that it is appropriate to also use mixed methods and approaches. It might use qualitative methods in the form of case studies to create an in-depth, rich account (Yin, 2003, Scholz and Tietje, 2002; Rubin and Rubin, 1995) of how institutions implement their codes of conduct and what educators think about their effort.

2.3 Legal Basis

Higher Education is regulated by the following bodies in the Constitution of the Republic of Ecuador 2008 and CES (Higher Education Council).

The Organic Act of higher education academic regime regulations (CES) in its title I about the scope and objectives and in its article 2 the Objective, states that: This Act aims to define its principles, guarantee the right to quality higher education that promotes excellence, universal access, permanence, mobility and graduation without any discrimination, also in Article 30.- Learning a foreign language. - The subjects destined to the learnings of the foreign language may or may not be part of the curriculum of the career. However, the LOES will guarantee the level of

proficiency of the language to meet the graduation requirement of the technical,

higher technological or equivalent levels and third grade level, they must organize

or approve the corresponding subjects from the beginning of the career. The

sufficiency of the foreign language must be evaluated once the student has

completed and approved 60% of the subjects of the course; such proof will be

enabled for the continuation of their studies, without prejudice to the fact that this

requirement can be fulfilled previously.

For careers at the technical and higher technological levels, proficiency in the use

of a foreign language shall be the level corresponding to A2 of the Common

European Framework of Reference for Languages. For third level or degree

courses, proficiency in the use of a foreign language will be understood as the level

corresponding to Bl of the Common European Framework of Reference for

Languages. In order for regular students enrolled in undergraduate programs to

meet the requirement of proficiency in a foreign language, higher education

institutions, if they so require, may enter into agreements with institutions that,

although not part of the System of Higher Education, provide programs or language

courses, provided that they issue certificates of sufficiency with international

recognition.

Higher education institutions, in addition to their own teachers, may have teaching

technicians to carry out regular language courses, which serve students in the

purpose of learning a foreign language.

Key Categories 2.4

Independent Variable: Metacognitive strategies

Dependent Variable:

Reading skills

15

2.4.1 Fundamental Categories Network

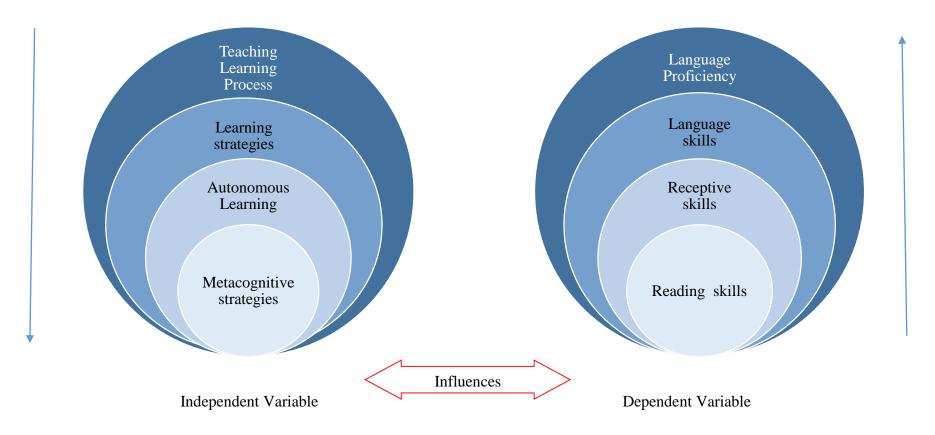


Figure Nº 2. Fundamental Categories.

Made by: Miryan Salazar

2.4.2 Independent Variable Differentiated Instruction Principles Definition Importance Cognitive Autonomous Factors and Learning levels Learning Metacognitive Metacognitive Strategies strategies Declarative knowledge Reading Graphic awareness organizers Types comprehension Procedural reading strategies Knowledge Teaching Learning Process Conditional Humanistic knowledge Integrative

Figure Nº 3. Graphics Independent.

Made by: Miryan Salazar

Task- based

Meaningbased

2.4.3 Dependent Variable Reading skills

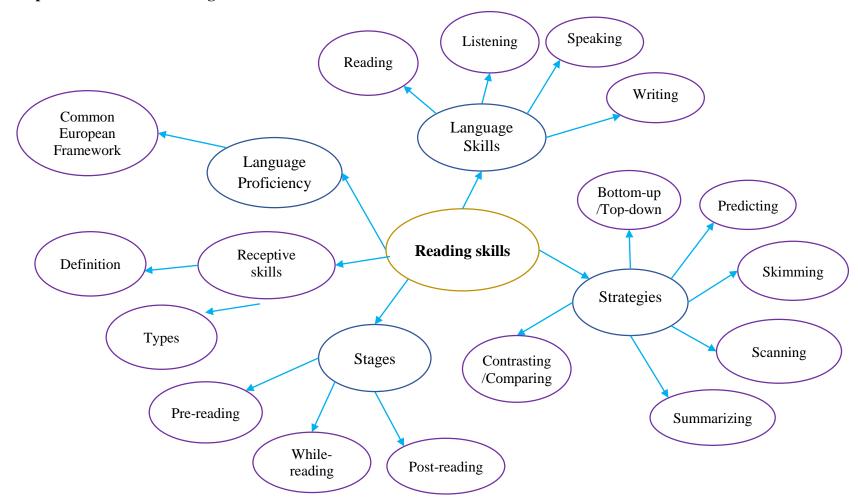


Figure Nº 4. Graphics Dependent.

Made by: Miryan Salazar

2.4.1 Independent Variable: Metacognitive Strategies

2.4.1.1 Teaching learning process

Teaching cannot be understood except in relation to learning; and this reality relates not only to the processes linked to teaching, but also to those linked to learning. The learning arising from the conjunction, the exchange of the performance of teacher and student in a specific context and with some means and strategies concrete constitutes the beginning of the research to be carried out. The constant reconsideration of what are the processes and strategies through which students come to learning (Zabalza, 2011).

There are three important elements in the process; the teacher, the student and the content. It considers that both teacher and the students are participants of the teaching learning process. The teacher characteristics are the content knowledge and the pedagogical knowledge while the student characteristics are preconceptions, cognition of information management and the psycho-emotional state of the students. It is communication that determines the effectiveness of the teaching learning process (Smith, 2011). This in turn is determined by the teaching approaches and the feedback between students and teachers.

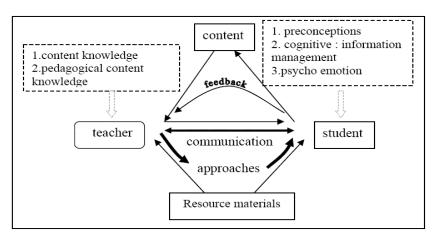


Figure Nº 5. Smith Model of a Teaching Best Practice. **Source:** Science teaching for enlightenment (Smith, 2011).

Methods and Approaches for teaching EFL

According to Hammer (2010) there have been lots of teaching methods and approaches through the history of teaching languages like Grammar-translation, Audio-lingualism, PPP, CLT, TBL, TPR. They have been tried and debated in order to see which methods or approaches help students to learn more effectively.

Current teaching practice is the result of combining some techniques and teaching materials which have had a significant impact in the teaching learning process over the years.

Approaches to EFL Reading

Cheol (2013) states in his study about the Developmental approaches to the teaching of EFL reading, there are some reading instruction key issues for learners' reading proficiency that teachers must consider in their instruction to help learners to become more effective readers. These approaches included:

Humanistic Approaches: This is a humanistic and learner-centered approach. In this approach learners are willing to being exposed and read interesting and meaningful materials. They have intrinsic motivation and positive attitudes towards reading in this context, reading acquisition occurs naturally as they are really motivated to learn.

Meaning-based approaches: In this approach, reading is meaning-focused, not form centered. Learners read for pleasure not for obligation so they are really motivated to choose what to read, at their own level and pace. Through reading they get more knowledge of the world and develop their critical thinking skills as well. In addition, they can expand their vocabulary.

Task-based approaches: One main principle of this approach is that learners are able to understand texts in meaningful situations in which they are asked to record important ideas and details to produce and comprehend instructions effectively.

Integrative approaches: Reading should be meaningful for learners in natural and meaningful settings. Teaching reading requires learners' exposure to interesting reading materials and the teacher should create a pleasant environment where learners can interact about their opinions and ideas about what they have read. In addition, learners have to be able to integrate reading with the other skills like writing and speaking in a more effective way.

2.4.1.2 Learning strategies

According to Valls (1993) and Gargallo (2000), and as we pointed out in the summary of this same communication, it should be considered that the strategies of learning are procedural contents that belong to the field of knowing to do. It could be said that they are the meta-abilities or skills of skills that humans use to learn any type of content from learning.

Learning strategies are characterized by their intentionality, this refers to a learner who is characterized as strategic, knows that the strategies are aimed at achieving an objective, either to receive information, to develop that information, to organize it or to evoke it at the time of requesting it to resolve a situation problem (Astudillo & Rivarosa, 2010).

Zare (2012) defines language learning strategies as the specific actions taken by the learner to make his learning process easier, faster, and more enjoyable and more effective. The ability to employ these strategies are the tactics we use to learn new things. Research has shown us that the difference between good learners and poor learners is their ability to employ these strategies in learning situations. The acquisition of learning strategies is particularly important for your ELL students, because they're likely to already have a lot of natural abilities in their own native language which they can draw from. The goal will be to have them improve these same abilities in English.

While ELL has multiple definitions, here we are referring to ELL students who are studying in an English-language school or institute and need additional support to

help them understand subject matter taught in English. Language strategies and learning styles are among the main factors to determine how and how well students learn a second language.

In this regard, language teachers need to train the students to apply the appropriate strategy for a specific purpose or a specific skill area and encourage them to use the strategies as frequently as possible. Students can learn to use language learning strategies to improve their language skills.

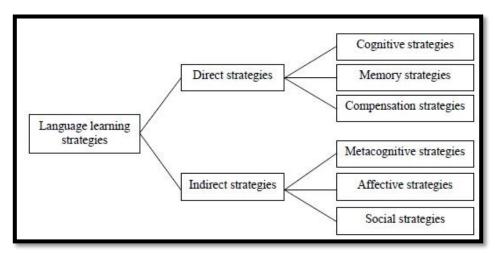


Figure Nº 6. Classification of language learning strategies. **Source:** Asia-Pacific Forum on Science Learning (Oxford, 1990).

Cognitive strategies

According to Ratna (2014) cognitive strategies are the ones that students use for performing a learning task and manipulating information to understand a text. There are a lot of cognitive strategies which include analyzing, contrasting, summarizing. The research shows that these strategies help teachers in the classroom instruction for successful learning.

Affective strategies

These strategies are related to the learners' social behavior and the interaction with others. The main social affective strategies include cooperation and question for clarification.

Social Strategies

According to Louisane (2013) these strategies help learners to work with others and understand their culture and language as well. These include the development of some language functions like: asking questions to get verification, asking for clarification, asking for help in doing a language task. Moreover, learning is a social activity and socializing their learning requires them to recognize the benefits of working with others and to be able to share and negotiate with other learners

2.4.1.3 Autonomous learning

According Moore (2018) to Autonomous learning is one important key element for teachers to be considered in their students' language learning process as it allows them to personalize and take control of their learning according to their needs, interests and learning styles. In the context of Higher Education effective autonomous learning his involves developing tolerance, empathy and understanding of other values and cultures; and to be able to explain, discuss and negotiate in an acceptable manner.

Autonomy at learning should be considered as one of the main keys of the formative success in Higher Education, as one of its main products. In this sense, it is considered that the level of training does not come from the amount of what a student is capable of compiling, but from the quality of what they process and the way they do it Rué (2009). This concept is based in the natural tendency for learners to take control over their learning.

According to Davood Asadinik (2016) autonomous learning is a key concept in ELT that emphasizes the assistance of students into taking control of their leaning by the development of their metacognitive learning strategies. These strategies are really important to help their progress and developing their learning more effectively.

Additionally, autonomy may be displayed in different ways and to different degrees depending on each learner and learning situation. Learners who lack autonomy are capable of developing it given appropriate conditions and preparation. Autonomous learning is more effective than non-autonomous learning.

Principles of Autonomous learning

As Davood as cited Zelina and Kosová (2000), in his study there are some principles to motivate students to be more autonomous in their learning:

To teach students according to their own choice.

To teach students to plan their own progression, divide their time and routines.

To teach students ways to motivate themselves.

To teach students how to relax.

Based on the above mentioned facts, an important characteristic of autonomous learning is that students are able to be responsible of developing their own learning, translates into a collective intellectual growth where the starting point is the student himself, who through his knowledge, formulas, concepts and ideas is taking interest in situations of daily life, being able to understand and explain them using their own words, thus leading to the transformation from spectator to actor facing and proposing new solutions to existing problems and that are to come.

Factors to be considered for autonomous learning

Davood Asadinik (2016) states in his research that there some factors that contribute to the students autnomous leaning like motivation, self confidence, interaction, collaboration and social factors elements that allow students to build possitive attitudes towards autonomous learning. In this context, teachers play an important role to foster learners in lauching them into autonomous learning leaning.

In connection with these ideas the success of implementing autonmous learning can be more beneficial if students are trainned in the use of metacognitive strategies to learn to learn more effectively without the guiadance of the teacher.

Table Nº 1. Levels of Autonomous Learning.

| Level | Learner action | Content | Process |
|-------|----------------|--|---|
| 1 | Awareness | Learners are made aware of pedagogical goals and content of the materials they are using | Learners identify strategy implications of pedagogical tasks and identify their own preferred styles/strategies |
| 2 | Involvement | Learners are involved in selecting their own goals from a range of alternatives | Learners make choices among a range of options |
| 3 | Intervention | Learners are involved in modifying and adapting the goals and content of the learning program | Learners modify and adapt tasks |
| 4 | Creation | Learners create their own goals and objectives | Learners create their own learning tasks |
| 5 | Transcendence | Learners go beyond the classroom and make links between the content of classroom learning and the world beyond the classroom | Learners become teachers and researchers |

Source: Approaches to learner autonomy in language learning (Nunán, 1996).

2.4.1.4 Metacognitive strategies

Metacognitive strategies are key factors to encourage autonomous learning because students take more responsibility on their learning process and as they know how to plan, evaluate their own progress.

Inclusive Schools Network (2014), define metacognitive strategies as the strategies used to support students' understanding and their way of learning which means to 'think' about their 'thinking'." Teachers who use metacognitive strategies can positively impact students to developing their reading comprehension by helping them to develop an appropriate plan for learning information, as students become aware of how they learn, they will use these processes to efficiently acquire new information, and consequently, become more independent thinkers.

Metacognitive strategies work on awareness of the learning process itself (how it is learned), and it is, together with planning and planning strategies, and study techniques, a fundamental aspect for the acquisition of meaningful learning and achieving autonomy and self-regulation of the learning process. Therefore, it is necessary to teach to learn.

It is a didactic method that aims, ultimately, for the student to self-regulate their physical and cognitive behavior to acquire a learning or solve a particular problem. It consists of teaching the students a guide or guideline of questions that can help them make the right decisions when facing a learning task, highlighting those elements, parameters, dilemmas and dilemmas of the task that are most relevant to their resolution.

Karbalaei in the year 2010 in his study showed significant differences in the metacognitive awareness use in the EFL and ESL Indian and Iranian college students while using reading academic materials. These findings revealed that Indian students are more interested in using top down strategies for better reading comprehension while Iranians used more focused on bottom up strategies.

Based on the study findings Tavakoli (2014) entitled metacognitive strategies for Iranian ELL leaners, it has useful implications for learners as the awareness and use of metacognitive strategies have positive implications on reading comprehension. In this regard, using appropriate reading strategies had a positive and strong correlation with reading comprehension achievements.

Mohammad Reza et al. (2013) study also corroborates that metacognitive reading strategy is one of the main important factor to facilitate reading comprehension in university and school learners. Readers who use metacognitive reading strategies in their reading comprehension are more successful than the ones that they don't use them.

Different kinds of metacognitive reading strategies

Mohammad Reza et al. (2013) state that there are three types of metacognitive reading strategies which are used by learners to regulate their cognition. There strategies include:

- a) Declarative knowledge: It refers to the individual knowledge of the learner which helps him to know how to do things in order to achieve his learning by using strategies that affect his performance.
- **b**) Procedural Knowledge: According to Veenman (2005) procedural knowledge refers to the knowing that the learner has to know how to do things by using some sequence strategies effectively.
- c) Conditional Knowledge: This knowledge improves students' performance, as a result learner selects the best strategies for each learning situation.

Based on the above findings mentioned some researchers claimed that skilled learners are able to use the three metacognitive strategies are more motivated readers because their learning and reading performance are better.

Metacognitive Reading strategy regulation skills

Metacognitive appeal to the knowledge of the subject of their own cognitive processes and thus fulfill a regulating function of learning; Cognitive strategies fulfill a function of processing of learning materials; the socio-affective, meanwhile, are constituted by the processes of interaction and affective control associated with learning. They depend on several language purposes as follows:

Planning Purposes

Anticipate the concept or organizing principles of a learning task (anticipated organization); proposing strategies to carry out a future task, it generates a plan for the stages, the sequence, the main ideas or the functions of the language that will be used in the accomplishment of a task.

Attention Purposes

This is to direct the attention to decide, in advance, to pay attention in general to a learning task and ignore irrelevant distractors; maintaining attention during the execution of the task. It requires the selective attention: decide, in advance, to pay attention to specific aspects of the linguistic input or to situational details that help in the realization of a homework; Pay attention to specific aspects of the linguistic input during the execution of the task.

Self-regulation Purposes

It demands self-administration which means to be aware of the conditions that help to carry out linguistic tasks successfully and ensure the presence of those conditions; control linguistic performance to maximize the use of what is already known. Besides, it reviews, verifies or corrects the understanding or action during the development of a task. This strategy has been coded in the following ways:

- Self-regulation of comprehension: revises, verifies or correct comprehension.
- Self-regulation of production: reviews, verifies or correct production.
- Auditory self-regulation: using "the ear" (how something sounds) to make decisions.

- Visual self-regulation: use "the eye" (how you see something) to make decisions.
- Self-regulation of style: revise, verify or correct on the basis of an internal register.
- Self-regulation of strategies: to monitor the effectiveness of the operation of a strategy.
- Self-regulation of the plan: monitors the effectiveness of a plan.
- Self-regulation of verification: follows-up, throughout the development of a task, of actions undertaken or possibilities previously considered (O'Malley & Chamot, 1990).

Self-assessment Purposes

The identification of problems helps to explicitly identify the central point that requires solution in a task or identify an aspect of it that hinders the successful conclusion. Demands self-evaluation and examining the results of a learner's linguistic performance in relation to an internal measure of perfection and accuracy; it judges the linguistic repertoire, the use of strategies or the ability to perform the task undertaken. This strategy has been codified in the reflection tasks aloud in the following terms:

- Self-evaluation of production: examines students' own work when the task is finished.
- Self-evaluation of the action: judges the general execution of the task itself.
- Self-assessment of the skill: judges one's ability to perform the task.

Self-evaluation of strategies: judges the own use of strategies when the task

has been completed.

Self-assessment of the linguistic repertoire: judge your own knowledge of L2 at the

word, phrase, sentence or concept levels. (O'Malley & Chamot, 1990).

Metacognitive reading comprehension strategies

According to Herrera, Kavimandan, and Holmes (2011) there are some

metacognitive strategies that support learners when they interact with the text and

they're also enable them to be critical information consumers. Moreover, these

strategies encourage readers to develop active reading which requires: predicting,

questioning, imagining, clarifying and summarizing.

These strategies include:

Active Bookmarks

Extension Wheel

Tri Fold

The U C ME strategy

Relevance Scale

The Heart Activity

It's all in the Box

Venn diagram

Topic in pictures and words

30

Another very useful metacognitive strategy according to Condidorio (2012) are graphic organizers—which are effective strategies for checking students' comprehension of a text. Moreover, Condidorio (2010)—states that graphic organizers support readers to process and retain information more effectively. Additionally, students pointed out in her study that graphic organizers was effective in recalling information on tests as on tests they have to retain longer information. Furthermore, graphic organizers assist readers to arrange information systematically and maximize some of the challenges when they go deeper into the text. In addition to helping students organize their thinking and writing process, graphic organizers can act as teaching tools. Teachers can use graphic organizers to illustrate the student's knowledge of a topic or section of key areas.

Graphic organizers

Research studies show that graphic organizers are a great metacognitive strategy for organizing key ideas and supporting details related to a text. Students are also able to become more proficient independent learners as they develop their comprehension and compare their understandings and learnings with other learners.

Polyxeni Manoli, Maria Papadopoulou (2012) findings provided further evidence that graphic organizers are an effective strategy for checking students' comprehension of a text. Moreover, Condidorio (2010) states that graphic organizers support readers to process and retain information more effectively. Additionally, students pointed out in her study that graphic organizers was effective in recalling information on tests as on tests they have to retain longer information. Furthermore, graphic organizers assist readers to arrange information systematically and maximize some of the challenges when they go deeper into the text. In addition to helping students organize their thinking and writing process, graphic organizers can act as teaching tools. Teachers can use graphic organizers to illustrate the student's knowledge of a topic or section of key areas.

Table Nº 2. Types of Graphic Organizers.

| TYPE | DESCRIPTION | |
|---|---|--|
| | DESCRIPTION | |
| Graphic Organizers that Show Relationships | | |
| Cause and Effect | Used to show the problem solving process. Identifies a problem and various solutions tried. | |
| Fishbone | Used to explore aspects of a complex idea. A visual way to see how details are related. Great for organizing writing into main topics with sub-points. | |
| Graphic Organizers that Categorize Information | | |
| Concept Maps | Used to develop concepts by linking information together using labeled cells/bubbles. | |
| Know Wonder Learn | Used to help students identify what they already know about a topic, what they want to learn, and then what they have learned once the study is complete. | |
| Mind Mapping | Used to organize and classify information, make decisions and solve problems using a non-linear format. | |
| Graphic Organizers that | | |
| Show Order, Sequence, or | | |
| Development | | |
| Chain | Used to show a chain of events, timeline, or cycle. | |
| Cycle | Used to show how items are related to each other in a continuous pattern, with no beginning or end. (ie: Lifecycle of a butterfly – egg, caterpillar, chrysalis, butterfly) | |
| Flow Chart | Used to visually display the sequence of a set of items. A variety of symbols can be incorporated to show such things as stopping points, decision points, and the direction of flow. | |
| Ladder | Used to order a series of events or items. | |
| Picture Web | Used to create a visual representation of a series of concepts or events. | |
| Story Board | Used to map out scenes of a story. | |
| Story Map | Used to help students identify the elements of a story. | |
| Graphic Organizers that | | |
| Compare and Contrast | | |
| Compare & Contrast | Used to compare the attributes of two or more items. | |
| T-Charts | Used to list two aspects of a topic (ie: pros and cons) | |
| Venn Diagrams | Used to identify the similarities and differences between two or three items. It is made up of 2 or 3 overlapping circles. | |

Source: Graphic organizers: Power tools for teaching students (Ellis & Howard, 2005).

Graphic Organizers Features

One of the main characteristics of the graphic organizers is that they allow the processing of information through images and a small text, where detailed and concise information is shown according to the subject matter.

- They have connectors that facilitate their interpretation.
- Keywords join with their connectors making the information accurate.
- The information is complemented with images according to the organizer that is being used.
- The information presented there does not leave unknowns in the reader (Páez, 2016).

However, for the classroom application of these graphic organizers to be really effective, it is necessary on one hand, to know the main characteristics of each of them and on the other, to be clear about the learning objectives that are desired. the students reach. For example, if you want them to locate, within a certain period of time, the events related to the discovery of America, so that they visualize and understand the temporal relationship between them, the ideal method or graphic organizer to use is a Line of time. On the contrary, if what is desired is for students to understand the relationship between the most important concepts related.

Therefore, within the cognitive system appear two subsystems differentiated by their capacity for perception and representation of images (non-verbal objects) and verbal representation from the logos. The visual subsystem encodes and processes information through forms and images, while the verbal subsystem encodes and processes information through logical ideas. The information allows to establish referential connections or of concepts between the verbal and non-verbal sources, as it is noticed in the graph. The theory of double coding has been taken from the field of multimedia design as a basis in the construction of contents that operate through dual stimuli, that is, transmitting, simultaneously, visual and verbal information.

Graphic Organizers should be simple, and clearly show the relationships between concepts or propositions. They go from the general to the specific, the more general or inclusive ideas, occupy the apex or upper part of the structure and the more

specific and the lower part examples. Even though many authors argue that these do not necessarily have to be symmetrical.

They should be colorful, the more visual the map is made, the amount of material that is memorized increases and the duration of that memorization increases, since perception is developed, benefiting with the visualization activity of students with attention problems.

The concepts, which are never repeated, go inside ovals and the words link are located near the lines of relationship Barraza and Barraza (2014). It is convenient to write the concepts with a capital letter and the words of lowercase link, which may be different from those used in the text, as long as the meaning of the proposal is maintained. For the words link it can be used verbs, prepositions, conjunctions, or another type of conceptual link, the words link give meaning to the map even for people who do not know much about the subject. If the main idea can be divided into two or more equal concepts these concepts must go in the same line or height.

Procedural Features

A graphic organizer is a brief way to represent information. Errors in the graphic organizers are generated if the relations between the concepts are incorrect. It is fundamental to consider that in the construction of the conceptual map, the important thing is the relationships that are established between the concepts through the words-link that allow to configure a truth value on the subject studied (Barraza & Villareal, 2012).

To develop graphic organizers, it is necessary to master the information and knowledge (concepts) with which you are going to work, which indicates that if you do not have prior knowledge of the subject to be exposed, we could not try to make a map on the subject, and to dare to do so, the following faults can be generated in its construction:

That it is an arbitrary, illogical graphic representation, product of chance and without a relevant structure. That they are only linear sequences of events, where the relation of the most general to the specific is not evident. That the relationships between concepts are confusing and prevent finding meaning and logical order to the conceptual map.

According to Bass (2011) the concepts are isolated, or what is the same thing that I do not know about the interrelation between them. The theory of cognitive load suggests that the load or capacity of the working memory has a maximum limit on the amount of information that can be processed. If that load is exceeded, learning does not occur. If the graphic organizers are used appropriately, the cognitive load can be reduced and consequently, allow more resources of the working memory to be dedicated to learning.

Didactic Features

The Theory of the schemes states that within the human memory there are schemas or networks of information. The use of Graphic Organizers can help students to link existing knowledge, organized in schemes, with new knowledge.

A scheme is an abstract structure of knowledge. This is intended to explain how the prior knowledge of people affects understanding. The schemes are constituted by concepts that provide slots to be filled with specific information (Bernhardt, 2010). There are specifications of the type of information that each slot can contain. In order to understand a message, it is necessary to activate or construct a scheme that takes good account of the objects and events described. Each segment of information can be placed in a slot without violating the specifications. All-important slots must contain information. When a text does not contain information for a slot it can be filled in by inference.

Schema Theory highlights the fact that more than one interpretation of a text is possible. The outline that will be formulated with respect to a text depends on the

age, sex, religion, nationality and occupation of the reader. Graphic organizers didactically allow:

- Facilitate the logical and structured organization of learning contents, since they are useful for selecting, extracting and separating significant or important information from superficial information.
- Interpret, understand and infer from the reading made.
- Integrate the information in a whole, establishing relations of subordination and interrelation.
- Develop ideas and concepts through interrelated learning, being able to specify if a concept is valid and important and if links are needed, which allows you to determine the need to investigate and deepen the content.
- Insert new concepts in the knowledge structure itself.
- Organize thinking.
- Express one's current knowledge about a topic.
- Organize the study material.
- When using images and colors, the fixation in memory is much greater, given the man's ability to remember images.

The above mentioned strategies encourage and facilitate students' reading comprehension of the text by developing different skills: finding main ideas, essential details, answering and answering questions and developing their arguments to report their understanding of the topics in pairs, small groups to the class. Furthermore, these metacognitive strategies help learners to take more responsibility in their learning as they understand the effort required to learn a language.

2.4.2 DEPENDENT Variable: Reading skills

2.4.2.1 Reading skills

Harestad (2010) defines reading "skills as valuable tools in teaching students how to become better readers to enhance their understanding. There are a number of different skills that help learners to become good readers. Suleiman (2012) defines Reading as an interactive process between the reader and the text in which the reader interacts dynamically to elicit some meaning.

According to Ediger (2014) reading skills involve the integration of multiple skills the use of lower order (or bottom up skills) which are related to understanding, word recognition, spelling and an awareness of grammar and sentence structure. Learners also require higher order (top down skills) which include the knowledge of using texts in society.

- Activating prior knowledge
- Answering questions and elaborative interrogations
- Constructing mental images
- Forming questions
- Scanning
- Skimming
- Summarization
- Text-structure awareness and story grammars
- Using graphic organizers

Teachers should be able to teach students how to develop and use these reading skills so learners can become better readers in a second language and enjoy reading as well.

In addition, they can develop other skills that help them to develop their critical thinking skills.

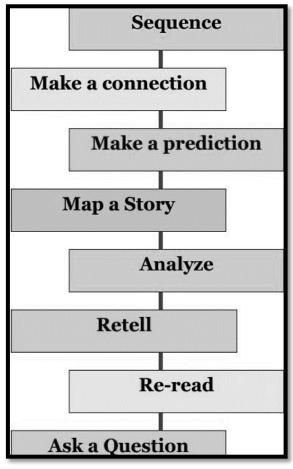


Figure Nº 7. Reading skills.

Source: CEFR.

Reading Strategies

It is a cognitive or behavioral action that is enacted under particular contextual conditions, with the goal of improving some aspect of comprehension (Graesser, 2007).

Researchers have come up with different definitions that look at the concept from different views. Ching and Lin (2015) defines reading strategies as conscious or unconscious actions, techniques, or behaviors that readers apply when they have problems with their comprehension and interpretation of a text.

ESL/EFL reading strategies have also been divided into several different types. Ching (2015) based on Goodman (1970) divided SL/FL reading strategies into two types of processing: bottom-up and top-down) proposed six SL/FL reading strategies: prediction or prior knowledge, using think-aloud strategies to monitor comprehension, using text structures, using visual models including graphic organizers and imagery, summarizing, and questioning and answering questions while reading.

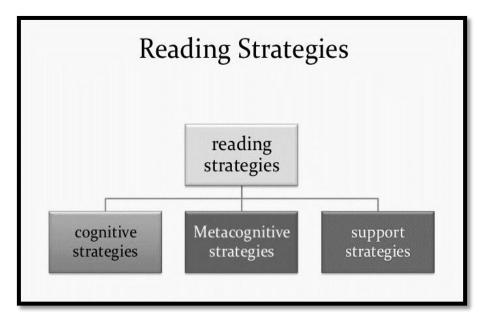


Figure Nº 8. Reading Strategies.

Source: The Reading Log. (Mokhtari & Sheory, 2002).

On a general level, metacognition includes awareness and control of planning, monitoring, repairing, revising, summarizing, and evaluating. Essentially, students learn strategies that support and how to carry out these strategies effectively.

In addition, it's recommended that EFL teachers use different metacognitive reading strategies to encourage readers to read more and understand better what

they read. The readings can be informative, reflective, entertainment or critical, to name a few examples; and the speed with which we read is determined by the type of reading and gender of what we read. Some strategies are used to help students to comprehend a text. These strategies include:

Predicting

Predicting is a strategy where readers use clues and evidence in the text to determine what might happen next (Strassner, 2015). This strategy can be used before, during, and after reading. According to Joyce Holt Jennings (2014) good readers use predicting as a way to connect their existing knowledge to new information from a text to get meaning from what they read by using pictures, titles, headings, text and personal experiences, learners are able to make predictions and educated guesses of what the text will be about. While reading, students can confirm or disconfirm and verify predictions. Additionally, making predictions while reading keeps students to be actively engaged in the reading process. Through engagement, comprehension can flourish. Finally, making predictions helps students stay motivated and focused on their reading, which in turn supports their reading comprehension.

Skimming

Skimming is used to search the main ideas of a text, reading the first and last paragraphs. This type of reading allows to speed up reading speed three or four times; but of course it is effective to read study materials but not other genres such as fiction. In skimming the idea is to identify the main concepts, data and key dates, so it is not necessary to read every word of the text. It can be read as we mentioned the first and last paragraphs of a text with the first sentence of each paragraph; which will give a general (not profound) idea of what the text is about (Cassany, 2008).

Gallego (1997) expressed that as a reader reads just to get a general idea of the text and read only a part, with the skimming method you reduce the global

understanding of it. So if the main idea has not been clear in the first sentences, you should read the rest of the paragraph; like the last paragraphs, which generally offer a conclusion and that is why it is useful to read them in their entirety. This method is very effective for the review of materials that has already been studied previously. The Skimming method is effective to understand the main ideas of a text, but not the same in its entirety.

Scanning

Scanning refers to a technique that is used in reading to obtain specific information in a text. The eyes of the readers move quickly through the text in search of phrases or keywords. It is mainly used for tasks that do not require the understanding of each word in the body of the copy, that is, they are exploration tasks. The analysis is very useful in the study when looking for specific data in a book or article. The best known form of scanning is experienced in the search for names in a phone book or in the search for words in a dictionary (Navarro, 2007). The key to the scanning process is to locate valuable and detailed information quickly. With the skills of scanning the eye a learner collects the details and fill in the gaps in the data. Important and repeated words are taken into account during text scanning. Learners must pay attention to the definitions, highlighted words, especially the words in italics or bold. Learn to detect dates and statistics and other types of numbers. Learners do not try to read every word. When studying, a learner who knows what is looking for, they should think about questions and look for answers (Gonzales, 2004).

Summarizing

According to Jones (2018) this strategy teaches students how to discern the most important ideas of a text by integrating central ideas in a meaningful way. The purpose of this strategy is to pull out the main ideas out of the passage and focus on the key details. This author also states that when summarizing learners find the key words and phrases to capture the main ideas and the crucial details necessary for

supporting them. This strategy is vital for learners because they will always use it throughout their education, as well as, in life.

Comparing and Contrasting

According to Mariam Jean Dreher (2018) EFL learners can benefit from comparecontrast texts by structuring them to understand this structure and support their comprehension of compare- contrast texts. This type of instruction can also support students to activate and extend students background knowledge make connections between new content and their own background knowledge and experiences.

With this strategy learners also identify vocabulary that will help them to recognize this structure when they encounter it in the texts that they read.

Ching (2015) based on Goodman (1970) divided SL/FL reading strategies into two types of processing strategies: bottom-up and top-down.

Top-down

Godman's (as cited in Brown D, 2001) defines top-down as the process in which learners draw their own intelligence and experience to understand a text and to decide what to retain and not to retain. These strategies involve drawing on one's own intelligence and experience to understand a text through a puzzle-solving process or inferring meaning.

Bottom-up

According to Huan Hung Jackson (2015) bottom-up strategies include recognizing a multiplicity of linguistic signals, such as letters, morphemes, syllables, words, phrases, grammatical cues, and discourse markers, and applying linguistic data-processing mechanisms to impose order on these signals. Furthermore, bottom-up strategies are strategies that reader s use to grasp specific linguistic components.

According to some reading specialists the best way to teach reading is through bottom –up methodology. However, more recent research on teaching reading has shown that interactive reading, which is the combination of top-down and bottom-down processing is the best methodology to teach reading because both process are important for learners as they continuously use different strategies to construct meaning

Reading Process Stages

Brown D. (2001) states the importance of using a series of techniques when teaching reading. During the reading process, the reader is actively involved with the text, in a dialogue in which various thinking and expression skills are activated. The action of the teacher is decisive in each of the stages: in pre-reading (before reading, activating the students' prior knowledge, updating their information, allowing them to define their objectives, during the reading phase, indicating the strategies that favor understanding, and, in the post-reading (at the end of the process), as a support to deepen understanding. There are three-part framework that teachers should keep in mind for teaching reading:

Reading Process Stages

The reading process proposed by the reform has absolute validity and coherence and the mediating action of the teacher in its development is basic and cannot be deduced to a mere control and final evaluation. During the reading process, the reader is actively involved with the text, in a dialogue in which various thinking and expression skills are activated. The action of the teacher is decisive in each of the stages: in pre-reading (before reading, activating the students' prior knowledge, updating their information, allowing them to define their objectives, during the reading phase, indicating the strategies that favor understanding, and, in the post-reading (at the end of the process), as a support to deepen understanding.

Pre-reading

In this stage teacher should present the topic, ask for skimming, scanning, predicting and activating schemata to see what students background knowledge is. This stage is very important to do because it gives students the opportunity to ease the passage. It is the stage that allows a learner to generate interest in the text they are going to read. It is time to review previous knowledge and prerequisites; the previous ones are acquired within the environment that the students bring, the prerequisites give us formal education such as: vocabulary, notions of their reality and use of language. In addition, it is an opportunity to motivate and generate curiosity.

The specific skills of pre-reading are developed through activities such as:

- Denotative and connotative reading of the images that accompany the text. The denotative invites to observe and describe the graphics such as they are seen and the connotative, to interpret them in a creative way.
- Activation of prior knowledge: ask what you know about the subject and how it relates to it.
- The formulation of predictions about content, based on provocative elements: title, year of publication, author, graphics, keywords, prologue, bibliography, etc.
- Determination of the purposes pursued by reading: recreation, practical application, location of information, critical evaluation.

While-reading

Brown D. (2001) mentions that or the second stage while students read the passage, teacher should give a purpose to read. Then students get engaged and try to understand and do effort to decode the message. It corresponds to the act of reading

proper, both in the mechanical aspects and understanding. The level of understanding that is achieved will depend to a large extent on the importance given to the skills of this stage. This is the time to put emphasis on the global visualization of words, phrases and sentences avoiding syllabic reading problems, as well as those of reading aloud. The activities are according to the type of reading.

Post-reading

The last stage is the most important of the three because students have the opportunity to share what they learned, understood about the passage. Then asking students to answer a list of questions should not be done in this stage. Brown (2001) suggests other examples of post reading such as vocabulary study, identify the author's purpose, examining grammar structure or doing a writing or speaking exercise. The post-reading phase lends itself to group work, so that students confront their own interpretations with those of their classmates and construct the meaning of the texts read from multiple perspectives.

The proposals for this stage must be varied and creative to favor the disposition of the students. The skills to be developed are listed on page 39 of the Curriculum Reform, we cite the most important ones:

- Summarize the information through graphic organizers such as: conceptual maps, synoptic tables, flow charts and double entry tables.
- Prepare scripts and dramatize.
- Assemble collages that show the content
- Propose judgments about characters and situations of reading and argue with arguments the assessment of a text.
- Check the predictions made during the pre-reading.

- Write reports about reading.
- Discuss in group.
- Consult additional sources.
- Verify hypotheses

2.4.2.2 Receptive skills

The real integration of the four skills receptive and productive is a key component in EFL instruction as it provides a communicative and interactive framework that make students to use the language effectively Brown (2001) In this regard, reading and listening are receptive skills since learners get new input, decode, understand the meaning later on, which is transformed to the output, that is what students learned and can use to communicate their ideas. In addition, receptive skills include understanding when learners listen and when they read, as they receive the language and decode the meaning to understand the message.

According to the British Council (2018) receptive skills are listening and reading, because learners do not need to produce language to do these, they receive and understand it. These skills are sometimes known as passive skills. They can be contrasted with the productive or active skills of speaking and writing to communicate effectively.

In the classroom the relationship between receptive and productive skills is a complex one, because each skill has a set of skills naturally supporting it. For example, building reading skills can contribute to the development of writing.

2.4.2.3 Language skills

Learning consists of acquiring a body of knowledge. Learning a language consists of learning the structural rules of the language and the vocabulary through such activities as memorization, reading and writing (GP, 1984).

Language is essentially a skill which aim is imparting information and fill the human mind with knowledge. Language is a complex skill involving four subskills listening, reading, speaking and writing (Husai, 2015).

Ellis (2014) draws a set of principles about the process of second learning acquisition, the relationships among instruction and language use. These principles address such issues as:

- The nature of second language competence as formulaic and rule based knowledge.
- The contributions of both focus on meaning and focus on form.
- The need to develop both implicit and explicit second language knowledge.
- The problems posed by learners built in syllabus.
- The roles of input, output and interaction in learning.
- The importance of catering to individual differences in learners.
- The need to assess language learning in terms of both free and controlled production.

Reading

Suleiman (2012) defines Reading as an "interactive" process between the reader and the text in which the reader interacts dynamically to elicit some meaning.

According to Mohammad (2013) reading comprehension is a complex process as a result leaners have difficulties in comprehending from a text.

Listening

Listening is an active process when the learners needs to ask for information. Active listeners use different skills and strategies to direct and manage their listening process according to their communication goals.

Productive Skills

According to Dilta Golkova (2014) Productive skills are used to transmit information that a language user produces in a written and spoken form. Additionally, these skills are also called active skills as they are used as a mean of transmission of information that a language user produces in both spoken and written form.

Writing:

It is a vital skill for speakers of a foreign language because it is used for a variety of purposes and its produced in many forms. Training students demands that teachers use effective strategies (Harmer, 2007).

Speaking:

It is one of the four skills. It is the mean which learners can interact with others using diffrent fuctions. Developing speaking skills is one of the main goals for teeacher and EFL learners Torky (2006) Speaking is a challenging ability that involves certain skills and several different types of knowledge. Speaking needs to be developed and practiced in order to be achieved in a foreign language. (Thornbury, 2005)

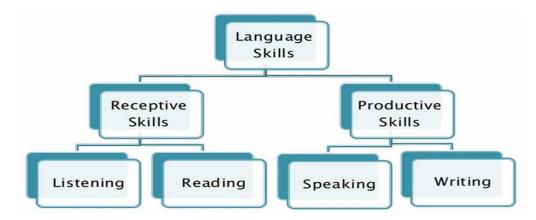


Figure Nº 9. Language skills.

Source: Research summary on Language. 2014

2.4.2.4 Language proficiency

Language learning is defined as the learners' language skills acquired which has taken place as a result of attending to and processing the input that are exposed to. (Arnal J, 1994).

According to Duff (2011) language proficency is defined as the ability of learners to use the language to make and communicate meaning in wrtten and spoken contexts Adiitonanly, is also defined as the learners' development skills needed to communicate effectively in academic and cultural communication settings. CEFR now is an impressive funtional approach to task-based teaching and assessment designed to for different language. Additionally, CEFR is a guide language teaching policies, planning and assessment in diffferent countries around the world.

The Common European Framework of Reference for Lnaguages encourages learners, teachers, and teacher educators to collect evidence of learners's proficiency and their competences and serve as a means of assessing students' abilities and progress.

Furthermore, CEFR also epecifies the expected learning outcomes in terms of the level students are expected to reach after specied types and amounts of hours of

years of instruction. For example,a basic A1-level learner according to CFER (2011) in reading skills can:

- recognize names, the most common words or expressions in simple situations of the everyday life: signs, handwritten indications doubled by icons, prices, schedules:
- spot and understand quantified data, proper nouns and other very simple information in a short text;
- identify globally (in their aspect, their typography, their localization) the function of certain common texts of the daily environment or the school environment;
- Understand texts constituted by one or two sentences, containing familiar words and expressions (postcard or instructions).

Table Nº 3. Language skills.

| 2. | | Can Do Statements: overall general ability | | | | | | |
|---------------|----------------|---|--|--|--|--|--|--|
| | CEFR LEVELS | Listening/Speaking | Reading | Writing | | | | |
| Advanced | C2 | CAN advise on or talk about complex or sensitive issues, understanding colloquial references and dealing confidently with hostile questions. | CAN understand documents, correspondence and reports, including the finer points of complex texts. | CAN write letters on any subject and full notes of meetings or seminars with good expression and accuracy. | | | | |
| | Cl | CAN contribute effectively to meetings and seminars within own area of work or keep up a casual conversation with a good degree of fluency, coping with abstract expressions. | CAN read quickly enough to cope with an academic course, to read the media for information or to understand non-standard correspondence. | professional correspondence, | | | | |
| Interm ediate | B2 | CAN follow or give a talk on a familiar topic or keep up a conversation on a fairly wide range of topics. | CAN scan texts for relevant information, and understand detailed instructions or advice. | CAN make notes while someone is talking or write a letter including non-standard requests. | | | | |
| | B1 | CAN express opinions on abstract/cultural matters in a limited way or offer advice within a known area, and understand instructions or public announcements. | CAN understand routine information and articles, and the general meaning of non-routine information within a familiar area. | notes on familiar or | | | | |
| Beginning | A2 | CAN express simple opinions or requirements in a familiar context. | | | | | | |
| | Al | CAN understand basic instructions or take part in a basic factual conversation on a predictable topic. | CAN understand basic notices, instructions or information. | CAN complete basic forms, and write notes including times, dates and places. | | | | |

Source: Common European Framework

2.5 Hypothesis

 H_0 = Metacognitive strategies do not have effects on reading skills development.

 H_1 = Metacognitive strategies have effects on reading skills development.

2.6 Signaling hypothesis variables

2.6.1 Independent variable

X = Metacognitive strategies.

2.6.2 Dependent variable

Y = Reading skills.

CHAPTER III

METHODOLOGY

3.1 Basic Method of Research

To work on this research the researcher focused in the Paradigm of Critical Positivism which looks for a problem in an ongoing process and proposes a solution critically. Additionally, this research focused on both quantitative and qualitative approaches that the researcher utilized in this study to collect information in order to generate good understanding and interpretation of the collected data.

Being aware of some key factors that are directed associated with quantitative and qualitative approaches used in this study was remarkable for the researcher. The quantitative approach helped the researcher to get numerical data from the experimental group through application of pre-test and post-test. (See Annex No.1) Another important factor that support this research was the data gotten from the Centro de Evaluaciones at the Languages Center of the final exams' results in reading skills which showed that students at Level A1 got 6,8 during the semester March-September 2017.

In contrast, the qualitative was very useful to get in depth data of the studied phenomena through human behavior and experience. In this regard, the researcher experience was another important factor that supported this study as the researcher has been teaching English to university students for more than twenty years and she has evidenced that her students struggled in reading comprehension and had a low reading performance.

Additionally, the results gotten from the application of a questionnaire to the teachers of A1 level at the Languages Center at the Technical University of Ambato used to gather data concerning to the effects of metacognitive strategies on reading skills also corroborated the results obtained in the pre- and post- test. In addition, these findings suggested the need that teachers to be trained of how to instruct learners with different metacognitive strategies to improve their reading comprehension to become better readers. (See Annex No.2).

The findings of this research showed reliability and validity data analysis and statistical numbers which helped the researcher to determine to what extend the variables were related, proved the hypothesis, drew conclusions and stated recommendations which encourage teachers to make future research about the second language reading in particular the use of metacognitive strategies.

3.1.1 Correlational

This research is correlational because it identified the relationship between the two variables: metacognitive strategies and reading skills. The Student t-test was used to verify the hypothesis of the relationship of the variables. This kind of studies are common in research, especially in situations where there is little information. Exploratory studies are rarely an end in themselves. They usually determine trends, identify areas, environments, contexts and situations of study, potential relationships between variables; or establish the "tone" of more elaborate and rigorous later research. These inquiries are characterized by being more flexible in their method compared to descriptive, correlational or explanatory, and are broader and more dispersed (Hernández Sampieri, Fernández, & Baptista, 2014).

3.2 Research design

3.2.1 Quasi-experimental research

This research is quasi-experimental because the researcher tried to explain the effects of one variable on the other. This study consisted of two sampling groups.

According to Londoño (1995) the designs that lack an absolute experimental control of all the relevant variables due to the lack of randomization either in the random selection of the subjects or in the assignment of the same to the experimental and control groups, which always include a pre-test to compare the equivalence between the groups, and that do not necessarily have two groups (experimental and control), are known as quasi-experiments (Mazuera & Hernández, 1998).

The quasi-experimental method was particularly useful for this research. This study consisted of two sampling groups. One sample group that served as a control group and another which was used to tested as an experimental group.

Intervention process

This study established a preliminary measurement to an intervention and another later. In order to show the reliability of the present study a validated pre-test was given to the experimental group at the beginning of the intervention process. Thirty five students from the A1 level from the Regular Program from 9:00 to 11:00 at the Languages Center participated in this study. (See Annex No. 1) The test was designed to assess students' reading ability by using different metacognitive reading strategies and templates taken from (Herrera, Kavimandan, & Holmes, 2011) book. The pre-test was validated by two teachers from the ESPOCH according to a rubric which include questions reading comprehension, content of the reading passage, length of the passages. These items were analyzed to determine the quality of the test. (See Annex No. 3)

During the intervention nine metacognitive reading strategies were implemented in the classes for 9 weeks. Students in two hours classes were trained how to use a different metacognitive strategy to improve their reading comprehension and how to react to a text by interacting in pairs or small groups. The researcher planned the reading classes with different activities and materials to be used during the three reading stages. Students were engaged in the activities and the researcher could see their progress in reading. (See Annex No.5)

These strategies taken from (Herrera, Kavimandan & Holmes, 2011) were implemented during the intervention process.

| - | Week 1 | Activate B | lookmarks | Predicting/sum | marizino |
|---|---------|--------------|------------|-------------------|----------|
| | WCCK 1. | 1 Icu vate D | OOKIIIaiks | i realethig/sulli | manzing |

Week2: Extension Wheel Scanning/skimming

Week3: Tri-Fold
 Identifying main ideas/summarizing

• Week 4: The U-C-ME Identifying main ideas/summarizing

Week 5: Relevance Scale
 Identifying main ideas/key details

Week6: The Heart Activity Answering questions

Week7: It's all in the box
 Identifying main ideas/summarizing

Week 8: Venn Diagram
 Comparing/contrasting information

Week9: Topic in pictures and words Synthesizing/Summarizing

After 9 weeks of intervention a validated post-test was administrated to the students of the experimental group. (See Annexes 1) This type of research allowed the researcher to gather information in a more reliable process In addition, the researcher could compare the behavior of the phenomenon in two different groups and identify the causes and effects of the two groups during the intervention.

3.3 Population y sample

3.3.1 Population

The population of this research were 105 students and 12 teachers of the A1 level at Languages Center at Universidad Técnica de Ambato.

Table Nº 4. Population of A1 English level students.

| Population | Frequency | Percentage |
|------------|-----------|------------|
| Students. | 105 | 89.74 % |
| Teachers. | 12 | 10.26 % |
| Total | 117 | 100 % |

Source: Secretary at the Languages Center, Universidad Técnica de Ambato

Made by: Miryan Salazar (2018).

3.3.2 Sample

The researcher worked with an experimental group of 35 students of A1 level at the Languages Center in Universidad Técnica de Ambato. It was implemented different metacognitive strategies for nine weeks. The post-test was applied by the researcher.

Table Nº 5. Sample of A1 English level students.

| Population | Number |
|--------------------|--------|
| Control group | 37 |
| Experimental group | 35 |
| TOTAL | 72 |

Source: Languages Center, Universidad Técnica de Ambato

Author: Miryan Salazar. (2017).

3.4 Operationalization of variables

3.4.1 Independent variable: Metacognitive Strategies.

Table Nº 6. Operationalization of the independent variable.

| Conceptualization | Dimension | Indicators | Items | Techniques | Instruments |
|--|-------------|---|---|------------|--------------------------|
| Metacognitive Strategies Learning strategies | Features | Planning Attention Self-regulation | Do you consider metacognitive strategies at the moment of planning your reading lessons? Do you believe that students' attention is demanded during the using of metacognitive strategies? | Survey | Structured questionnaire |
| featured by autonomy during learning processes, it has some linguistic, didactic elements which can be developed | Elements | Self-assessment Linguistic Procedural Didactic | 3. Do you think students can regulate themselves through the use of metacognitive strategies? 4. Are students able to assess their own learning during the use of metacognitive strategies? 5. Do you apply metacognitive strategies in a varied group formation style during | | questromane |
| individually, in group or as a whole class. | Development | Individual Group Whole-class | reading instruction? | | |

Made by: Miryan Salazar

3.4.2 Dependent variable: Reading skills.

Table Nº 7. Operationalization of the dependent variable.

| Conceptualization | Dimension | Indicators | Items | Techniques | Instruments | | | | | |
|--|-------------|--|---|--|--|--|-------------------------------|-------------------------------|---|--|
| | | Predicting/Summarizing | 6. Which reading strategies can be | | | | | | | |
| | | Scanning/skimming | applied regularly during your lessons?7. Is it possible to cover all the reading | Pre-test & | Structured questionnaire | | | | | |
| Reading Skills | Strategies | Top-down | process stages during a lessons? 8. Which of the following metacognitive | Post-test | questionnaire | | | | | |
| Language ability that | | Bottom-up Synthesizing and Summarizing | Activating previous knowledge | skills do you use before reading? • Activating previous knowledge | skills do you use before reading? • Activating previous knowledge | skills do you use before reading? • Activating previous knowledge | Activating previous knowledge | Activating previous knowledge | , | |
| can be developed through the use of | | Pre-reading | Guessing | | | | | | | |
| specific strategies within a determined | Stages | While-reading | 9. Which of the following metacognitive skills do you use during reading? Scanning Skimming Answering comprehension questions 10. Which of the following metacognitive skills do you use after reading? Summarizing information Using graphic organizers Drawing | | | | | | | |
| process and stages which are used to | | Post-reading | | | | | | | | |
| improve students reading skills performance. | Performance | Reading comprehension | | | | | | | | |

Made by: Miryan Salazar

3.5 Data Collection Plan

To collect data and how the techniques and instruments will be used according to the questions below:

Table Nº 8. Data collection plan.

| Questions | Explanation |
|------------------------------------|---|
| 1 Why? | To get the research objectives. |
| 2 Who will be researched? | Students and teachers at Language Center at Universidad Técnica de Ambato. |
| 3 What is about? | Metacognitve strategies on Reading skills for starter students at the Languages Center at Universidad Técnica de Ambato. |
| 4 Who? | Miryan Salazar . Researcher |
| 5 Where? | Languages Center -Universidad Técnica de Ambato. |
| 6 How many times? | Once |
| 7 What data collection techniques? | Pre-Test and Post-Test |
| 8What research instruments with? | Structured questionnaire |
| 9 What situation in? | In a collaborative environment of authorities, teachers and students of A1 English level at Languages Center - Universidad Técnica de Ambato |

Made by: Miryan Salazar

3.6 Information processing and analysis

According to Patton and Cochran (2012) triangulation is a valid method to go through the seeking evidence from a wide range of findings and different resources. Some of the most common methods of data collection are the questionnaire, the survey and the observation. These methods will be used in this research to gather reliable data:

In this research he following steps were taken to gather reliable data and analyze it:

Critical revision of the data collection: The information was reliable and valid through multiple resources of information.

- A research process was formulated
- A critical collection of the data
- Tabulation or charts according to each variable: The data collected was presented with statistics charts.
- Analysis and interpretation results plan
- Analysis of Statistical results.
- Statistical analyses were used to determine the relationship between the objectives and the hypothesis.
- Interpretation of results.
- Hypotheses verification
- Determining of conclusions and recommendations.

CHAPTER IV

ANALYSIS AND INTERPRETATION

4.1 Analysis of results and data interpretation

4.1.1 The pre- test and post- test results

Two groups participated in this research. The first group was the experimental with 35 students and the second group with 37 students was the control group. These two groups were taken from the first A1 level of English in the Regular Program at the Languages Center. Both groups were given the same Pre-test to assess their reading skills.

A comparative analysis was done with the results gotten from the pre-test and posttest from both from the experimental and control groups. The data collected during the intervention process is presented in this chapter taking into account reading skills as the dependent variable which was intended to assess in terms of the use of metacognitive reading comprehension strategies. The most significant numbers are analyzed. Those numbers were collected through the Pre-test and the Post-test. The main indicators to be presented are:

The data collected during the intervention process is presented in this chapter taking into account reading skills as the dependent variable which was intended to assess in terms of the use of metacognitive reading comprehension strategies. The most significant numbers are analyzed. Those numbers were collected through the Pretest and the Post-test. The main indicators to be presented are:

- Indicator 1: Predicting/Summarizing Effectiveness
- Indicator 2: Scanning /skimming Strategies Effectiveness
- Indicator 3: Top-down Strategies Effectiveness
- Indicator 4: Bottom-up Strategies Effectiveness
- Indicator 5: Pre-reading Strategies Effectiveness
- Indicator 6: While-reading Strategies Effectiveness
- Indicator 7: Post-reading Strategies Effectiveness
- Indicator 8: comparing/contrasting Effectiveness
- Indicator 9: Analysis and Synthesis Effectiveness
- Indicator 10: Comprehensive Strategies Effectiveness.

4.1.2 Data Interpretation

Table Nº 9. Comparison of pre-test and post-test Predicting and Summarizing Effectiveness.

| Pre-test | Control | 3.4 |
|-----------|--------------|-----|
| | Experimental | 3.8 |
| Dogt togt | Control | 3.8 |
| Post-test | Experimental | 6.6 |

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

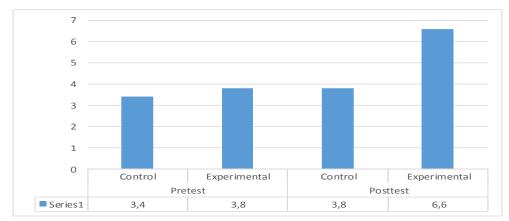


Figure Nº 10. Predicting and Summarizing Effectiveness.

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

As it is shown in the table and graphic above, the control and experimental groups got 3.4 and 3.8 each in the pre-test, and 3.8 the control and 6.6 the experimental group. The percentage of improvement in the control group was 4% while the experimental group reached a 28% of improvement. Being the difference between the control and experimental groups after the intervention process a meaningful percentage in the post-test. These results showed a beneficial effect of skimming strategies on the reading skills of the participants. The positive influence is corroborated by the statistical analysis of the pre and post-test. In addition, a better understanding of the skimming strategy allows learners to look for specific details in the texts which help them to understand the text better and summarize information in a more effective way by using their metacognitive strategies.

Table Nº 10. Comparison of pre-test and post-test Scanning/Skimming Effectiveness.

| Due toot | Control | 4.3 |
|-----------|--------------|-----|
| Pre-test | Experimental | 4.3 |
| Dood toot | Control | 4.1 |
| Post-test | Experimental | 8.1 |

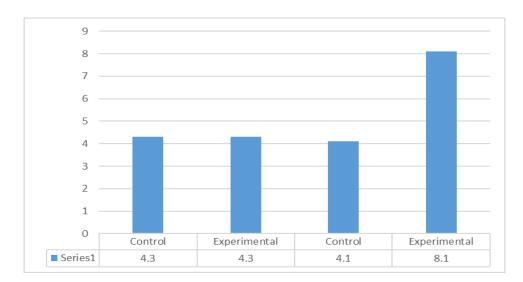


Figure Nº 11. Scanning/Skimming Strategies Effectiveness.

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

The results shown in the table and graphic above, that the control and experimental groups got 4.3 both in the pre-test, and 4.1 the control and 8.1 the experimental group. The percentage of difference in the control group was -3% while the experimental group reached a 38% of improvement. Being the difference between the control and experimental groups after the intervention process a meaningful percentage of 40% in the post-test. As it can be noticed, Figure 13 illustrates the beneficial effect of scamming and skimming strategies on the development of reading skills of the participants of this study. Moreover, these results reveal that students are able to get important details and ideas related to the text to fully comprehend what are they reading with help to support their understanding.

Table Nº 11. Comparison of pre-test and post-test top-down Effectiveness.

| Dwa to at | Control | 4.2 |
|------------|--------------|-----|
| Pre-test | Experimental | 4.1 |
| Post-test | Control | 5.2 |
| 1 Ost-test | Experimental | 7.9 |

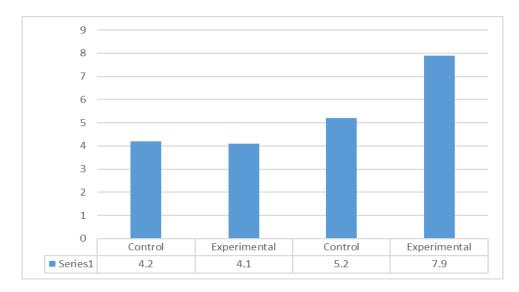


Figure Nº 12. Top-down Strategies Effectiveness.

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

As it can be noticed, the data obtained show that during the Pre-Test the control group reached a score of 4.2 on the indicator related to the Top-down strategy and during the Post-Test it was 5.2; In the same way, the experimental group achieved a score of 4.1 in Pre-Test and 7.9 in the Post-Test. These findings reveal the effectiveness of Top-down Strategies when students were exposed to look for evidence behind the information they find in a text. These strategies also support students to infer meaning with the use of graphic organizers. By encouraging students to read with these strategies, students become more efficient consumers as it can be seen in these research results.

Table Nº 12. Comparison of pre-test and post- test Bottom-up Effectiveness.

| Pre-test | Control | 4.8 |
|------------|--------------|-----|
| The test | Experimental | 4.5 |
| Post-test | Control | 5.1 |
| 1 ost test | Experimental | 8.3 |

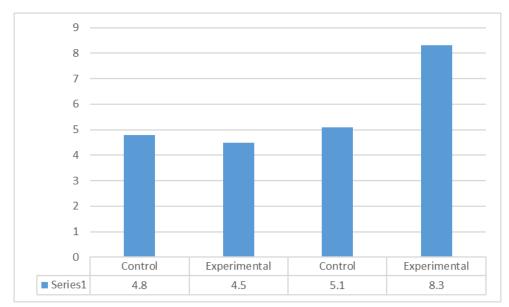


Figure Nº 13. Bottom-up Strategies Effectiveness.

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

From the data obtained, it is shown that during the Pre-Test the control group reached a score of 4.8 in the indicator related to Top-down reading strategy and during the Post-Test it was 5.1; In the same way, the experimental group achieved a score of 4.5 in Pre-Test and 8.3 in the Post-Test The results reveal that the majority of participants in the experimental group their reading comprehension displays improvement in terms of using some bottom up strategies to make their reading more meaningful.

Table Nº 13. Comparison of pre-test and post-test Pre-reading Stage Development.

| _ | 1 1 | 1 |
|--------------|--------------|-----|
| Pre-test | Control | 4.6 |
| | Experimental | 4.7 |
| Post-test | Control | 4.6 |
| | Experimental | 8.9 |

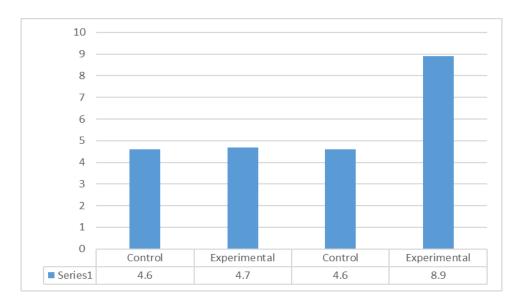


Figure Nº 14. Pre-reading Stage Development.

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

From the data obtained, it is shown that during the Pre-Test the control group reached a score of 4.6 in the indicator related to Pre-reading strategy and during the Post-Test it was 4.6 too; In the same way, the experimental group achieved a score of 4.7 in Pre-Test but 8.9 in the Post-Test. These results indicate that, for the participants of the study the implementation of metacognitive strategies improve their reading skills by using some strategies like predicting during the pre-reading stage. In addition, they were able to make connections to their background knowledge and predictions to the topic in a more effective way to confirm or disconfirm them with the topic text.

Table Nº 14. Comparison of pre-test and post-test While-reading Stage

Development.

| Due test | Control | 5.1 |
|------------|--------------|-----|
| Pre-test | Experimental | 5.1 |
| Post-test | Control | 5.5 |
| 1 Ost-test | Experimental | 8.8 |

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

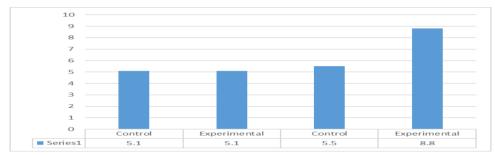


Figure Nº 15. While-reading Stage Development.

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

Here, it can be observed that during the Pre-Test the control group reached a score of 5.1 in the indicator related to While-reading strategy and during the Post-Test it was 5.5. In the same way, the experimental group achieved a score of 5.1 in Pre-Test, and 8.8 in the Post-Test. The reposes of this question indicate that for the participants of the study during the while reading stage they were able to use a variety of metacognitive strategies which encourage them to look for the most relevant details that are needed to understand a text. Furthermore, the most strength while reading a text is to record ideas to support and organize their thoughts related to their reading comprehension of the text. Additionally, the results reveal a positive attitude towards the use of different metacognitive strategies of the participants as they were highly engaged into the different topics with the information gained in the topic with different visual graphic organizers that provide them with the framework for the categorization of information and work collaboratively by sharing their own understandings, learnings and personal connections by sharing with pairs and in small groups.

Table Nº 15. Comparison of pre-test and post-test Post-reading Stage

Development.

| Dog As at | Control | 3.8 |
|-------------|--------------|-----|
| Pre-test | Experimental | 3.9 |
| Do at to at | Control | 4.4 |
| Post-test | Experimental | 7.5 |

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

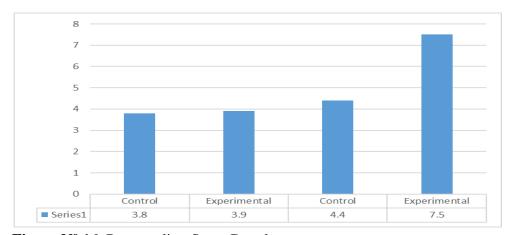


Figure N^o 16. Post-reading Stage Development.

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

Here, it can be observed that during the Pre-Test the control group reached a score of 3.8 in the indicator related to Post-reading strategy and during the Post-Test it was 4.4; In the same way, the experimental group achieved a score of 3.9 in Pre-Test, and 7.5 in the Post-Test. The participants' responses demonstrate the value of metacognitive strategies in the after reading stage. This positive effect of metacognitive strategies in reading comprehension includes the development of some strategies like summarizing, students have a chance to reflect on their own understanding and extend their knowledge of the topic beyond the classroom and work collaboratively by sharing their own understandings, learnings and personal connections by sharing with pairs and in small groups using the notetaking in the different visual organizers templates.

Table Nº 16. Comparison of pre-test and post-test Comparing and contrasting effectiveness.

| Pre-test | Control | 4.2 | | |
|------------|--------------|-----|--|--|
| 1 ic-test | Experimental | 4.6 | | |
| Post-test | Control | 4.6 | | |
| T out test | Experimental | 7.7 | | |

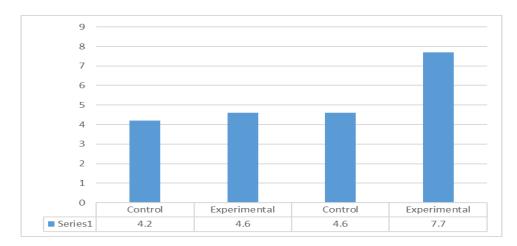


Figure Nº 17. Comparing and contrasting effectiveness

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

Here, it can be observed that during the Pre-Test the control group reached a score of 4.2 in the indicator related to comparing and contrasting information and during the Post-Test it was 4.6; In the same way, the experimental group achieved a score of 4.6 in Pre-Test, and 7.7 in the Post-Test. The findings reveal that for the participants the use of comparing and contrasting information strategy was beneficial as they are able to demonstrate their understanding of the content by extracting essential details and skills related to the topic in order to compare and contrast information by using associated vocabulary. Additionally, students are able to evaluate their understanding of the text as they show understanding of the topic in their visual organizer template.

Table Nº 17. Comparison of pre-test and post-test Synthesizing and Summarizing effectiveness.

| Pre-test | Control | 5.3 | | |
|------------|--------------|-----|--|--|
| Fie-lest | Experimental | 5.8 | | |
| Post-test | Control | 5.8 | | |
| 1 051-1651 | Experimental | 8.1 | | |

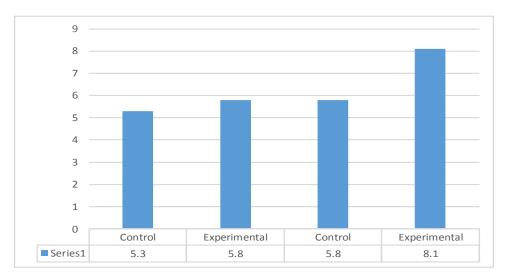


Figure Nº 18. Analysis and synthesis effectiveness.

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

Here, it can be observed that during the Pre-Test the control group reached a score of 5.3 in the indicator related to Extensive Reading and during the Post-Test it was 5.8; In the same way, the experimental group achieved a score of 5.8 in Pre-Test, and 8.1 in the Post-Test. The results indicate that, for the participants of the study the metacognitive strategies are great tools because they allow them to synthesis and summarize by taking notes in a nontraditional way by using different visual organizers. Additionally, participants can develop their critical thinking by the integration of ideas and information in a more effective way which encourage them to become better readers and take more responsibility in their learning.

Table Nº 18. Comparison of pre-test and post-test Comprehensive Reading Performance effectiveness.

| Dra tast | Control | 3.4 |
|-----------|--------------|-----|
| Pre-test | Experimental | 4.2 |
| Post_test | Control | 3.6 |
| Post-test | Experimental | 7.5 |

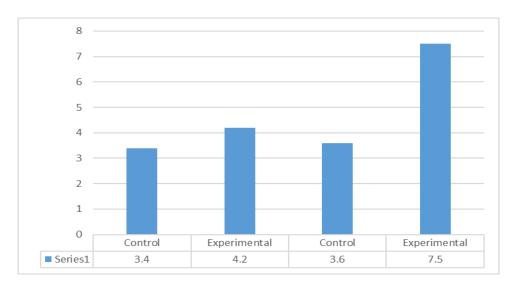


Figure Nº 19. Comprehensive Reading Performance effectiveness

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

As it can be seen, the data obtained shows that during the Pre-Test the control group reached a score of 3.4 in the indicator related to Comprehensive Reading performance and during the Post-Test it was 3.6; In the same way, the experimental group achieved a score of 4.2 in Pre-Test and 7.5 in the Post-Test. These findings reveal that participants' comprehensive reading performance has improved to the implementation use of a variety of metacognitive strategies which help them to perform an active reading by showing a high comprehension of the text by doing different activities related to the text.

Table Nº 19. Reading Skills Overall Performance.

| | | Predicitin | | _ | Bottom-up | Pre | Whil | Pos | Compari | Analysi | Comprehensi |
|--------|---------------|------------|-----|------|-----------|-----|------|-----|---------|---------|-------------|
| | | g | g | Down | | | e | t | ng | S | ve |
| Pretes | Control | 3,4 | 4,3 | 4,2 | 4,8 | 4,6 | 5,1 | 3,8 | 4,2 | 5,3 | 3,4 |
| t | Experiment al | 3,8 | 4,3 | 4,1 | 4,5 | 4,7 | 5,1 | 3,9 | 4,6 | 5,8 | 4,2 |
| Postte | Control | 3,8 | 4,1 | 5,2 | 5,1 | 4,6 | 5,5 | 4,4 | 4,6 | 5,8 | 3,6 |
| st | Experiment al | 6,6 | 8,1 | 7,9 | 8,3 | 8,9 | 8,8 | 7,5 | 7,7 | 8,1 | 7,5 |

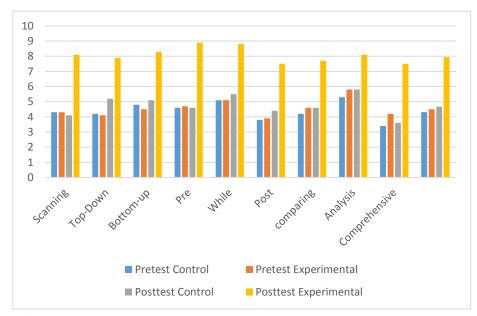


Figure Nº 20. Reading Skills Overall Performance.

Source: Pre-test & Post-Test. **Elaborated by:** Miryan Salazar.

Results Analysis

The total data obtained show that during the Pre-Test the control group reached an average score of 4.31 corresponding to 43.30% and the experimental group an average score of 4.67 equivalent to 46.70%; thus, it is determined that the conditions of the Reading Skills of the two groups at the beginning of the intervention positioned them under similar conditions, making a difference of only 3.6%; during the Post-Test, the average score of the control group was 4.5 proportional to 45%; In the same way, the experimental group achieved an average score of 7.94 in the Post-Test, that is, 79.40%, establishing a significant difference

of 34.40%. These result reveal that metacognitive strategies have important effects

to foster reading comprehension. Furthermore, the participants also revealed that

they were able to improve their understandings and learnings of a text by recording

the most essential details in different visual organizers templates and they

demonstrate their confidence abilities to take control of their learning process and

create opportunities to encourage authentic communication among students in pair

or small groups.

4.2 Hypothesis verification

4.2.1 **Hypothesis** approach

Null Hypothesis Ho: Metacognitive strategies do not have effects on reading skills

development of A1 level students at Languages Center at Universidad Técnica de

Ambato.

Alternative Hypothesis H₁: Metacognitive strategies have effects on reading skills

development of A1 level students at the Languages Center atUniversidad Técnica

de Ambato.

4.2.2 Variables

Independent variable: Metacognitive strategies.

Dependent variable: Reading skills.

4.2.3 Mathematical model

Statistical test observed for one sided (one tailed):

H₀: $\mu_1 = \mu_2$

H₁: $\mu_1 > \mu_2$

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Where:

 μ_1 = population average in the pre-test for experimental group.

 μ_2 = population average in the post-test for experimental group.

The formula is the next:

$$t = \frac{\bar{x}_d}{\frac{S_d}{\sqrt{n}}}$$

Where:

t =Student t-test from the data.

 \bar{x}_{d} = Differences average in the sample.

n = Pre-test and post-test data number (35 data).

 S_d = Standard deviation of the differences.

4.2.4 Specification of the regions of acceptance and rejection

The distribution under the null hypothesis of the variable t is a Student t-test with (n-1) degrees of freedom.

4.2.5 Decision making

If the 'p' value or level of bilateral significance (α) is smaller than or equal to a (0,05), the null hypothesis (H₀) will be rejected and the alternative hypothesis (H₁) will be accepted. It is the same as if the Student t value is on the null hypothesis rejected area in the Student t-test distribution the alternative hypothesis (H₁) will be accepted.

4.2.6 Selection of the level of significance

To verify the hypothesis, the following level of significance was used: $\alpha = 0.05$.

4.2.7 Degrees of freedom

The formula to determine the degrees of freedom is the next:

$$df = n - 1$$

Where:

n = average of first and second measurement (35 data). df = degrees of freedom

$$df = 35 - 1$$
$$df = 34$$

According to the selected level of significance ($\alpha = 0.05$) and the degrees of freedom (df = 34), Student t is 1.6909 (see Annex 4).

4.2.8 Data collection and calculation of statistics

The results the pre-test and post-test from both the experimental and control groups were compared and analyzed. They are presented in the tables below:

Table Nº 20. Data collection experimental group.

| | Experimental group | | | | | | | | | |
|-----|--------------------|---------------|-------------|--|--|--|--|--|--|--|
| No. | Pre-test / 10 | Post-test /10 | Differences | | | | | | | |
| 1 | 4.4 | 10.0 | 5.6 | | | | | | | |
| 2 | 6.4 | 9.0 | 2.6 | | | | | | | |
| 3 | 5.8 | 7.5 | 1.7 | | | | | | | |
| 4 | 5.2 | 7.8 | 2.6 | | | | | | | |
| 5 | 6.0 | 8.9 | 2.9 | | | | | | | |
| 6 | 6.8 | 8.6 | 1.8 | | | | | | | |
| 7 | 7.5 | 9.1 | 1.6 | | | | | | | |
| 8 | 6.5 | 8.7 | 2.2 | | | | | | | |
| 9 | 6.4 | 8.2 | 1.8 | | | | | | | |
| 10 | 5.2 | 8.6 | 3.4 | | | | | | | |
| 11 | 7.2 | 9.2 | 2.0 | | | | | | | |
| 12 | 5.9 | 6.7 | 0.8 | | | | | | | |
| 13 | 5.0 | 6.3 | 1.3 | | | | | | | |

| Experimental group | | | | | | | | |
|--------------------|---------------|---------------|-------------|--|--|--|--|--|
| No. | Pre-test / 10 | Post-test /10 | Differences | | | | | |
| 14 | 4.5 | 7.1 | 2.6 | | | | | |
| 15 | 5.2 | 9.0 | 3.8 | | | | | |
| 16 | 6.0 | 7.5 | 1.5 | | | | | |
| 17 | 7.0 | 10.0 | 3.0 | | | | | |
| 18 | 6.5 | 8.3 | 1.8 | | | | | |
| 19 | 7.0 | 9.2 | 2.2 | | | | | |
| 20 | 6.0 | 10.0 | 4.0 | | | | | |
| 21 | 6.0 | 8.2 | 2.2 | | | | | |
| 22 | 7.0 | 8.5 | 1.5 | | | | | |
| 23 | 6.5 | 8.7 | 2.2 | | | | | |
| 24 | 6.4 | 8.9 | 2.5 | | | | | |
| 25 | 5.5 | 7.8 | 2.3 | | | | | |
| 26 | 6.5 | 8.2 | 1.7 | | | | | |
| 27 | 5.0 | 8.5 | 3.5 | | | | | |
| 28 | 7.3 | 9.0 | 1.7 | | | | | |
| 29 | 6.0 | 9.2 | 3.2 | | | | | |
| 30 | 7.8 | 8.5 | 0.7 | | | | | |
| 31 | 5.5 | 7.4 | 1.9 | | | | | |
| 32 | 6.1 | 9.0 | 2.9 | | | | | |
| 33 | 6.5 | 10.0 | 3.5 | | | | | |
| 34 | 6.0 | 8.2 | 2.2 | | | | | |
| 35 | 7.1 | 10.0 | 2.9 | | | | | |

Source: Test applied to students. **Author**: Miryan Salazar (2018).

4.2.9 Student T-test results

Through the use of statistical software, the following results were obtained:

Table № 21. Paired sample statistics – Experimental group.

| | Paired sample statistics | | | | | | | | | | | |
|-------|--------------------------|------------|----|--------------------|------------------------|--|--|--|--|--|--|--|
| | | Mean N Sta | | Standard deviation | Standard error of mean | | | | | | | |
| Par 1 | Pre-test Total | 6.1629 | 35 | 0.8325 | 0.1407 | | | | | | | |
| | Post-test Total | 8.5657 | 35 | 0.9232 | 0.1561 | | | | | | | |
| | Differences | 2.4029 | 35 | 0.9724 | 0.1644 | | | | | | | |

Source: Test applied to students. **Created by:** Miryan Salazar (2018).

Then:

$$t = \frac{\bar{x}_d}{\frac{S_d}{\sqrt{n}}}$$

$$t = \frac{2.4029}{\frac{0.9724}{\sqrt{35}}}$$

$$t = 14.6188$$

These results are corroborated by statistical software, as it is presented in the following table:

Table Nº 22. Student t test to paired sample statistics.

| | Paired sample statistics | | | | | | | | | | |
|-----|--------------------------|---------------------|--------------------|----------|--------|-------------|--------|----|-------------|--|--|
| | | | Paired differences | | | | | | | | |
| | | | | | 95% | o of | | | | | |
| | | Standard difference | | | | | | | | | |
| | | | | error of | interv | interval of | | | | | |
| | | | Standard | the | confi | dence | | | Sig. | | |
| | | Mean | deviation | mean | Lower | Upper | t | df | (bilateral) | | |
| Par | Pre-test | | | | | | | | | | |
| 1 | Total - | 2.4029 | 0.9724 | 0.1644 | 2.0688 | 2.7369 | 14.619 | 34 | 1.58 E-16 | | |
| | Post-test | _,,,, | 0.5721 | 0.1011 | 2.0000 | 2.750) | 1 | ٠. | 100 2 10 | | |
| | Total | | | | | | | | | | |

Source: Test applied to students. **Created by:** Miryan Salazar (2018).

4.2.11 Final decision

The above mentioned results showed that with 34 degrees of freedom and with 0,05 of level of significance (α), p-value = 1.58 E-16 which is lower than α = 0,05. Similarly, calculated Student t is 14.6188 which is upper than 1.6909 from the Student t-test distribution table (see Annex 4). Therefore, it is in the rejection region. It means that, the null hypothesis is rejected and the alternative one is accepted, hence: "Metacognitive strategies have positive effects on reading skills of A1 level students at Languages Center at Universidad Técnica de Ambato". The Student t distribution for the experimental group is the next:

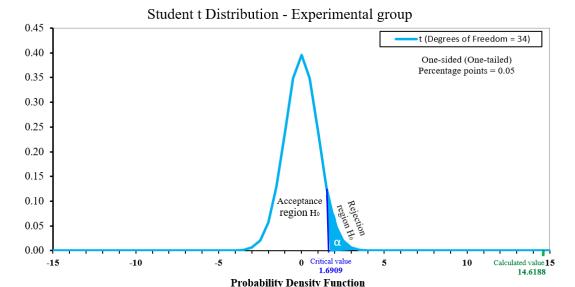


Figure Nº 21. Student t test distribution.

Source: Test applied to students. **Author**: Miryan Salazar (2018).

4.2.10 Control group analysis

To compare the results obtained in the experimental group with those of the control group after Metacognitive strategies have been applied, the same statistical study is carried out in the control group. The data are show next:

4.2.11 Selection of the level of significance

To verify the hypothesis, the following level of significance was used: $\alpha = 0.05$.

4.2.12 Degrees of freedom

The formula to determine the degrees of freedom is the following:

$$df = n - 1$$

Where:

 $n=average\ of\ first\ and\ second\ measurement\ (37\ data).$

df = degrees of freedom

$$df = 37 - 1$$
$$df = 36$$

According to the selected level of significance (α = 0,05) and the degrees of freedom (df = 36), Student t is 1.6883 (see Annex 4).

4.2.13 Data collection and calculation of statistics

Table Nº 23. Data collection control group.

| | | ntrol group | | | |
|-----|---------------|---------------|-------------|--|--|
| No. | Pre-test / 10 | Post-test /10 | Differences | | |
| 1 | 5.5 | 9.5 | 4.0 | | |
| 2 | 6.2 | 9.0 | 2.8 | | |
| 3 | 7.3 | 9.0 | 1.7 | | |
| 4 | 5.7 | 8.0 | 2.3 | | |
| 5 | 6.5 | 10.0 | 3.5 | | |
| 6 | 5.4 | 6.3 | 0.9 | | |
| 7 | 6.9 | 10.0 | 3.1 | | |
| 8 | 5.5 | 8.0 | 2.5 | | |
| 9 | 6.8 | 7.3 | 0.5 | | |
| 10 | 6.2 | 8.5 | 2.3 | | |
| 11 | 6.5 | 9.0 | 2.5 | | |
| 12 | 6.0 | 7.5 | 1.5 | | |
| 13 | 5.2 | 9.0 | 3.8 | | |
| 14 | 6.5 | 7.5 | 1.0 | | |
| 15 | 5.0 | 7.0 | 2.0 | | |
| 16 | 6.5 | 8.5 | 2.0 | | |
| 17 | 6.7 | 8.5 | 1.8 | | |
| 18 | 5.8 | 7.5 | 1.7 | | |
| 19 | 6.8 | 8.5 | 1.7 | | |
| 20 | 6.5 | 9.0 | 2.5 | | |
| 21 | 6.5 | 9.0 | 2.5 | | |
| 22 | 5.5 | 7.0 | 1.5 | | |
| 23 | 6.8 | 7.5 | 0.7 | | |
| 24 | 6.0 | 7.5 | 1.5 | | |
| 25 | 5.5 | 7.0 | 1.5 | | |
| 26 | 5.0 | 6.5 | 1.5 | | |
| 27 | 5.5 | 7.5 | 2.0 | | |
| 28 | 5.0 | 8.0 | 3.0 | | |

| | Control group | | | | | | | | | |
|-----|---------------|---------------|-------------|--|--|--|--|--|--|--|
| No. | Pre-test / 10 | Post-test /10 | Differences | | | | | | | |
| 29 | 6.0 | 7.5 | 1.5 | | | | | | | |
| 30 | 5.0 | 5.5 | 0.5 | | | | | | | |
| 31 | 5.0 | 7.5 | 2.5 | | | | | | | |
| 32 | 7.0 | 10.0 | 3.0 | | | | | | | |
| 33 | 4.0 | 6.0 | 2.0 | | | | | | | |
| 34 | 6.0 | 7.0 | 1.0 | | | | | | | |
| 35 | 5.0 | 8.0 | 3.0 | | | | | | | |
| 36 | 5.0 | 5.0 | 0.0 | | | | | | | |
| 37 | 6.0 | 7.5 | 1.5 | | | | | | | |

Source: Test applied to students.

Created by: Miryan Salazar (2018).

4.2.14 Student T-test results

Table Nº 24. Paired sample statistics − Control group.

| Paired sample statistics | | | | | | | | | |
|--------------------------|-----------------|--------|----|--------------------|----------------------------|--|--|--|--|
| | | Mean | N | Standard deviation | Standard error of the mean | | | | |
| | Total Pre-test | 5.90 | 37 | 0.7546 | 0.1241 | | | | |
| Par 1 | Total Post-test | 7.8811 | 37 | 1.2002 | 0.1973 | | | | |
| | Differences | 1.9811 | 37 | 0.9312 | 0.1531 | | | | |

Source: Test applied to students.

Created by: Miryan Salazar (2018).

Then:

$$t = \frac{\bar{x}_d}{\frac{S_d}{\sqrt{n}}}$$

$$t = \frac{1.9811}{0.9312}$$

$$t = 12.9409$$

These results are corroborated by statistical software, as it is presented in the following table:

Table Nº 25. Student t test to paired sample statistics.

| | Paired sample statistics | | | | | | | | | | |
|-----|--------------------------|---------|--------------------|-----------------------------|-------------------------------|--------|--------|-----------|---------------------|--|--|
| | | | Paire | | | | | | | | |
| | | Mean | Standard deviation | Standard error of the | 95% of difference interval of | | t | df | Sig. (bilateral) | | |
| Par | Pre-test | 1,10411 | ueviation | mean | 20 11 01 | CPPCI | | 41 | (criaterar) | | |
| 1 | Total Post- | 1.9811 | 0.9312 | 0.1531 | 1.6706 | 2.2916 | 12.941 | 36 | 2.09 E-15 | | |
| | test Total | | | | | | | | | | |

Source: Test applied to students.

Created by: Miryan Salazar (2018).

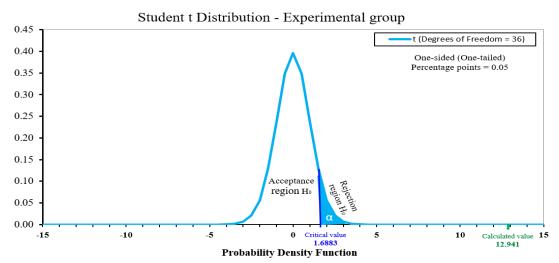


Figure Nº 22. Student t test distribution.

Source: Test applied to students. **Author**: Miryan Salazar (2018).

Metacognitive strategies allow to obtain better results in reading skills compared to a regular teaching methodology.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

After identifying some problems in the pre-test and experimental intervention that was implemented for 9 weeks, some conclusions can be drawn from the results obtained in the post-test.

1.1 Conclusions

- The findings of this research showed the great effects of metacognitive strategies have on students' reading skills development. Learners made use of different metacognitive strategies during nine weeks in order to plan, arrange and evaluate their learning process. In addition, they were able to read different texts through strategies that made them to understand, respond to the text, improve their reading ability and work cooperatively as the basis to become autonomous learners.
- There are so many features of metacognitive strategies which favor students' reading process. The present studied revealed some findings about the key features of metacognitive strategies that EFL University learners need to be aware and make progress in their reading comprehension. Learners after some instruction of metacognitive strategies were engaged in language learning and took more responsibility in their learning. This approach of implementing the metacognitive dimension in the learning process implied, in short, teaching students to plan, supervise and evaluate their performance, which favored the spontaneous and autonomous use of strategies and facilitates their reading comprehension.

- Some metacognitive strategies were implemented during the instruction of reading skills in this study. The researcher planned some lessons with different materials and strategies which were taken from (Herrera, Kavimandan, & Holmes, 2011) book. The metacognitive instruction took place little by little in the classroom with the guide of the researcher who supported students' learning during the three reading stages. Through this type of instruction, it was evident that learners were engaged as they increased their reading abilities to comprehend a text in a more effective way. Teacher also provided students enough help and scaffolding in order to increase their motivation and responsibility for learning.
- Based on the findings of this study a relation between reading and metacognitive strategies was a key component in the students' reading progress. There were some implications which revealed that metacognitive strategies have become effective ways to facilitate students' reading comprehension.
- A system to use metacognitive strategies to develop reading skills is feasible to be implemented in the reading teaching instruction. In this regard, it is possible to affirm that university students need to be trained how to use different metacognitive strategies to facilitate their learning and performance. This study also corroborates the benefits of using metacognitive strategies to improve students' reading comprehension in a more effective way through the use of engaging materials that promote cooperative learning.

1.2 Recommendations

The outcome of this research work has demonstrated the effects of metacognition in language learning in general but in a particular way the use of reading strategies as an instrument of metacognitive strategies to develop reading skills. The statistic tools have accepted the hypothesis with a significant coefficient which validates the research main objective.

- The application of metacognitive strategies is recommended to improve students' reading skill. Therefore, as education aspire that students learn to learn, a good teaching approach can be the metacognitive which embraces direct explanation, cognitive modeling, guided practice, cooperative practice, and individual practice to make learning more meaningful.
- Knowing the metacognition processes learners can know themselves better. With this, learners will be aware of which techniques or strategies are most useful to improve their learning and reading skills as well. Therefore, teachers must know how to apply and use them in their instruction to help and encourage learners to be better readers.
- It is necessary to highlight the important role that teachers play in the process of implementing metacognitive strategies in the classroom. Indeed, in order to train metacognitive students, it is necessary to have metacognitive educators. In pursuit of this goal, teachers must adapt their pedagogical practices in the classroom being aware of their potential and limitations, planning, controlling and evaluating, in the first place, their own teaching activities. This reflection on their own educational work is, perhaps, the most promising way for teachers to effectively regulate their teaching strategies and can approach the goal of "teaching to learn" to their students, guiding the educational process towards an autonomy that will lead them to "learn to learn" and favor the transfer of their learning to the daily life.

CHAPTER VI

THE PROPOSAL

TOPIC: Creation of a booklet of metacognitive strategies to improve reading skills.

6.1 Informative data

Name of the institution: Language Center of Universidad Técnica de Ambato.

Location: Los Chasquis and Rio Payamino Street.

Beneficiaries: Students and teachers of English A1 level an English

at the Language Center.

Estimated time for the

execution:

One month

Beginning: April 23rd 2018

Ending: May 17th 2018

Person in charge: Researcher Miryan Consuelo Salazar Tobar

Cost: \$ 200

6.2 Background of the proposal

This proposal is part of a research study as a response to the inadequate use of metacognitive strategies on the development of the reading skills. The consequence of this fact is that students struggle when reading because they have a low reading performance. Additionally, students are not motivated to read as a consequence they are not aware of the strategies that can help them to become effective readers.

In this context, in the recent years the growing interest in the teaching of reading skills comprehension at the university level has been identified as a significant challenge for teachers in the task of developing the level of effective reading comprehension. In this regard, the use of metacognitive strategies have great benefits for students reading comprehension skills. It is also evident that learners who are trained to use reading strategies become EFL effective readers.

Finally, the results of this research project have revealed that metacognitive strategies have a positive effect on reading instruction. This positive effect is shown in the students reading comprehension, as evidenced by the statistical analysis of pre and post intervention reading test. This study has consistently shown that L2 teachers need to be aware of ways to help leaners to be engaged readers and get the needed information from the text in an effective way.

6.3 Justification

Reading comprehension is one of the most important elements for English language learners. Therefore, they have difficulties in constructing and understanding meaning from a text because reading is a complex process. In this regard, one solution to the problem of students' poor reading is the incorporation and learning of metacognitive strategies because they support and enhance students' reading comprehension (Mohammad Reza et al, 2013).

Research has identified several benefits of the implementation of metacognitive strategies in the classroom. These benefits include positive effects in the development and improvement of reading comprehension and help students to become autonomous learners as well (Mujuskoviv & Simovic, 2015).

In this regard, a booklet of metacognitve strategies to improve reading skills is a great feasible tool for teachers to implement as a strategic approach in their instruction to improve performance and undestanding in their students' reading skills. Additionally, the reason that metacognitve strategies are so important for

learners is that they encourage learners who are struggling to increase their reading abilities (Anderson, 2014)

With the implementation of the booklet of metacognitive strategies teachers and students will experience a positive impact by being instructed with a metacognitive strategic training.

The beneficieres with the application of this booklet will be teachers, students, parents and authorities at the Languages Center at Universidad Tecnica de Ambato. Teachers will will be trained to develop systematic strategies that help learners to undertand better what they read through the use of a metacognitve strategies instruction in language learning. Students will be aware of the different metacognitive strategies that help them to feel more motivated to read, improve their reading comprehension and become better readers. Aditionally, parents will evidence their childrens' progress and responsibility in their studies at the end of the acadamic period.

Finally, this proposal will have a social impact which will be observed as long as the proposal is applied to the training and updating of teachers and pedagogical managers of the institution, in order to demonstrate the quality educational offer in the teaching of English.

6.4 Objectives

6.4.1 General

To design a booklet of metacognitive strategies for improving reading skills.

6.4.2 Specific objectives

 Identify effective metacognitive strategies that can assist English students in comprehending a text.

- Design effective metacognitive strategies to develop reading text understanding with a focus on the learners and the result gotten in the research.
- Use the booklet of metacognitive reading strategies to improve English reading skills in the classroom.

6.5 Feasibility analysis

The feasibility of this proposal is determined by its theoretical background. Furthermore, the full-time position of the researcher at the Language Center of Universidad Técnica de Ambato has facilitated the application of the proposal. It has been created taking into account some aspects to analyze its validity.

Socio cultural

This proposal provides leaners with opportunities to interact and share with their peers or in small groups to document and discuss their thoughts and learnings in a pleasant environment with respectful work. In addition, these strategies help students to take responsibility of their learning process and feel more motivated to become better readers.

Moreover, the collaborative engagement in the classroom contributes to increase students' sense of belonging and motivation to interact and work cooperatively.

Organizational

As teachers it's important to implement ways to guide students to become responsible and organized in the management of their own learning by creating positive classroom conditions. Additionally, this proposal has been designed with the strategies that will have a significant impact in the reading instruction because they are well presented in a sequence and organized way to increase students reading development and content comprehension. Furthermore, each strategy follows the same organization with guiding elements to help teachers to implement

it in the classroom effectively in order to get students engaged in each stage of the strategy.

Technological

Metacognition is particularly effective when integrated with technology. Students can use graphic design programs to create diagrams and organizers. In addition, they can communicate on social networks or in collaborative documents while doing their homework to share thoughts and ideas. Some teachers even require their students to keep blogs, so they can record what they know, what they want to know, and what they've learned, and easily share that process with their peers.

Economic financial

Economic is not a problem to implement this proposal in the institution. Students can be benefited by being exposed to a series of strategies that will help them to become better readers. Additionally, teachers, parents and students don't have to spend a lot of money on it.

This implementation of the booklet of metacognitive strategies to improve reading skills is feasible because it offers great benefits for teachers and students as active constructors of knowledge in the learning process.

6.6 Theoretical foundation

This proposal was designed based on some important implications for developing reading instruction. Some of the key components of reading comprehension are metacognitive strategies which help learners to think in their own thinking and assist them in comprehending a text. With this proposal students are expected to be aware of the metacognitive strategies to

Reading comprehension

Mujuskoviv and Simovic (2015) state that reading comprehension is an active process between the reader and the text. In this regard, the reading process can be more effective if learners are aware of the use of metacognitive strategies to improve their reading comprehension. Part of the importance of metacognitive strategies for students is that they are conscious of the actions that they take to improve their learning language.

Strategic reading

According to Mujuskoviv & Simovic (2015) strategic reading requires a variety of key components including: preparing and planning for effective learning, deciding when to use specific strategies, knowing how to use them, learning how to combine various strategies and evaluating the effectiveness of strategy use.

According to the process of reading instruction contains three phases: before reading, during reading and after reading. With all the phases different metacognitive strategies can be used. For example, in the pre reading phase predicting, guessing, activating background knowledge are metacognitive strategies that can be used to train students to what they guess, or expect from the text they are reading.

In the during reading phase learners need to use a variety of metacognitive strategies like skimming, scanning in order to get the main idea of the text or look for specific details in order to understand specific sections of the text. In the after reading phase learners can use strategies of summarizing paraphrasing to comprehend the text and react to the text.

Reading skills

According to Zhussupova & Kazbecoba (2016) reading skills are conscious strategies that help readers to focus their understanding, attention and interact with

a text. In this regard, metacognition plays an important role in the development of reading skills.

Types of strategies used to improve reading skills

These metacognitive strategies taken from (Herrera, Kavimandan, & Holmes, 2011)allow readers to understand the effort required to learn a language by taking responsibility in order to accomplish the improvement in their reading comprehension skills. These strategies are the following:

Active Bookmarks

This strategy engages students with an easy tool to predict and monitor their reading comprehension. Students can explore the context of the reading to predict their main ideas and events.

Extension Wheel

This visual organizer is a great tool for the classroom because it allows students to scan and skim information from a text and take notes in a nontraditional way. Using this strategy, students are also engaged and challenged at the same time because it provides learners with the opportunity to improve their reading comprehension by organizing their thoughts related to the central idea by scanning and skimming information from a text.

Tri Fold

Using Tri fold strategy is a great tool to help students to raise their awareness and understanding of a text. By the selection of key ideas students can have a framework to organize and summarize a manageable number of ideas of a text and go deep in understanding it.

■ The U C ME strategy

It is a great tool for the classroom because it allows students analyze and synthetize information of a text by taking notes in a nontraditional way. Using this strategy also encourages students to increase their reading comprehension.

Relevance Scale

It is a learning tool that supports reading comprehension by identifying the important aspects of a text. It also lets students create an appropriate text summary by using effective reading strategies.

The Heart Activity

This is a great activity to enhance reading comprehension by asking students to respond to questions that encourage them to connect their personal knowledge and experiences to the text.

It's all in the Box

This strategy provides students with a tool for organizing key ideas and supporting details to enhance reading comprehension of a text. Students are able to become more proficient readers and independent learners by organizing their understanding of a topic. It also increases motivation and engagement and make learning a more active process.

Venn diagram

This strategy is a great learning tool for students to analyze information and help them to understand content.

Topic in pictures and words

This strategy encourages students to comprehend content information of the text by drawing their own mental images in order to synthesize and summarize information from a text.

Proposal development

A booklet with nine metacognitive strategies to improve reading comprehension skills was created to encourage teachers to implement it in their classroom instruction for reading comprehension. Additionally, this booklet is applicable to university level students who are able to plan, monitor and evaluate their own learning process.

BOOKLET



METACOGNITIVE **STRATEGIES TO DEVELOP** READING SKILLS



INTRODUCTION

Comprehension is the goal of reading but it can be the most challenging skill to master for EFL learners. Therefore, the focus on teaching reading at university level has increased significantly overthelastyears. (Mijuskovic, 2015).

Research shows that effective readers use a number of strategies to comprehend a text. In this regard, metacognitive strategies help readers to enhance their reading comprehension, improve their critical thinking skills and to take greater responsibility for their own learning. (Zhussupova & Samp; Kazbecoba, 2016).

The strategies presented in this booklet support learners in developing reading strategies that require predicting, skimming, scanning, questioning, contrasting, comparing and summarizing information that help them to become better readers.

Furthermore, this booklet provides teachers with strategies that can be used to improve students reading skills. It also provides with a series of templates adapted from the crossing the vocabulary bridge book by Socorro

Herrera and Melissa Holmes. (Herrera et al., 2011) which are designed to support teachers in improving their students

Each strategy includes the following introductory elements:

- A description of the strategy is presented at the beginning.Reading skills to be developed are described.
- Aim to be achieved by using the strategy.
- · Materials list describes the elements needed for the
- · Stages. Each strategy describes the three reading stages which include some guiding elements to help teachers to implement them in the classroom in an effective way.
- Rubrics are provided for each strategy to use for formative and summative assessment.
- Templates are provided at the end of each strategy.

Finally, the author encourages teachers to implement these strategies in their classrooms to help students to improve their reading skills, take responsibility for their learning as well as to enjoy while reading.

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Strategy 1: Active Bookmarks

STRATEGY 1: ACTIVE BOOKMARKS

This strategy engages students with an easy tool to predict and monitor their reading comprehension. Students can explore the context of the reading to use the activate bookmarks template individually. predict their main ideas and events.

| READING SKILLS: | Predicting /Summarizing | | |
|-------------------|---|--|--|
| AIM: | To develop predictions and engage students in discussion about the context of a text. | | |
| MATERIALS NEEDED: | Active Bookmarks template | | |
| TOPIC: | The new university sport center | | |

Stages

Pre-reading

Students are given a reading text. They have to predict some main ideas of the events by looking at the tittle and the pictures. Each idea has to be written as a statement. For this purpose, students

During reading

Students have to read the text. They confirm whether their predictions were correct or not. Then, they find answers to their statements and record their justification. After that, students check their answers with a partner.

After reading

Using the previously checked statements, students write a summary. Then, students in small groups share their summaries. The best summary is chosen and presented to the class.

A student assesment rubric for this strategy is provided on (pág. 13).

Strategy 2: Extension Wheel

STRATEGY 2: EXTENSION WHEEL

This visual organizer is a great tool for the classroom because it allows students to scan and skim information from a text and take notes in a nontraditional way. Using this strategy students are also engaged and challenged at the same time because it provides learners with the opportunity to improve their reading comprehension by organizing their thoughts related to the central idea by scanning and skimming information from a text.

| SKILLS: | Scanning /Skimming | | |
|-------------------|--|--|--|
| AIM: | To scan and skim some information from a text. | | |
| MATERIALS NEEDED: | Extension wheel template, pens, pencils | | |
| TOPIC: | Meals | | |

Stages

Pre-reading

Teacher elicits some students' ideas about the text by

using some pictures about meals andnasking them some questions to activate their prior knowledge and background related to thentext topic. Then, students have to predict the title of the reading and write it in the center circle of the wheel individually.

During reading

Students are given a reading text about meals with some questions, then, they have to readbthe text and scan and skim the text to find the answer to the questions and write them on the first ring and second ring individually.

After reading

After students have recorded the extended ideas about the text on the second ring they have to share them in small groups. Students can check their notes and add additional notes onto their own Extension Wheels. Students can also expand an additional third circle to write a summary of what they learned from the text using the ideas from the wheel. The best extension wheel template is chosen and presented to the class.template is chosen and presented to the class.

A student assesment rubric for this strategy is provided on (pag. 13).

STRATEGY 3:

TRI - FOLD

Using Tri fold strategy is a great tool to help students to raise their awareness and understanding of a text. By the selection of key ideas students can have a framework to organize and summarize a manageable number of ideas of a text and go deep in understanding it.

| SKILLS: | Identifying main ideas and summarizing | |
|-------------------|---|--|
| AIM: | To identify main ideas, summarize and sequence ideas or events from a text. | |
| MATERIALS NEEDED: | Tri fold template, pens, pencils | |
| TOPIC: | Transport in India | |

Stages

Pre-reading

Teacher presents the reading topic to the class transport in India. Then students brainstorm some ideas about it and write them on sticky notes and place them on the What I think section of the tri fold template individually.

During reading

Students are given a Transport in India reading text to read and learn more about it by underlining the main ideas of each paragraph. Then, students record them on the things I learned section of the tri fold template individually. Students also evaluate the ideas they included on the sticky notes. If the idea on the sticky note is not a key idea or event they have to cross it out.

After reading

After students have evaluated their original ideas. They discuss their learnings about the text in small groups, check their ideas and add some details. Have them talk in their groups.

Finally, students individually write a short summary of the overall understanding of the topic by using their notes from the template sections. After students have written their individual summaries, they share their writing with a partner.

A student assessment rubric for this strategy is provided on (pag. 13).

Strategy 4: The U-C-ME Strategy

STRATEGY 4: THE U-C-ME STRATEGY

| SKILLS: | ldentifying main ideas and summarizing | |
|-------------------|---|--|
| AIM: | To understand information of a text by answering questions. | |
| MATERIALS NEEDED: | U-C-ME template, pens, pencils | |
| TOPIC: | My life past events | |

Stages

Pre-reading

Teacher elicits about the my life past events topic by asking some questions related to the text. Teacher gives students a blank U-C-ME template then students write the name of the topic in the templates center oval and record some key ideas that they relate to the topic.

During reading

Students are given my life past events reading text. They read the text individually and then in small groups generate questions about the topic by using different prompts provided by the teacher. They record the questions on the spokes. Next, they read the text and answer the questions individually and write their information in the corresponding ovals. After that, students check their answers in pairs. Finally, students individually confirm or disconfirm their predictions about the key words or ideas related to the content by crossing the wrong information.

After reading

Students in small groups discuss their learning using the information in their templates and write a summary paragraph. Finally, the best summary is chosen and presented to the class..

A student assesment rubric for this strategy is provided on (pag. 13).

STRATEGY 5:

RELEVANCE SCALE

It's a learning tool that supports reading comprehension by identifying the important aspects of a text. It also lets students create an appropriate text summary by using effective reading strategies.

| SKILLS: | Identifying main ideas and key details. | |
|-------------------|--|--|
| AIM: | To support reading comprehension by summarizing. | |
| MATERIALS NEEDED: | Relevance scale template, pens, pencils | |
| TOPIC: | Record Breakers | |

Stages

Pre-reading

Teacher elicits about the topic of the reading by using some pictures and then writes students predictions on the board. Then, the teacher gives a very brief overview of the text topic. Students on a blank sheet of paper record their individual predictions about the text based

on what they heard.

During reading

Students are given a blank Relevance Scale template and the record breakers reading text. Then, students have to read, identify and select at least five important details from the text by answering some prompt questions that the teacher writes on the board. Students record some details from the read paragraphs on the template. After students made their selections they have to share their ideas that they thought were most relevant in small groups and choose the three selected details on sticky notes.

After reading

Students take turns sharing with the class the three details they thought were the most relevant from the text in their groups. Then, they have to tell a rationale for its selection as well as the rating they gave it. After that, the class discusses whether they agree with the groups decisions and come to consensus regarding the final relevance rating to the text. Finally, students individually write a brief summary of the text.

A student assesment rubric for this strategy is provided on (pag. 13).

Strategy 6: The heart activity

STRATEGY 6: THE HEART ACTIVITY

This is a great activity to enhance reading comprehension by asking students to respond to questions that encourage them to connect their personal knowledge and experiences to the text.

| SKILLS: | Answering questions | | |
|-------------------|--|--|--|
| AIM: | To comprehend a text by answering som questions. | | |
| MATERIALS NEEDED: | The heart Activity template, pens, pencil | | |
| TOPIC: | Meeting Special people | | |

Stages

Pre-reading

Teacher gives students a set of questions to elicit about the topic of the reading. The questions should be connected to the text and allow students to predict (before reading)

and connect with (during reading) the events in the text. Students record their individual thoughts on the Activate half of the template. Students can write words, or short phrases or draw pictures related to the topic. Then, students check their ideas with a partner and discuss about the questions posed and they can add ideas that emerged in their peer discussion to their template.

During reading

Students are given meeting special people reading text. Then, students have to read and find the answers and record them in the Connect half of the heart template individually. Then, students check their ideas and discuss the answers to the questions posed in small groups they can add to their template ideas that emerged in their group discussion.

After reading

Students individually summarize their key learnings and present it to the class.

A student assesment rubric for this strategy is provided on (pag. 13).

Strategy 7: It's all in the box

STRATEGY 7:

IT'S ALL IN THE BOX.

This strategy provides students with a tool for organizing key ideas and supporting details to enhance reading comprehension of a text. Students are able to become more proficient readers and independent learners by organizing their understanding of a topic. It also increases motivation and engagement and make learning a more active process.

| ' | | |
|-------------------|--|--|
| SKILLS: | ldentifying main ideas, details and summarizing | |
| AIM: | To take notes on a topic. | |
| MATERIALS NEEDED: | It's all in the box template, pens, pencils | |
| TOPIC: | Free time activities | |

Stages

Pre-reading

Teacher gives students a blank it's all in the box template and ask them to write the topic of the reading in the very

top box of the template. Then, students brainstorm by using some ideas, words or drawings related to the text topic around the appropriate box.

During reading

Students are given free time activities reading text. Then, students have to read and write three key ideas related to the topic based on the teachers questions posed. After that, students read through the text and expand upon their key ideas individually to record both additional details and personal connections.

After reading

Students in small groups discuss the ways they expanded upon their main ideas, additional details and personal connections

After that they work together to do a 3,2,1 activity in which they record on a poster paper three connections, two learnings, and a point of interest of the text and present it to the class.

A student assesment rubric for this strategy is provided on (pag. 13).

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Strategy 8: Venn diagram

STRATEGY 8: VENN DIAGRAM

This strategy is a great learning tool for students to analyze information and help them to understand content.

| SKILLS: | Comparing and contrasting information | |
|-------------------|--|--|
| AIM: | To compare and contrast information of a text. | |
| MATERIALS NEEDED: | Venn diagram template, pens, pencils | |
| TOPIC: | David's life | |

Stages

Pre-reading

Teacher elicits some ideas about the text by asking some questions. Then, students brainstorm some ideas on a blank sheet of paper.

During reading

Students are given David's life reading text. Teacher models for the whole class how to identify similarities and differences from the text. Then students have to read and find the similarities and differences of the text individually and record them in the Venn diagram template.

After reading

Students in small groups share their ideas using their Venn diagram template as a reference.

Finally, they write a summary of the text and present it to the class.

A student assesment rubric for this strategy is provided on (pag. 13).

Strategy 9: Venn diagram

STRATEGY 9:

TOPIC IN PICTURES AND WORDS

This strategy encourages students to comprehend content information of the text by drawing their own mental images in order to synthesize and summarize information from a text.

| SKILLS: | Synthesizing and summarizing | |
|-------------------|---|--|
| AIM: | To synthesize and summarize information of a text. | |
| MATERIALS NEEDED: | Topic in pictures and words template, pens, pencils | |
| TOPIC: | A bad holiday story | |

Stages

Pre-reading

Teacher shares the topic of the text students have to brainstorm their ideas of the text a bad holiday story on

a sticky notes. Students are given a copy of the topic in pictures and words template and they have to place the sticky notes over the boxes in their individual templates.

During reading

Students are given a bad holiday story reading text. Then, students have to read and confirm or disconfirm their predictions regarding to the text. After that, students have to read again and record individually the main ideas regarding to the text on the template by answering some questions posed by the teacher and using images and words.

After reading

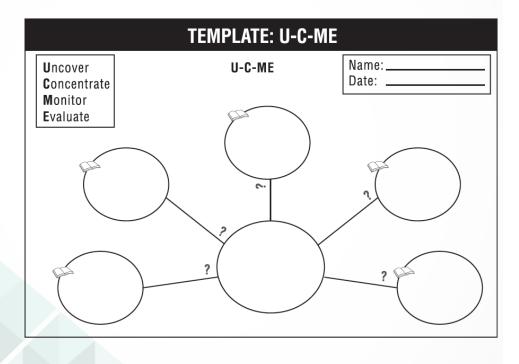
Students in small groups share their ideas by using the template as a reference. Finally, each a group member collaborate in writing a sentence that summarize their learning. Finally, the groups share their summary to the class

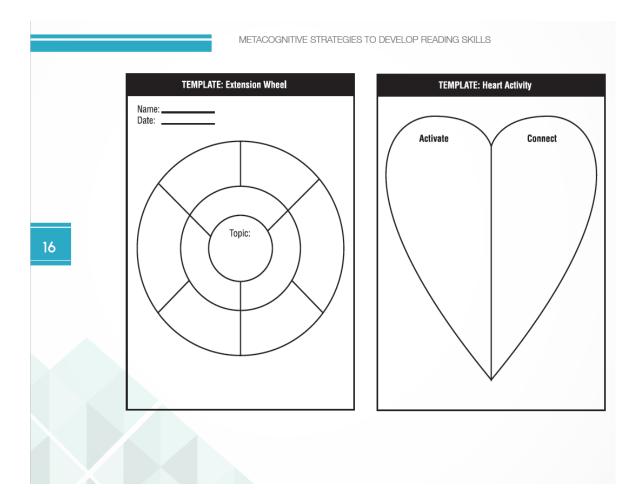
A student assesment rubric for this strategy is provided on (pag. 13).

RUBRIC

TECHNICAL UNIVERSITY OF AMBATO Postgraduate Program Language Center

| Criteria | Beginning1 /2 | Developing 3/4 | Accomplished 5 | Score |
|--------------------------------|---|--|--|-------|
| Sequencing | Many of the support details are not presented in a logical order. | Arguments and support ideas are provided in a fairly logical order. | Arguments and support details are provided in a logical order. | |
| Identify important information | Student lists few main points of important information from the text. | Student lists some main points of important information from the text | Student lists all the main points of important information from the text. | |
| Summary Sentences | Student uses only 1-3 sentences to describe clearly what the article is about. | Student uses some sentences to describe what the article is about. | Student summarizes most of the article accurately using the strategy activities effectively to describe what the article is about. | |
| Creative use of the strategy | Student has difficulty relating graphics and diagrams to the text. | Student somewhat explains how each graphic/diagram is related to the text. | Student accurately explains how each graphic/diagram is related to the text, | |

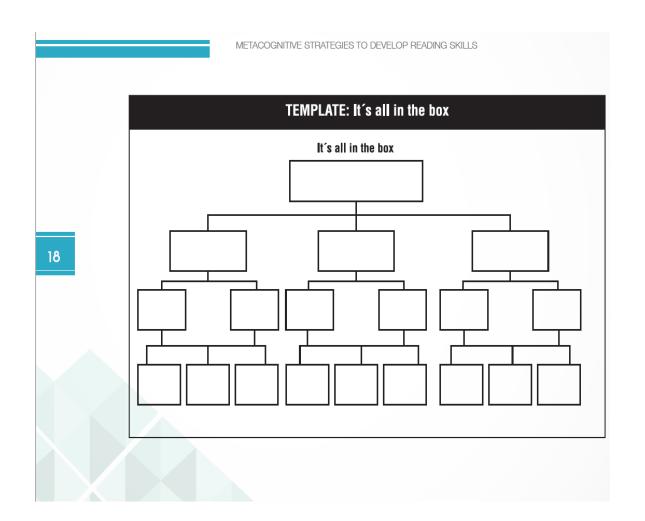


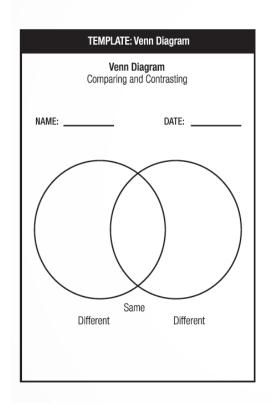


METACOGNITIVE STRATEGIES TO DEVELOP READING SKILLS

| TEMPLATE: Relevance Scale |
|---------------------------|
| Name: |
| Reading Selection: |
| Detail #1: |
| Detail #2: |
| Detail #3: |
| Detail #4: |
| Detail #5: |
| Detail #6: |
| Detail #7: |
| Detail #8: |
| Detail #9: |
| Detail #10: |

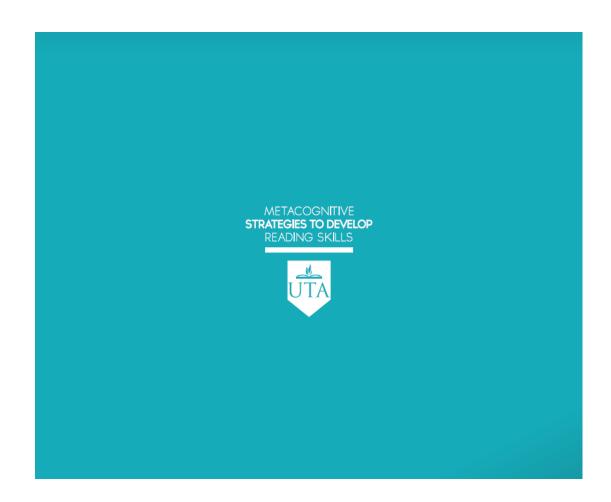
| Name: | Ac | tive I | Bookn | narks | |
|-----------------|----|-------------------|--------------|--------------|---------------|
| Text Selection: | | | | | |
| Statements | | Prediction T F | | Text Page | Justification |
| 1. | | | | | |
| 2. | | $oxed{oxed}$ | $oxed{oxed}$ | Ш | |
| 3. | | ᆫ | ᆫ | ш | |
| 4. | | ᆫ | ᆫ | ш | |
| 5. | | $oxed{oxed}$ | $oxed{oxed}$ | ш | |
| 6. | | | | | |
| Name: | Ac | tive I | Bookn | narks | |
| Text Selection: | | | | | |
| Statements | | Pred T | iction F | Text Page | Justification |
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |





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6.7 Administration of the proposal

The proposal will be administered by the researcher who is going to be responsible to coordinate the schedule for its implementation during the semester.

6.8 Evaluation of the proposal

The effectiveness of the proposal will be evaluated with the following questions which will help to the researcher to assess the booklet and make improvements after its implementation.

Table Nº 26. Basic questions.

| BASIC QUESTIONS | EXPLANATION |
|----------------------------------|---|
| 1. What is evaluated? | A booklet of metacognitive strategies to |
| 1. What is evaluated. | improve reading skills. |
| | It is evaluated because the researcher wants to |
| 2. Why is it evaluated? | confirm the efficiency the metacognitive |
| | strategies have on the development of the |
| | reading skills. |
| 3. Which criteria is considered? | The researcher considers the following |
| | criteria: appropriateness of the strategies, |
| | design, content, methodological approach and |
| | effectiveness on the development of reading |
| | skills. |
| 4. Who evaluates? | The group of teachers who use the booklet in |
| | the classroom and the researcher. |
| 5. When is it evaluated? | |
| 2. Which are the sources of | The group of teachers, students and authorities |
| information? | of the Languages Center. |

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ANNEXES

ANNEX N° 1: INSTRUMENTS

Pre-test



TECHNICAL UNIVERSITY OF AMBATO

LANGUAGES DEPARTMENT GRADE: GRADE: 1000 10

READING PRE TEST

| Name: | Date: |
|-------------|-------|
| Reading 1 | |
| Section One | |

Read and answer the questions. (2 point each) (10 points)

Europeans Free time

How much free time do Europeans usually have? Well, the answer is in a recent survey of 15 European countries. Men and women in Europe have about five hours of free time every day. What do they do in their free time? Well, they often watch TV or videos. Some people spend 50% or more of their free time in front of the TV! Europeans love reality shows, soap operas, and sitcoms. And, how often do Europeans meet with friends? Well, that is number two on the list of free-time activities. They spend about 18% of their free time with friends. Sometimes Europeans play sports or do hobbies (about 9% of their free time), or play games (about 5% of their free time), or sometimes they just relax (about 7% of their free time).

| 1. | How many hours do Europeans have of free time every day? |
|----|--|
| 2. | Where do some people spend 50% of their time? |
| 3. | What type of TV Programs do they like? |
| 4. | How often do they meet friends? |
| 5. | What do they do 7% of their time? |

Section 2

Read this text complete the Active bookmarks template. (2 point each) (10 points)

A new university sport center

The new university center is open today and students are exercising and having a lot of fun. What are students doing at the sport center?

Well some students are doing aerobics and weight training. Other students are running. Students are not bowling at the student center, though students at the university are not interested in bowling these days, but they are interested in karate. Karate classes are on Wednesdays and Fridays at 7:00 p.m. Classes are cheap \$6 a week.

This is the first week of school so the university basketball, football land volleyball teams are playing at the center Come in this week and watch them. And start exercising too.

Text Selection:

Statements

True False Justification

- 1. The students are exercising now.
- 2. Students are having fun with bowling.
- 3. Karate classes are three days a week.
- 4. The football and volleyball teams are playing the second week of school.
- 5. The new university center is a good place for exercising.

Section 3

Read and choose the correct answer. (2 point each) (10 points)

The teacher

Hi. I'm Ben. At school I was good at Maths but at university I studied languages. I studied German and French. I can speak German and Italian but not French. Now I'm a teacher. I teach English and sport and I work in different countries. Last year I worked in a school in Italy. Im teaching in England right now but all my students come from China. I work six days a week for five hours every day. I always give my students a lot of homework. I teach adults and children. I like working with adults and children. I like working with adults more than children. I do some sports. I enjoy playing football and tennis.

Topic:

Detail 1: Ben studied languages at university because they were

a. Interesting b. easy c. his best subject at school Detail 2: He can speak a. German and French b. Italian and German c. French and Italian Detail 3: He's teaching in b. England c. China a. Italy Detail 4: Every day he teaches Two hours b. five hours c. six hours a. Detail 5:

His favorite sport is

Basketball Tennis c. football b.

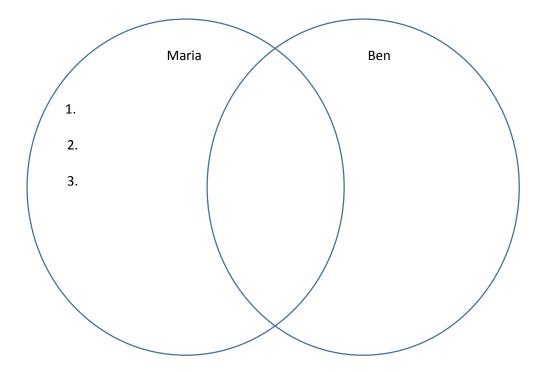
Section 4

Read and complete the Venn diagram.

Write 3 differences of Ben and Maria and 2 similarities. Write the similarities in the center. (2 points each) (10 points)

My name is Ben and I come from Australia. I am 24 years old and I live in a small town near Sydney called Branton.I don't have a job now, but normally I clean shop windows. I am not married but I live with my very beautiful girlfriend, Maria, in a nice house in Branton. We don't have any children - maybe next year. She's from Italy and she's 21.My girlfriend is an actress, but she isn't very famous. She acts in a small theater in our town. At the weekend, we like to go swimming in a big lake near our house. We also like to cook and watch movies.I normally get up at eight o'clock, but on Thursday I get up at six o'clock because that is the day when I go running in the park.

I like living in Branton because it's not too big. There are some historical buildings in the center of the town and when I want to relax.

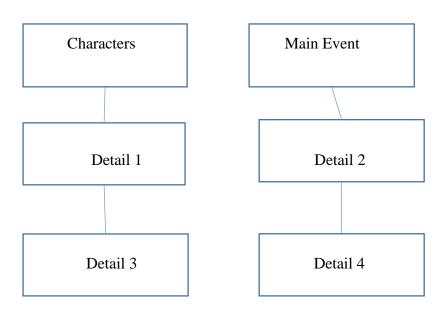


Read and complete the mind map. (10 points)

An emergency on the beach

Susan and Peter Smith are an American couple. They live in a beautiful house near the beach. They are writers. They like writing stories for children so they have a small library in their house where kids can go and read. Cristina and her friends come to their library every day because they love their stories. It is 4:50 on April 16th. Susan is reading a story to Cristina and her friends when the ground tarts to shake very hard. They are really afraid. It is an earthquake. Then kids follow Susan's instructions. They hear the books falling down from the shelves. They are very scared and nervous. Then they hear a dog barking. It is Manchas Christina's dog. He goes and looks for help after some time they are rescued. Finally, Cristina is happy with her parents. The rescuers advise them to be prepared in case of an earthquake.

TOPIC:



Ending

Post-test

| . | TECHNICAL UNIVERSITY OF AM | BATO | |
|----------|----------------------------|--------|--------|
| UTA | LANGUAGES DEPARTMENT | GRADE: | GRADE: |
| | READING POST TEST | 50 | 10 |
| Name: | Date: | | |

Reading 1

Section One

Read and answer the questions. (2 point each) (10 points)

Tom's day

On Sunday, Tom gets up at 10 o'clock. Then he reads his newspaper in the kitchen. He has breakfast at 11.30 and then he telephones his mother in Scotland.

In the afternoon, at 1.00, Tom plays tennis with his sister and after that, they eat dinner in a restaurant. At 6.00, Tom swims for one hour and then he goes by bike to his brother's house. They talk and listen to music.

Tom watches television in the evening and drinks a glass of Jack Daniel's whiskey. He goes to bed at 11.30.

| | Where does Tom have breakfast? |
|----|-----------------------------------|
| 2. | Who does he phone in the morning? |
| 3. | How long does he swim for? |
| ŀ. | What do Tom and his brother do? |
| 5. | When does he go to bed? |
| | |

Read this e mail and complete the Active bookmarks template. (2 points each) (10 points)

My past events life

Hi I'm Justin. This is my story. In January 1990, I was at primary school and in January 2000, I was at university! I left primary school in September 1990 and went to a secondary school five kilometers from my house. I got the bus every day at 7.30am and didn't get home until 5 o'clock in the evening. What a difficult life!

My family bought a satellite TV in 1991 and a new video the next year. In 1994, my brother bought a computer and I got a bicycle the next year.

I left my school in 1997 but didn't want to go to university like most people: instead, I went walking in France alone for four months and then drove around America for three months with my brother. For the first six months of 1998, I got a job in a health food shop and then went to university in October 1998 in Wales.

Text Selection:

Statements

True False Justification

- 1. He was in primary in 2000.
- 2. He got home after 5:00.
- 3. Justin's family bought a computer.
- 4. He Traveled by car around South America
- 5. He went to the university in 1998

Read and choose the correct answer. (2 point each) (10 points)

Libby's story

Libby Wilson was born in 1942. She grew up in Boston. Libby's parents had a store and sometimes Nelson came into the store. He thought Libby was very pretty. And Libby thought Benjamin was handsome. They talked and spent their free time together. And the next month they got married. Libby and Benjamin had two children. Their children grew up and moved away, got married and had their own children. Now there are six grandchildren in the Nelson Family. Benjamin retired last year. And Libby is going to retire this year. But they are not going to relax or do nothing. Oh no. They have a lot of plans. They are going to go fishing and camping and skiing. They would like to study dancing. And they are going to travel. They would like to visit their children two times a year, too.

Topic: Detail 1: Libby's parents had b. a restaurant b. a shop c. a supermarket Detail 2: Libby and Benjamin got married after b. a week b. a moth c. a year Detail 3: b. Italy b. England c. China Detail 4: When Libby retires they are going to b. travel b. study music c. do housework Detail 5: They would like to visit their children..... b. Once b. twice c. three times

Read and complete the Venn diagram. Write 3 differences of Jenny and Holly and 2 similarities. Write the similarities in the center. (2 points each) (10 points)

Dear Bobby,

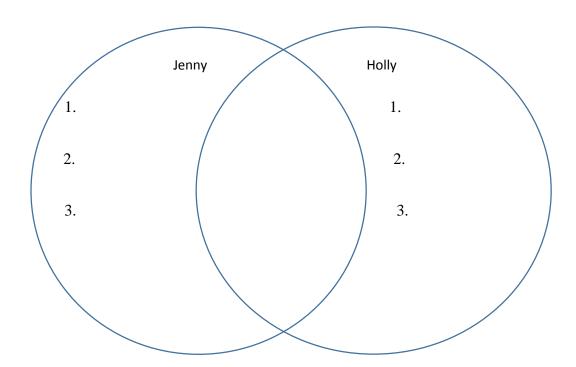
Hi! Jenny and I got to Vancouver three days ago. The first night we went to dinner at a Japanese restaurant. Jenny didn't like the fish, but I liked it. The next day we went to Granville Island. I saw so many nice things in the public market. Jenny shopped and bought many things. I wanted to buy things, but I didn't. Yesterday we walked to Stanley Park. It was a great day! We went bike riding. When we got tired, we stopped. We ate lunch and read for a few hours.

See you soon!

Holly



Robert Brown 89 Branch Street Washington, D. C. 20008 U.S.A.



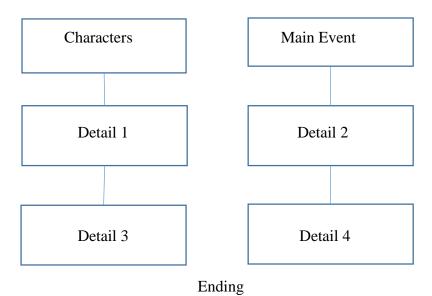
Read and complete the mind map. (10 points)

My best friend returns home

Sebastian got a dog for his birthday. He named him Max. He is really happy because now he has a friend. They play and enjoy together. They take long walks in a park near their house after doing homework. Max is a very playful dog and he has an identification in his collar. He loves eating pizza and snacks with Sebastian when they watch TV. Max also likes traveling in the family's car with Sebastian and his other.

It is a sunny day. Sebastian and his mother go to the swimming pool. Max also goes with them. They have a great day. Suddenly, Max disappears. Sebastian asks-Where is Max mom? She says -He was eating a sandwich with you. But he disappeared. They look for Max everywhere. They cannot find him. So, they go back home. Sebastian is very sad and starts crying. His mom is worried because Max is lost. It is 9.00 p.m when the phone rang it is a woman. She says: I have your dog with me. I saw your phone number in your dog's identification. Where's your House? And Sebastian's mom said my house in front of the park. I will take your dog there. Thank you for calling says Sebastian's mother. Then Max arrived home. Sebastian is really happy because he sees his dog again. From that day on, Sebastian is more careful with his dog.

TOPIC:





UNIVERSIDAD TÉCNICA DE AMBATO DIRECCIÓN DE POSGRADO

SURVEY TO TEACHERS

Research topic:

THE EFFECTS OF METACOGNITIVE STRATEGIES ON READING SKILLS.

| Objective: | To | gather | som | e releva | nt info | rma | ation | concern | ning | the eff | ects | of |
|---------------|-------|------------------|------|----------|---------|-----|-------|---------|------|---------|------|----|
| metacognitiv | e st | rategies | on | reading | skills | in | the | Centro | de | Idiomas | de | la |
| Universidad 7 | Ге́ст | nica de <i>A</i> | Amba | ıto. | | | | | | | | |

| Objective: T | o gather | some | relevant | info | rmat | tion | concern | ning | the | effe | cts (| |
|----------------------|------------|---------|----------|-------|------|-------|---------|------|-------|------|-------|---|
| metacognitive | strategies | on re | ading s | kills | in | the | Centro | de | Idion | nas | de | l |
| Universidad Té | cnica de A | mbato | • | | | | | | | | | |
| | | | | | | | | | | | | |
| Name: | | A | Age: | | Mod | dalit | y: | | Leve | :1: | | |
| | | | υ — | | | | <i></i> | | - | - | | |
| Instructions: | | | | | | | | | | | | |
| Please read the | questions | careful | ly. Marl | your | ans | wer | with an | X. | | | | |

| | Questions | Yes | No | Somewhat |
|----|---|-----|----|----------|
| 1. | Do you consider metacognitive strategies at the moment of planning your reading lessons? | | | |
| 2. | Do you believe that students' attention is demanded during the using of metacognitive strategies? | | | |
| 3. | Do you think students can improve their reading skills through the use of metacognitive strategies? | | | |
| 4. | Are students able to assess their own learning during the use of metacognitive strategies? | | | |
| 5. | Do you apply metacognitive strategies to develop cooperative learning? | | | |

| | Questions | Activating previous knowledge | Predicting about the content | Guessing |
|----|--|-------------------------------|--------------------------------|---|
| 6. | Which of the following metacognitive skills do you use before reading? | | | |
| | Questions | Scanning | Skimming | Answering comprehension questions |
| 7. | Which of the following metacognitive skills do you use before reading? | | | |
| | Questions | Summarizing information | Using graphic organizers | Drawing |
| 8. | Which of the following metacognitive skills do you use after reading? | | | |

Thanks for your collaboration!

ANNEX N° 3: VALIDATION OF PRE-TEST AND POST-TEST



MASTER'S DEGREE IN TEACHING ENGLISH AS A FOREIGN LANGUAGE

PRE TEST VALIDATION

| | studen | tions assess ts'reading rehension | Observation | | B. Content of | f reading passa | ge | | C. Length o | of passages | Observation |
|-------|-------------|---|------------------|--------------|---------------|-----------------|-----------------|--|-------------|--------------------|--------------|
| | Appropriate | Not appropriate | | Adequate | Interesting | Difficult | Not adequate | | Appropriate | Not appropriate | |
| 1 | × | | | X | | | | | X | | |
| 11 | X | | 1 | × | | | | | X | | |
| III " | X | | | X | | | | | X | | |
| IV | × | | | × | | | | | × | 1 | |
| | | Lic. E | Boris Cadena Mso | | 1712 | 23383 | -0 | | | - | |
| | | | Name | | | ID num | ber | | | Signature | |
| | | | ESPOCH | | Engli | ish Te | cher | | | cadenabo | rischotmail. |
| | Work place | | | Job position | | | | | Email | l address | |



MASTER'S DEGREE IN TEACHING ENGLISH AS A FOREIGN LANGUAGE

POSTTEST VALIDATION

| | studen | ions assess ts'reading ehension | Observation | | B. Content of | reading passa | ge | | C. Length c | of passages | Observation | |
|----|-------------|---------------------------------------|------------------|----------|---------------|-----------------|-----------------|--|-------------|-----------------|-------------|----------|
| | Appropriate | Not appropriate | | Adequate | Interesting | Difficult | Not adequate | | Appropriate | Not appropriate | | |
| 1 | × | | | X | | | | | × | | | |
| II | × | | | X | | | | | × | | | |
| Ш | X | | | × | | | | | × | | | |
| IV | X | | | × | | | | | × | | | |
| , | | Lic. E | Boris Cadena Msc | | 1712 | 22 33 83 | 3-0 | | | | | \ |
| | | | Name | | | ID num | ber | | / | Signature | | |
| | | | ESPOCH | POCH | | English Teacher | | | | cadenab | oris@hot | mail.com |
| | | | Work place | | Job position | | | | | Emai | l address | |



MASTER'S DEGREE IN TEACHING ENGLISH AS A FOREIGN LANGUAGE

PRE TEST VALIDATION

| | studen | ions assess ts'reading ehension | Observation | | B. Content o | f reading passa | ge | C. Length o | of passages | Observation |
|------|-------------|---------------------------------------|-------------------|----------|--------------|-----------------|-----------------|--------------|--------------------|-------------|
| | Appropriate | Not appropriate | | Adequate | Interesting | Difficult | Not adequate | Appropriate | Not appropriate | |
| - 1 | X | | | X | | | | X | | |
| - 11 | X | | | X | | | | X | | |
| Ш | X | | | × | | | | X | | |
| IV | × | | | × | | | | ×. | / | |
| | | Lic. Deys | si Damián Tixi, N | lsc. | 06 | 60296022-1 | | Deysi | Damie | |
| | | | Name | | | ID num | ber | | Signature | |
| | | | ESPOCH | | Eng | lish Teacher | , | | deysi 2812 (de | bot mail es |
| | Work | | Work place | | | Job posi | tion | Email ar | | address |



MASTER'S DEGREE IN TEACHING ENGLISH AS A FOREIGN LANGUAGE

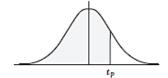
POSTTEST VALIDATION

| | studen | cions assess ts'reading ehension | Observation | | B. Content o | freading passa | oge | C. Length o | of passages | Observation |
|------|-------------|--|------------------|----------|--------------|----------------|-----------------|-------------|--------------------|-------------|
| | Appropriate | Not appropriate | | Adequate | Interesting | Difficult | Not adequate | Appropriate | Not appropriate | |
| | × | | | × | | | | X | | |
| - 11 | X | | | X | | | | × | | |
| 111 | × | | | X | | | | | | |
| IV | \times | | | × | | | | X | | |
| | | Lic. Dey | si Damián Tixi M | sc. | 0 | 60246022-1 | , | A Des | Damien | 5 |
| | Ļ | | Name | | | ID num | ber | | Signature | |
| | | ESPOCH | | En | glish Teach | er | | | Shotmailes | |
| | | | Work place | | | Job posi | tion | | | address |

ANNEX N° 4: STUDENT T DISTRIBUTION

Apéndice III

Valores percentiles (t_p) correspondientes a la distribución t de Student con ν grados de libertad (área sombreada = p)



| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | — | | | | | | | | | |
|--|----|----------|------------------|-------------------|-------|-----------------|-------|------------------|------------------|------|------|
| 2 9.92 6.96 4.30 2.92 1.89 1.061 .816 .617 .289 1.42 3 5.84 4.54 3.18 2.25 1.64 .978 .765 .584 .277 .137 4 4.60 3.75 2.78 2.13 1.53 .941 .741 .569 .271 .134 5 4.03 3.36 2.57 2.02 1.48 .920 .727 .559 .267 .132 6 3.71 3.14 2.45 1.94 1.44 .906 .711 .549 .263 .130 8 3.36 2.90 2.31 1.86 1.40 .889 .706 .546 .262 .130 9 3.25 2.82 2.26 1.83 1.38 .883 .703 .543 .261 .129 10 3.17 2.76 2.23 1.81 1.37 .879 .700 .542 .260 <t< th=""><th>ν</th><th>1,995</th><th>t_{.99}</th><th>t_{.975}</th><th>t.95</th><th>t₉₀</th><th>t.80</th><th>t_{.75}</th><th>t_{.70}</th><th>t.60</th><th>t_55</th></t<> | ν | 1,995 | t _{.99} | t _{.975} | t.95 | t ₉₀ | t.80 | t _{.75} | t _{.70} | t.60 | t_55 |
| 3 5.84 4.54 3.18 2.35 1.64 .978 .765 .584 .277 .137 4 4.60 3.75 2.78 2.13 1.53 .941 .741 .569 .271 .134 5 4.03 3.36 2.57 2.02 1.48 .920 .727 .559 .267 .132 6 3.71 3.14 2.45 1.94 1.44 .906 .711 .549 .263 .130 8 3.36 2.90 2.31 1.86 1.40 .889 .706 .546 .262 .130 9 3.25 2.82 2.26 1.83 1.38 .883 .703 .543 .261 .129 10 3.17 2.76 2.23 1.81 1.37 .879 .700 .542 .260 .129 11 3.11 2.72 2.20 1.80 1.36 .876 .697 .540 .260 <t< td=""><td>1</td><td>63.66</td><td>31.82</td><td>12.71</td><td>6.31</td><td>3.08</td><td>1.376</td><td>1.000</td><td>.727</td><td>.325</td><td>.158</td></t<> | 1 | 63.66 | 31.82 | 12.71 | 6.31 | 3.08 | 1.376 | 1.000 | .727 | .325 | .158 |
| 4 4.60 3.75 2.78 2.13 1.53 .941 .741 .569 .271 .134 5 4.03 3.36 2.57 2.02 1.48 .920 .727 .559 .267 .132 6 3.71 3.14 2.45 1.94 1.144 .906 .718 .553 .265 .131 7 3.50 3.00 2.36 1.90 1.42 .896 .711 .549 .263 .130 9 3.25 2.82 2.26 1.83 1.38 .883 .703 .543 .261 .129 10 3.17 2.76 2.23 1.81 1.37 .879 .700 .542 .260 .129 11 3.11 2.72 2.20 1.80 1.36 .876 .697 .540 .260 .129 12 3.06 2.68 2.18 1.78 1.36 .873 .695 .539 .299 | 2 | 9.92 | 6.96 | 4.30 | 2.92 | 1.89 | 1.061 | .816 | .617 | .289 | .142 |
| 5 4.03 3.36 2.57 2.02 1.48 .920 .727 .559 .267 .132 6 3.71 3.14 2.45 1.94 1.44 .906 .718 .553 .265 .131 7 3.50 3.00 2.36 1.90 1.42 .896 .711 .549 .263 .130 8 3.36 2.90 2.31 1.86 1.40 .889 .706 .546 .262 .130 9 3.25 2.82 2.26 1.83 1.38 .883 .703 .543 .261 .129 10 3.17 2.76 2.23 1.81 1.37 .879 .700 .542 .260 .129 11 3.11 2.72 2.20 1.80 1.36 .876 .697 .540 .260 .129 12 3.06 2.68 2.18 1.78 1.36 .873 <t.695< td=""> .539 .259 <t></t></t.695<> | 3 | 5.84 | 4.54 | 3.18 | 2.35 | 1.64 | .978 | .765 | .584 | .277 | .137 |
| 6 3.71 3.14 2.45 1.94 1.44 .906 .718 .553 .265 .131 7 3.50 3.00 2.36 1.90 1.42 .896 .711 .549 .263 .130 8 3.36 2.90 2.31 1.86 1.40 .889 .706 .546 .262 .130 9 3.25 2.82 2.26 1.83 1.38 .883 .703 .543 .261 .129 10 3.17 2.76 2.23 1.81 1.37 .879 .700 .542 .260 .129 11 3.11 2.72 2.20 1.80 1.36 .873 .695 .539 .259 .128 12 3.06 2.68 2.18 1.78 1.36 .873 .695 .539 .259 <t>.128 14 2.98 2.62 2.14 1.76 1.34 .868 .692 .537 .258 <</t> | 4 | 4.60 | 3.75 | 2.78 | 2.13 | 1.53 | .941 | .741 | .569 | .271 | .134 |
| 6 3.71 3.14 2.45 1.94 1.44 .906 .718 .553 .265 .131 7 3.50 3.00 2.36 1.90 1.42 .896 .711 .549 .263 .130 8 3.36 2.90 2.31 1.86 1.40 .889 .706 .546 .262 .130 9 3.25 2.82 2.26 1.83 1.38 .883 .703 .543 .261 .129 10 3.17 2.76 2.23 1.81 1.37 .879 .700 .542 .260 .129 11 3.11 2.72 2.20 1.80 1.36 .873 .695 .539 .259 .128 12 3.06 2.68 2.18 1.78 1.36 .873 .695 .539 .259 <t>.128 14 2.98 2.62 2.14 1.76 1.34 .868 .692 .537 .258 <</t> | | | | | | | | | | | |
| 7 3.50 3.00 2.36 1.90 1.42 8.96 .711 .549 .263 .130 8 3.36 2.90 2.31 1.86 1.40 .889 .706 .546 .262 .130 9 3.25 2.82 2.26 1.83 1.38 .883 .703 .543 .261 .129 10 3.17 2.76 2.23 1.81 1.37 .879 .700 .542 .260 .129 11 3.11 2.72 2.20 1.80 1.36 .876 .697 .540 .260 .129 12 3.06 2.68 2.18 1.78 1.36 .873 .695 .539 .259 .128 14 2.98 2.62 2.14 1.76 1.34 .868 .692 .537 .258 .128 15 2.95 2.60 2.13 1.75 1.34 .866 .691 .536 .258 | 5 | 4.03 | 3.36 | 2.57 | 2.02 | 1.48 | .920 | .727 | .559 | .267 | .132 |
| 8 3.36 2.90 2.31 1.86 1.40 .889 .706 .546 .262 .130 9 3.25 2.82 2.26 1.83 1.38 .883 .703 .543 .261 .129 10 3.17 2.76 2.23 1.81 1.37 .879 .700 .542 .260 .129 11 3.11 2.72 2.20 1.80 1.36 .876 .697 .540 .260 .129 12 3.06 2.68 2.18 1.78 1.36 .873 .695 .539 .259 .128 13 3.01 2.65 2.16 1.77 1.35 .870 .694 .538 .259 .128 14 2.98 2.62 2.14 1.76 1.34 .866 .691 .536 .258 .128 15 2.95 2.60 2.13 1.75 1.34 .866 .691 .536 .258 | 6 | 3.71 | 3.14 | 2.45 | 1.94 | 1.44 | .906 | .718 | .553 | .265 | .131 |
| 9 3.25 2.82 2.26 1.83 1.38 .883 .703 .543 .261 .129 10 3.17 2.76 2.23 1.81 1.37 .879 .700 .542 .260 .129 11 3.11 2.72 2.20 1.80 1.36 .876 .697 .540 .260 .129 12 3.06 2.68 2.18 1.78 1.36 .873 .695 .539 .259 .128 13 3.01 2.65 2.16 1.77 1.35 .870 .694 .538 .259 .128 14 2.98 2.62 2.14 1.76 1.34 .866 .691 .536 .258 .128 15 2.95 2.60 2.13 1.75 1.34 .866 .691 .536 .258 .128 16 2.92 2.58 2.12 1.75 1.34 .865 .690 .535 .258 | 7 | 3.50 | 3.00 | 2.36 | 1.90 | 1.42 | .896 | .711 | .549 | .263 | .130 |
| 10 3.17 2.76 2.23 1.81 1.37 .879 .700 .542 .260 .129 11 3.11 2.72 2.20 1.80 1.36 .876 .697 .540 .260 .129 12 3.06 2.68 2.18 1.78 1.36 .873 .695 .539 .259 .128 13 3.01 2.65 2.16 1.77 1.35 .870 .694 .538 .259 .128 14 2.98 2.62 2.14 1.76 1.34 .866 .692 .537 .258 .128 15 2.95 2.60 2.13 1.75 1.34 .866 .691 .536 .258 .128 16 2.92 2.58 2.12 1.75 1.34 .866 .691 .536 .258 .128 17 2.90 2.57 2.11 1.74 1.33 .865 .690 .535 .258 | 8 | 3.36 | 2.90 | 2.31 | 1.86 | 1.40 | .889 | .706 | .546 | .262 | .130 |
| 11 3.11 2.72 2.20 1.80 1.36 .876 .697 .540 .260 .129 12 3.06 2.68 2.18 1.78 1.36 .873 .695 .539 .259 .128 13 3.01 2.65 2.16 1.77 1.35 .870 .694 .538 .259 .128 14 2.98 2.62 2.14 1.76 1.34 .868 .692 .537 .258 .128 15 2.95 2.60 2.13 1.75 1.34 .866 .691 .536 .258 .128 16 2.92 2.58 2.12 1.75 1.34 .865 .690 .535 .258 .128 17 2.90 2.57 2.11 1.74 1.33 .863 .689 .534 .257 .127 19 2.86 2.54 2.09 1.73 1.33 .861 .688 .533 .257 | 9 | 3.25 | 2.82 | 2.26 | 1.83 | 1.38 | .883 | .703 | .543 | .261 | .129 |
| 11 3.11 2.72 2.20 1.80 1.36 .876 .697 .540 .260 .129 12 3.06 2.68 2.18 1.78 1.36 .873 .695 .539 .259 .128 13 3.01 2.65 2.16 1.77 1.35 .870 .694 .538 .259 .128 14 2.98 2.62 2.14 1.76 1.34 .868 .692 .537 .258 .128 15 2.95 2.60 2.13 1.75 1.34 .866 .691 .536 .258 .128 16 2.92 2.58 2.12 1.75 1.34 .865 .690 .535 .258 .128 17 2.90 2.57 2.11 1.74 1.33 .863 .689 .534 .257 .127 19 2.86 2.54 2.09 1.73 1.33 .861 .688 .533 .257 | | | | | | | | | | | |
| 12 3.06 2.68 2.18 1.78 1.36 .873 .695 .539 .259 .128 13 3.01 2.65 2.16 1.77 1.35 .870 .694 .538 .259 .128 14 2.98 2.62 2.14 1.76 1.34 .868 .692 .537 .258 .128 15 2.95 2.60 2.13 1.75 1.34 .866 .691 .536 .258 .128 16 2.92 2.58 2.12 1.75 1.34 .865 .690 .535 .258 .128 17 2.90 2.57 2.11 1.74 1.33 .863 .689 .534 .257 .127 19 2.86 2.54 2.09 1.73 1.33 .861 .688 .533 .257 .127 20 2.84 2.53 2.09 1.72 1.32 .860 .687 .533 .257 | 10 | 3.17 | 2.76 | 2.23 | 1.81 | 1.37 | .879 | .700 | .542 | .260 | .129 |
| 13 3.01 2.65 2.16 1.77 1.35 .870 .694 .538 .259 .128 14 2.98 2.62 2.14 1.76 1.34 .868 .692 .537 .258 .128 15 2.95 2.60 2.13 1.75 1.34 .866 .691 .536 .258 .128 16 2.92 2.58 2.12 1.75 1.34 .865 .690 .535 .258 .128 17 2.90 2.57 2.11 1.74 1.33 .863 .689 .534 .257 .128 18 2.88 2.55 2.10 1.73 1.33 .861 .688 .534 .257 .127 19 2.86 2.54 2.09 1.72 1.32 .860 .687 .533 .257 .127 20 2.84 2.53 2.09 1.72 1.32 .850 .686 .532 .257 | 11 | 3.11 | 2.72 | 2.20 | 1.80 | 1.36 | .876 | .697 | .540 | | .129 |
| 14 2.98 2.62 2.14 1.76 1.34 .868 .692 .537 .258 .128 15 2.95 2.60 2.13 1.75 1.34 .866 .691 .536 .258 .128 16 2.92 2.58 2.12 1.75 1.34 .865 .690 .535 .258 .128 17 2.90 2.57 2.11 1.74 1.33 .863 .689 .534 .257 .128 18 2.88 2.55 2.10 1.73 1.33 .862 .688 .534 .257 .127 19 2.86 2.54 2.09 1.73 1.33 .861 .688 .533 .257 .127 20 2.84 2.53 2.09 1.72 1.32 .860 .687 .533 .257 .127 21 2.83 2.52 2.08 1.72 1.32 .859 .686 .532 .257 | 12 | 3.06 | 2.68 | | 1.78 | 1.36 | ı | .695 | .539 | | .128 |
| 15 2.95 2.60 2.13 1.75 1.34 .866 .691 .536 .258 .128 16 2.92 2.58 2.12 1.75 1.34 .865 .690 .535 .258 .128 17 2.90 2.57 2.11 1.74 1.33 .863 .689 .534 .257 .128 18 2.88 2.55 2.10 1.73 1.33 .862 .688 .534 .257 .127 19 2.86 2.54 2.09 1.72 1.32 .860 .687 .533 .257 .127 20 2.84 2.53 2.09 1.72 1.32 .860 .687 .533 .257 .127 21 2.83 2.52 2.08 1.72 1.32 .859 .686 .532 .257 .127 21 2.83 2.52 2.08 1.72 1.32 .858 .686 .532 .256 | 13 | 3.01 | 2.65 | | 1.77 | 1.35 | .870 | .694 | .538 | .259 | .128 |
| 16 2.92 2.58 2.12 1.75 1.34 .865 .690 .535 .258 .128 17 2.90 2.57 2.11 1.74 1.33 .863 .689 .534 .257 .128 18 2.88 2.55 2.10 1.73 1.33 .862 .688 .534 .257 .127 19 2.86 2.54 2.09 1.73 1.33 .861 .688 .533 .257 .127 20 2.84 2.53 2.09 1.72 1.32 .860 .687 .533 .257 .127 21 2.83 2.52 2.08 1.72 1.32 .859 .686 .532 .257 .127 22 2.82 2.51 2.07 1.72 1.32 .858 .686 .532 .256 .127 23 2.81 2.50 2.07 1.71 1.32 .858 .685 .531 .256 | 14 | 2.98 | 2.62 | 2.14 | 1.76 | 1.34 | .868 | .692 | .537 | .258 | .128 |
| 16 2.92 2.58 2.12 1.75 1.34 .865 .690 .535 .258 .128 17 2.90 2.57 2.11 1.74 1.33 .863 .689 .534 .257 .128 18 2.88 2.55 2.10 1.73 1.33 .862 .688 .534 .257 .127 19 2.86 2.54 2.09 1.73 1.33 .861 .688 .533 .257 .127 20 2.84 2.53 2.09 1.72 1.32 .860 .687 .533 .257 .127 21 2.83 2.52 2.08 1.72 1.32 .859 .686 .532 .257 .127 22 2.82 2.51 2.07 1.72 1.32 .858 .686 .532 .256 .127 23 2.81 2.50 2.07 1.71 1.32 .858 .685 .531 .256 | | | | | | | | | | | |
| 17 2.90 2.57 2.11 1.74 1.33 .863 .689 .534 .257 .128 18 2.88 2.55 2.10 1.73 1.33 .862 .688 .534 .257 .127 19 2.86 2.54 2.09 1.73 1.33 .861 .688 .533 .257 .127 20 2.84 2.53 2.09 1.72 1.32 .860 .687 .533 .257 .127 21 2.83 2.52 2.08 1.72 1.32 .859 .686 .532 .257 .127 22 2.82 2.51 2.07 1.72 1.32 .858 .686 .532 .256 .127 23 2.81 2.50 2.07 1.71 1.32 .858 .685 .532 .256 .127 24 2.80 2.49 2.06 1.71 1.32 .856 .684 .531 .256 | 15 | 2.95 | 2.60 | | 1.75 | | .866 | .691 | .536 | | .128 |
| 18 2.88 2.55 2.10 1.73 1.33 .862 .688 .534 .257 .127 19 2.86 2.54 2.09 1.73 1.33 .861 .688 .533 .257 .127 20 2.84 2.53 2.09 1.72 1.32 .860 .687 .533 .257 .127 21 2.83 2.52 2.08 1.72 1.32 .859 .686 .532 .257 .127 22 2.82 2.51 2.07 1.72 1.32 .858 .686 .532 .256 .127 23 2.81 2.50 2.07 1.71 1.32 .858 .685 .532 .256 .127 24 2.80 2.49 2.06 1.71 1.32 .857 .685 .531 .256 .127 25 2.79 2.48 2.06 1.71 1.32 .856 .684 .531 .256 | 16 | | 2.58 | | | 1.34 | .865 | .690 | .535 | | .128 |
| 19 2.86 2.54 2.09 1.73 1.33 .861 .688 .533 .257 .127 20 2.84 2.53 2.09 1.72 1.32 .860 .687 .533 .257 .127 21 2.83 2.52 2.08 1.72 1.32 .859 .686 .532 .257 .127 22 2.82 2.51 2.07 1.72 1.32 .858 .686 .532 .256 .127 23 2.81 2.50 2.07 1.71 1.32 .858 .685 .532 .256 .127 24 2.80 2.49 2.06 1.71 1.32 .857 .685 .531 .256 .127 25 2.79 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 26 2.78 2.48 2.06 1.71 1.32 .856 .684 .531 .256 | 17 | 2.90 | 2.57 | | 1.74 | 1.33 | ı | .689 | | | |
| 20 2.84 2.53 2.09 1.72 1.32 .860 .687 .533 .257 .127 21 2.83 2.52 2.08 1.72 1.32 .859 .686 .532 .257 .127 22 2.82 2.51 2.07 1.72 1.32 .858 .686 .532 .256 .127 23 2.81 2.50 2.07 1.71 1.32 .858 .685 .532 .256 .127 24 2.80 2.49 2.06 1.71 1.32 .857 .685 .531 .256 .127 25 2.79 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 26 2.78 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 27 2.77 2.47 2.05 1.70 1.31 .855 .684 .531 .256 | | | | | | | ı | | | | |
| 21 2.83 2.52 2.08 1.72 1.32 .859 .686 .532 .257 .127 22 2.82 2.51 2.07 1.72 1.32 .858 .686 .532 .256 .127 23 2.81 2.50 2.07 1.71 1.32 .858 .685 .532 .256 .127 24 2.80 2.49 2.06 1.71 1.32 .857 .685 .531 .256 .127 25 2.79 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 26 2.78 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 27 2.77 2.47 2.05 1.70 1.31 .855 .684 .531 .256 .127 28 2.76 2.47 2.05 1.70 1.31 .854 .683 .530 .256 | 19 | 2.86 | 2.54 | 2.09 | 1.73 | 1.33 | .861 | .688 | .533 | .257 | .127 |
| 21 2.83 2.52 2.08 1.72 1.32 .859 .686 .532 .257 .127 22 2.82 2.51 2.07 1.72 1.32 .858 .686 .532 .256 .127 23 2.81 2.50 2.07 1.71 1.32 .858 .685 .532 .256 .127 24 2.80 2.49 2.06 1.71 1.32 .857 .685 .531 .256 .127 25 2.79 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 26 2.78 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 27 2.77 2.47 2.05 1.70 1.31 .855 .684 .531 .256 .127 28 2.76 2.47 2.05 1.70 1.31 .854 .683 .530 .256 | | | | | | | | | | | |
| 22 2.82 2.51 2.07 1.72 1.32 858 .686 .532 .256 .127 23 2.81 2.50 2.07 1.71 1.32 .858 .685 .532 .256 .127 24 2.80 2.49 2.06 1.71 1.32 .857 .685 .531 .256 .127 25 2.79 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 26 2.78 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 27 2.77 2.47 2.05 1.70 1.31 .855 .684 .531 .256 .127 28 2.76 2.47 2.05 1.70 1.31 .855 .683 .530 .256 .127 29 2.76 2.46 2.04 1.70 1.31 .854 .683 .530 .256 | | | | | | | | | | | |
| 23 2.81 2.50 2.07 1.71 1.32 .858 .685 .532 .256 .127 24 2.80 2.49 2.06 1.71 1.32 .857 .685 .531 .256 .127 25 2.79 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 26 2.78 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 27 2.77 2.47 2.05 1.70 1.31 .855 .684 .531 .256 .127 28 2.76 2.47 2.05 1.70 1.31 .855 .683 .530 .256 .127 29 2.76 2.46 2.04 1.70 1.31 .854 .683 .530 .256 .127 30 2.75 2.46 2.04 1.70 1.31 .854 .683 .530 .256 | I | | | | | | | | | | |
| 24 2.80 2.49 2.06 1.71 1.32 .857 .685 .531 .256 .127 25 2.79 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 26 2.78 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 27 2.77 2.47 2.05 1.70 1.31 .855 .684 .531 .256 .127 28 2.76 2.47 2.05 1.70 1.31 .855 .683 .530 .256 .127 29 2.76 2.46 2.04 1.70 1.31 .854 .683 .530 .256 .127 30 2.75 2.46 2.04 1.70 1.31 .854 .683 .530 .256 .127 40 2.70 2.42 2.02 1.68 1.30 .851 .681 .529 .255 | I | | | | | | | | | | |
| 25 2.79 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 26 2.78 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 27 2.77 2.47 2.05 1.70 1.31 .855 .684 .531 .256 .127 28 2.76 2.47 2.05 1.70 1.31 .855 .683 .530 .256 .127 29 2.76 2.46 2.04 1.70 1.31 .854 .683 .530 .256 .127 30 2.75 2.46 2.04 1.70 1.31 .854 .683 .530 .256 .127 40 2.70 2.42 2.02 1.68 1.30 .851 .681 .529 .255 .126 60 2.66 2.39 2.00 1.67 1.30 .848 .679 .527 .254 | | | | | | | ı | | | | |
| 26 2.78 2.48 2.06 1.71 1.32 .856 .684 .531 .256 .127 27 2.77 2.47 2.05 1.70 1.31 .855 .684 .531 .256 .127 28 2.76 2.47 2.05 1.70 1.31 .855 .683 .530 .256 .127 29 2.76 2.46 2.04 1.70 1.31 .854 .683 .530 .256 .127 30 2.75 2.46 2.04 1.70 1.31 .854 .683 .530 .256 .127 40 2.70 2.42 2.02 1.68 1.30 .851 .681 .529 .255 .126 60 2.66 2.39 2.00 1.67 1.30 .848 .679 .527 .254 .126 120 2.62 2.36 1.98 1.66 1.29 .845 .677 .526 .254 | 24 | 2.80 | 2.49 | 2.06 | 1.71 | 1.32 | .857 | .685 | .531 | .256 | .127 |
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Fuente: R. A. Fisher y F. Yates, Statistical Tables for Biological, Agricultural and Medical Research (Tablas de estadísticas para la investigación biológica, agrícola y médica) (5a. edición), Tabla III, Oliver and Boyd Ltd., Edinburgh, con autorización de los autores y editores.

Source: Spiegel & Stephens, 2009, p. 563.

ANNEX N° 5: Pictures of work group and reading activities in class

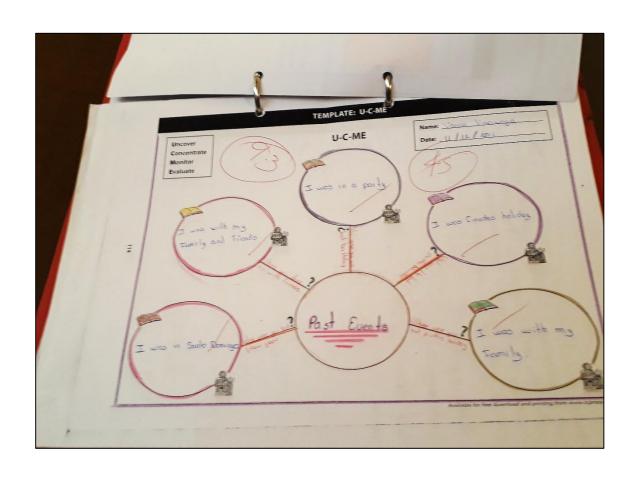


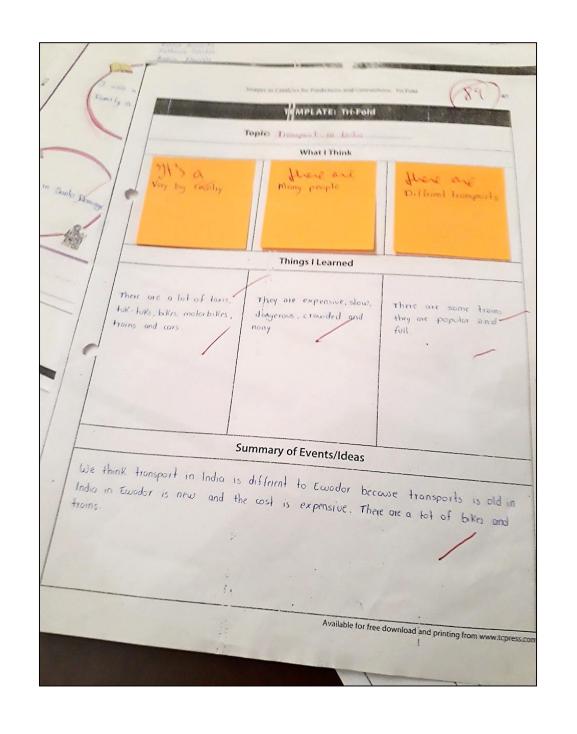




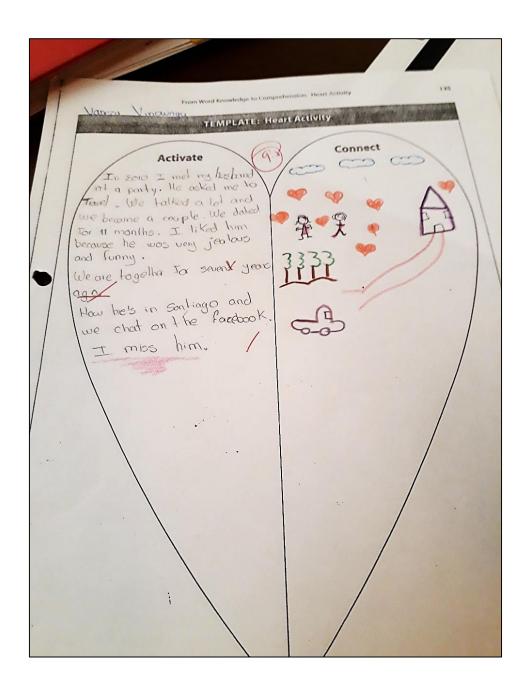








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