UNIVERSIDAD TÉCNICA DEL NORTE

INSTITUTO DE POSTGRADO

MAESTRÍA EN PEDAGOGÍA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS MENCIÓN EN INGLÉS

"METACOGNITIVE STRATEGIES IN RELATION TO THE DEVELOPMENT OF READING COMPREHENSION SKILLS IN EFL SENIOR HIGH SCHOOL STUDENTS IN IBARRA- ECUADOR"

A Master Thesis

Submitted in Partial Fulfillment of the Requirements for the

Maestría en Pedagogía de los Idiomas Nacionales y Extranjeros: Mención Inglés

AUTHOR: Leydi Tatiana Vega Martínez

DIRECTOR: PhD. Lorena Toro Mayorga

IBARRA - ECUADOR

2021

UNIVERSIDAD TÉCNICA DEL NORTE
BIBLIOTECA UNIVERSITARIA

AUTORIZACIÓN DE USO Y PUBLICACIÓN
A FAVOR DE LA UNIVERSIDAD TÉCNICA DEL NORTE

1. IDENTIFICACIÓN DE LA OBRA

En cumplimiento del Art. 144 de la Ley de Educación Superior, hago la entrega del presente trabajo a la Universidad Técnica del Norte para que sea publicado en el Repositorio Digital Institucional, para lo cual pongo a disposición la siguiente información:

DATOS DE CONTACTO			
CÉDULA DE IDENTIDAD:	020148101-7		
APELLIDOS Y NOMBRES:	Vega Martínez Leydi Tatiana		
DIRECCIÓN:	Calle Quito y Av. 13 de abril		
EMAIL:	ltvegam@utn.edu.ec		
TELÉFONO FIJO:	n/a	TELÉFONO MÓVIL:	0987568961

DATOS DE LA OBRA	
TÍTULO:	"METACOGNITIVE STRATEGIES IN RELATION TO THE DEVELOPMENT OF READING COMPREHENSION SKILLS IN EFL SENIOR HIGH SCHOOL STUDENTS IN IBARRA- ECUADOR"
AUTOR (ES):	Leydi Tatiana Vega Martínez
FECHA: DD/MM/AAAA	11/06/2021
SOLO PARA TRABAJOS DE GRADO	
PROGRAMA:	☐ PREGRADO ◼ POSGRADO
TITULO POR EL QUE OPTA:	Magister en Pedagogía de los idiomas Nacionales y Extranjeros mención Inglés.
ASESOR /DIRECTOR:	PhD. Lorena Toro Mayorga

2. CONSTANCIAS

El autor manifiesta que la obra objeto de la presente autorización es original y se la desarrolló, sin violar derechos de autor de terceros, por lo tanto la obra es original y que es el titular de los derechos patrimoniales, por lo que asume la responsabilidad sobre el contenido de la misma y saldrá en defensa de la Universidad en caso de reclamación por parte de terceros.

Ibarra, a los 23 días del mes de Junio de 2021

EL AUTOR:

Leydi Tatiana Vega Martínez

THESIS APPROVAL BY THE THESIS DIRECTOR

As thesis tutor of the study "METACOGNITIVE STRATEGIES IN RELATION TO THE DEVELOPMENT OF READING COMPREHENSION SKILLS IN EFL SENIOR HIGH SCHOOL STUDENTS IN IBARRA- ECUADOR." Submitted by Leydi Tatiana Vega Martinez in partial fulfillment of the requirements for the Maestría en Pedagogía de los Idiomas Nacionales y Extranjeros: Mención Inglés. I certify that this thesis work meets sufficient requirements and merits to be submitted to private presentation and evaluation by the thesis committee.

Ibarra, May 2nd, 2021.

PhD.Lorena Toro Mayorga
I.D. 1802569705
Thesis Turor

DEDICATION

To my beloved family, who has been my rock since the very beginning of my life, all of you have been an inspiration and a role model to me.

To my boyfriend, who has supported me and encouraged me to make this professional dream come true.

ACKNOWLEDGEMENTS

I want to thank God for giving me the strength to complete this project.

I am thankful for the support and love that my family and my family in law have given me through this process.

To my dear Teacher Lorena Toro, who has inspired me to work hard and to show the world what I can do.

My special gratitude to the Universidad Técnica del Norte for having such outstanding and professional teachers and tutors, thank you for sharing your knowledge and sharing your love to teach; you have contributed to my life in so many ways.

CONTENTS

List of tables

List of Figures

RESUMEN

La comprensión de lectura juega un papel clave dentro de las aulas de inglés como lengua extranjera. Varios estudios han documentado una posible asociación entre las estrategias metacognitivas y el nivel de comprensión lectora. Sin embargo, aún no se ha entendido cómo las estrategias metacognitivas se relacionan con el desarrollo de habilidades de comprensión lectora en estudiantes de EFL de secundaria. En consecuencia, este estudio ilustra cómo el uso de estrategias metacognitivas, mientras se realizan actividades de lectura, podría aumentar el nivel de comprensión entre los estudiantes. Las herramientas en línea (encuesta, prueba y evaluación de material) proporcionaron datos cuantitativos de 110 estudiantes de último año y 5 maestros de una escuela secundaria local en Ibarra-Ecuador. Este estudio encontró bajos niveles de habilidades lectoras entre los estudiantes y un uso escaso de estrategias metacognitivas en la clase. Los hallazgos también indican que el material de lectura utilizado por los profesores no está diseñado para aplicar estrategias metacognitivas. De los hallazgos se desprende claramente que todos los estudiantes han utilizado estrategias metacognitivas en un nivel inferior al realizar actividades de lectura. En consecuencia, este estudio contribuye con una propuesta de adaptación del material utilizado por los profesores para que influya apropiadamente el uso de estrategias metacognitivas dirigidas a estudiantes de último año de bachillerato para facilitar su comprensión lectora. El modelo metodológico sugerido es flexible para la evaluación y mejoramiento del material de lectura implementando estrategias metacognitivas que, de acuerdo a la revisión de literatura, funcionan efectivamente en estudiantes de inglés como lengua extranjera.

Palabras clave: comprensión lectora, estrategias metacognitivas, material de lectura, estudiantes de inglés como lengua extranjera.

ABSTRACT

Reading comprehension plays a key role inside EFL classrooms. Several studies have documented a potential association between metacognitive strategies and level of reading comprehension. However, how metacognitive strategies relate to the development of reading comprehension skills in EFL senior high school students has yet to be understood. Consequently, this study illustrates how the use of metacognitive strategies while doing reading activities might increase the level of understanding among the students. Online tools (survey, test, and evaluation file) provided quantitative data from 110 senior students and five teachers of a local high school in Ibarra- Ecuador. This research found low levels of reading skills among the students and minimal use of metacognitive strategies in the class. The findings also indicate that the reading material used by teachers is not designed to apply metacognitive strategies. It is clear from the findings that students do not implement metacognitive strategies efficiently while developing reading activities. Consequently, this study contributes with a proposal to appropriately adapt the material used for teachers to increase the use of metacognitive strategies among senior high school students. According to the Literature review, the methodological model aims to evaluate and improve reading material according to metacognitive strategies, which are effective for EFL teaching-learning processes.

Keywords: reading comprehension, metacognitive strategies, reading material, EFL students.

CHAPTER I

1.1 Introduction

Reading comprehension is a significant area of interest within the field of studying English as a foreign language (EFL) not only for academic purposes but also for the interaction and communication with written language. Senior students have to read and understand what is being taught through textbooks, blogs, and articles, which demands a high level of comprehension. Recently, considerable literature has grown around the theme of using metacognitive strategies while doing reading activities to improve the level of understanding among EFL students around the word.

English is the official foreign language taught in Ecuador. However, the performance of the students in the language is low. A recent study conducted by Education First (EF) ranked Ecuador in 81st place, according to the English Proficiency Index,2019. Determining the impacts of metacognitive strategies on reading comprehension is essential for the future of teaching and learning English as a foreign language in Ecuador. There is little published data on the effectiveness of using metacognitive strategies to enhance reading comprehension levels in Ecuador. To address this problem, it is imperative to identify how metacognitive strategies relate to the development of reading comprehension among EFL senior high students in Ecuador and analyze how the reading material given to the students affects this level of comprehension.

Hence, the use of metacognitive strategies to develop reading comprehension skills in senior students is a need, and every school should train teachers to teach in EFL classrooms effective methods that help students achieve better thinking. These strategies could be added to the curriculum in order to share a valuable guide for teachers. It is also essential to consider the students' needs, taking into account the process, materials, and characteristics of their work environment.

Thus, this paper has been structured as follows:

Chapter I. In this chapter, the problem description is analyzed using previous studies in the field worldwide to help the reader understand the importance of the study in EFL senior high school students.

Chapter II. Focuses on the theoretical framework, which contains a deep analysis of the most relevant literature review, is presented, including definitions and results of previous studies done within this area.

Chapter III. The methodology, the research method, the population, and the characteristics and aspects of the instrument for data collection, processing, and analysis of the data information determine the results.

Chapter IV. The results of the tools applied to gather information are explained utilizing charts and figures and the discussion of the findings.

Chapter V. The proposal is carefully detailed, providing clear instructors to help teachers increase reading comprehension levels by implementing metacognitive strategies in their reading activities.

Chapter VI. The conclusions and recommendations are described in this chapter.

1.2 Problem Description

Reading is the primary vehicle for students' academic and intellectual development (Taghvayi, Vaziri, & Kashani, 2012). Without reading, people could experience difficulties understanding the world and its complexity; it is important to know how to read and how to explain what it is being read. Furthermore, reading is one of the four skills needed to acquire when learning English as a foreign language.

The study by *Centro Regional para la Promoción del Libro en Lationamérica y el Caribe (CERLAC)* identified Ecuador as one of the countries with the lowest average in the region regarding reading habits among teenagers; young people in Ecuador read about half of a book per year. Likewise, *Instituto Nacional de Estadísticas y Censos del Ecuador (INEC)*, reports that in Ecuador, there is not a reading culture among people. The most important reasons are the lack of time and little or no interest in reading. The results showed that the majority of the active reading population is between sixteen to twenty-four years old. However, this group of people expressed that they read mainly for academic purposes, not because they like reading (Payro, Rosales, & Monteros, 2018). This problem could be related to the reading content used in teaching-learning material and weak connection with the experiences and interests of teenage readers.

Flavell (1979) reported that when people read, a connection between reader, text, and context takes place. To comprehend the text, people use metacognitive knowledge by linking new information with their beliefs or cultural background. In addition to metacognitive knowledge, comprehending a text involves several skills, for instance, lexical selection, grammatical structure, and word-order knowledge. Spooner, Gathercole, and Baddeley (2006) highlighted the importance of using metacognitive strategies to address these skills and successfully understand the text. Moreover, these metacognitive strategies help the reader remember fragments of the text to integrating them into the brain in a coherent manner.

Consequently, the correct use of metacognitive strategies plays a vital role in reading comprehension. They can help readers acquire a higher level of understanding by themselves or with teachers' guide. There are limitless metacognitive strategies that could be applied when reading a text (Lee M., 2012). Zhang, Gu, and Hu (2008) carried out a study involving 18 children from Singapore, concluding that the earlier the exposure to metacognitive strategies, the better the comprehension of the text content. However, very little has been said about the role of metacognitive strategies in senior high school students. According to Torre and Eden (2019), age, sex, interest, heritage, and tradition have a close relationship with people's reading skills.

The present study was designed to analyze the use of metacognitive strategies related to the development of reading comprehension in EFL senior high school students.

1.3. Research Question

How metacognitive strategies relate to the development of reading comprehension skills in EFL senior high school students?

1.4. Objectives

1.4.1. General objective

Identify how metacognitive strategies relate to the development of reading comprehension skills in EFL senior high school students.

1.4.2. Specific objectives

1. Analyze the students' level of reading comprehension skill, their performance, and preferences in reading activities.

2. Identify how reading material used in class include metacognitive strategies to develop reading comprehension skills.

3. Propose a flexible methodological model to evaluate and improve reading material according to metacognitive strategies that will work efficiently for EFL senior high school students.

1.5. Justification

This study is critical because few studies are done related to the importance of metacognitive strategies in an EFL classroom and how the correct use of them could improve reading comprehension levels in senior students during the learning process.

Besides, public education in Ecuador has paid great attention to the reading deficit. The Ministry of Education promoted the slogan "*Sin Lectura, no hay Educación*", to encourage and cultivate reading habits in students of the various educational centers throughout the country. One of the programs is called "*Plan Nacional del Libro*", which seeks to generate more reading spaces in classrooms, which are considered within the curricular networks. On the other hand, there is the José de la Cuadra reading program, with the "*Yo leo*" campaign that has the same purpose of encouraging reading, but with the distinction that teachers are involved as the main axes to guide and provide the conditions to develop reading spaces (Ministerio de Educación, 2018).

Regarding foreign language readings, the education curriculum promotes this ability with an emphasis on the English language, considering that the exit profile of the Baccalaureate student is the mastery of the four foreign language skills. On top of that, mastering a foreign language is necessary if the students apply for a scholarship in their home country or abroad (Cronquist & Fiszbein, 2017). However, various reasons affect how well readers understand texts, including not having didactic and authentic material to work with, which could lead to little or no interest in learning a new language. Another factor to consider is the reader's personality characteristics, which could be seen as a positive or negative experience while learning the language (Al-Saraj, 2014).

As Taghvayi et al. (2012) explained, lack of reading comprehension is not an intellectual problem but a learning stage that has not been appropriately developed or that has not been offered to people with the correct strategies. Veenman, Hout-Wolters, and Afferbach (2006), on the other hand, state that metacognition is innate in every human being. When children develop speech production, there is an unconscious process in which the child controls the pace. Something similar happens when they start reading, as neurological changes appear in the brain to help the learner connect letters and symbols to be later understood through words, sentences, and phrases. Therefore, there is a necessity to evaluate how reading skill development relates to reading material used in the teaching-learning process and how this content allows the incorporation of metacognitive strategies in the Ecuadorian context.

Flavell (1979), defined metacognition as "thinking about thinking". In other words, it is the capacity to know how to learn or think. The study conducted by Solheim et al. (2018) proposed that metacognitive strategies must be applied early in the classrooms with spelling, mnemonic aids, and didactic activities to enhance learners improve their academic performance and daily life decisions.

Stanovich (2000) claimed that reading comprehension is related to the capacity of people to decode and text recognition. Currently, EFL classrooms face the deficiency of metacognitive strategies when reading, causing a low level of understanding. Hence, it is important to incorporate and improve metacognitive strategies in means of planning, evaluating, monitoring, and providing meaningful exercises in the class content to self-appraise and self-regulate reading processes, motivating learners actively to encourage them to keep learning on their own (Nietfeld, Li, & Osborne, 2006; Wenden, 1998).

1.6. Significance

The contribution of this research will have:

1.6.1. Social Significance.

There are few studies done related to the importance of metacognitive strategies in an EFL classroom and how the correct use of them could improve reading comprehension during the learning process.

1.6.2. Methodological Significance:

This research will identify a method to assess which metacognitive strategies best work among EFL senior high school students. The results will benefit teachers who struggle to find the correct reading strategy in the classroom.

CHAPTER II

2.1.   Background

Teaching a foreign language has become a serious theme among professors and scholars worldwide. Since the nineteenth century, several techniques and methods have been created to help learners acquire the knowledge to master a second language. During the fifteenth century, people in Europe were learning Latin, which at that time was widely used. Nevertheless, other languages became important, throughout the sixteenth century, such as French, Italian, and English. The techniques and methods used to learn Latin was the basis for developing textbooks and other teaching materials to impart new languages into the classroom. English was one of those new languages that needed to be learned. Therefore, having the right approach was essential (Brown, 2000).

Nowadays, sixty percent of the world's population is multilingual (Gooskens, et al., 2017), and the way of how a foreign language is taught is essential for the student learning process. The Grammar-Translation method is the first approach register in the history of language teaching. (Brown, 2000). However, many others have been developed over the years. In his book, Brown classified certain principles as the core of an approach to language teaching. The first principle is called the Cognitive Principles, as they link mostly to mental processes.

In this context, the metacognitive approach appears to enhance students' deeper analysis of what they learn. In 1994, this term was already known for several teachers who desire to grow in their pupil's self-regulation and consciousness (Quicke & Winter, 1994). On top of that, the study done by Whittaker and Van (2012), concluded that applying the metacognitive approach to their case problem-solving improves the comprehension of the twenty-two participants involved in the study.

The last decades have seen a growing trend towards approaches that embrace the use of metacognition. As stated by Chomsky at the end of the sixties, there was a need to focus on communicative proficiency rather than grammatical structures. Therefore, new

approaches that demand higher-order thinking from students appeared, such as the communicative approach, which was central in the ability to use the language appropriately in real meaning, highlighting the connection between previous knowledge to interact successfully with teachers and peers (Richards & Rodgers, 2010).

Among the four language skills, reading is one of the most challenging as it requires a certain lexical and written knowledge. Reading in a foreign language for many learners might be seen as more complex. However, according to Gamboa (2017), reading in the mother tongue and in a foreign language share some characteristics that help the learner relate to the text, and therefore understand it. On the other hand, Carrell (1998) described the thoughts of many researchers before the '70s, emphasizing that during this period, reading was conceived as a passive process, a secondary part of the oral skill, not as important as this last, since it only de-codified written information. However, Grabe (1998) defined it as: "a receptive language process in which the reading activates a range of knowledge in the reader's mind that he or she uses, and that in turn, may be refined and extended by the new information supplied by the text" (p.56).

Furthermore, Li and Wilhelm (2008) associated the results and believes of many authors before 2000. They concluded that reading is not only a receptive but also an active and dynamic process in which the reader empowers their knowledge employing mental connections and inferences. Also, in their research, Taghvayi, Vaziri, and Kashani (2012) assured that reading is the main tool for the academic and intellectual development of students; they highlighted that the lack of this instrument is not an intellectual problem, but a learning stage that has not been appropriately developed.

For this study, metacognition and reading comprehension are defined and explained as follows:

2.2. Metacognition

For Djudin (2017), metacognition is defined as becoming aware of one's own consciousness. On the other hand, cognition is conceptualized in general terms as

thinking, that is when a person connects with their mental processes to understand a certain topic. The study carried out by Weinert and Kluwe (1987) showed that cognitive strategies help to achieve a goal. The authors provided an example for a better understanding of the differences between cognition and metacognition. When people read a text in a leisurely way, they do it to learn the content; at that moment, they use cognitive strategies. Instead, if they skim it to get an idea of how difficult or easy it will be to learn the content, they use metacognitive strategies. In other words, the cognitive knowledge that people use to organize their thoughts and the way they concentrate and plan how they can understand texts is called metacognition (Mokhtari & Reichard, 2004).

Metacognition is a topic that is closely related to pedagogy, scientific education, reading, mathematics, and problem-solving. Harris and Hodges (1995) defined metacognition as "the awareness and knowledge of one's mental processes such that one can monitor, regulate, and direct them as a desired end; self-mediation" (p, 153). During the teaching process, students must develop this fundamental ability; as learners, they activate their working memory, short memory, and long-term memory, which leads to a successful learning experience (Zohar & Barizilai, 2013).

On the other hand, Flavell (1979) stated that metacognition is "increasing the quantity, and quality of children's metacognitive knowledge and monitoring skills through systematic training may be feasible as well as desirable" (p. 906). He also argued that metacognition is the basis of oral and written communication, as well as reading, listening, and general comprehension. Metacognition helps people develop self-control and self-instruction, improving their behavior, personality, and pace of learning.

In 2005, Israel, Block, Bauserman and Kinnucan-Welsh analyzed Flavell and Harris' previous statements in their book, *Metacognition in literacy learning*. They claimed that metacognition is "the awareness and judgment about an event gained through experience" (p.4). In conclusion, cognition refers to deliberate actions made by the reader to understand a topic, while metacognition implicates actions that involve planning, monitoring, and understanding the process of learning a topic.

Human beings can reflect on the way they think and act; this, to improve various fields, such as education. People perform metacognitive activities every day; for instance, when a situation arises to solve a problem, metacognitive knowledge is used (Flavell, 1979). For every scenario in which a more profound mental process is needed, metacognitive undertakings occur in the brain. Consequently, Flavell developed four elements with which he explains how self-monitoring can help learners to become better thinkers: (1) metacognitive knowledge, (2) metacognitive experiences, (3) goal or task, and (4) actions or strategies.

In the studies carried out by Djudin (2017), Flavell (1987) and Schmidt (1993), it was concluded that these four monitoring elements help people to be aware of the use of metacognitive strategies for better performance in the activities they achieve every day. The authors emphasized that if these strategies are correctly used in the classroom, teachers will help grow their students' skills, making them independent learners and strategic thinkers and preparing them to solve everyday problems.

Nevertheless, Flavell, Miller and Miller (2002) established a shorter classification: (1) metacognitive knowledge, (2) metacognitive experiences, and (3) metacognitive monitoring and self-regulation. This classification was done after studying the contributions of many authors, during the '80s and '90s, regarding the effectiveness of applying these four elements (Zohar & Barizilai, 2013).

2.2.1. Metacognitive knowledge

It is the stored knowledge of the person that helps them remember actions and experiences with other people. Flavell (1979) sub-classified it in three main variables. The first refers to the available information in the cognitive enterprise, which could be easy or difficult to understand or remember. The second is everything that one could believe about the world, people, and oneself as cognitive processors and how they learn. The third strategy is how people use tactics to acquire knowledge and the behavior towards learning. In

other words, metacognitive knowledge refers to the beliefs or experiences that people use to understand a new topic. It is commonly known as an "awareness strategy" (Zhang, 2001).

Meanwhile, authors Schraw, Crippen, and Hartley (2006) mentioned that metacognitive knowledge is composed of knowledge about oneself, that is, having the capacity to recognize the way one learns; knowledge about one's abilities as each person can define their own strengths and weaknesses and employ a right strategy; and knowledge about when, why and how to apply strategies.

In the study conducted by Camahalan (2006), he analyzed the effects of applying metacognitive strategies. He concluded that metacognitive knowledge in the classroom helped students when the assignments made learners think about the process and the procedure in which they would accomplish them.

2.2.2. Metacognitive monitoring and self-regulation

Metacognitive monitoring and self-regulation are also called metacognitive skills. Efklides (2006) explained that it is the procedural knowledge that a person consciously prepares to control cognition. Flavell et al. (2002) clarified that besides its use to guide, control, and regulate one's own cognition and learning, it is also essential to have the consciousness of planning, monitoring, and evaluating one's performance.

Some scholars have used this framework as a base for their studies. For instance, Costa (1985), Schraw & Moshman (1995), and Whitebread et al. (2009) strongly believed that using metacognitive monitoring and self-regulation are the most important factors of the learning process. Their studies showed how the level of understanding of the students who were taught to use these steps before completing a task improved drastically from the ones who were not. They provided the characteristics of each step: *planning* shows the performer to think about the outcomes and suitable strategies, *monitoring* comprises the learner's own comprehension, and *evaluating* refers to have time to reflect and assess

one's performance. On top of that, Veenman, Van Hout-Wolters, and Afflerbach (2006) have concluded that the earlier the exposure comes up, the better results students will get.

2.2.3. Metacognitive experiences

Flavell et al. (2002) stated that metacognitive experiences are the "cognitive or affective experiences that pertain to a cognitive enterprise" (p.154). In other words, they are the affective experiences that are linked to the person. They can be short or long in duration and complex or straightforward in context (Flavell, 1979). The author also provided an example for a better understanding: "people may experience a momentary sense of puzzlement that they subsequently ignore, or they may wonder for some time whether they really understand what another person is up to." These experiences can also occur at any time before, after, or during a cognitive enterprise (p.908).

This way, Djudin (2017) assured that experiences could affect metacognitive knowledge since they can add, delete or revise a scenario in which there is a conscious thought. On top of that, Efklides (2006) studied the importance of applying metacognitive experiences to the learning process. They emphasized the fact that to talk about metacognitive experience, it is also necessary to comprise the learner's feelings and judgments present in solving problems. These feelings and judgments are non-conscious and non-analytical processes, which come up as rapid decisions.

2.3. Metacognitive skills in education

The study conducted by Zohar and Barizilai (2013), *A review of research on metacognition in science education: Current and future directions*, carried out a literature review of 178 studies between the years 2000 and 2012 regarding the impact of metacognition in education. Results showed that it is still an unknown field for many teachers and students, but it has grown considerably during this period. When it comes to education, the most recommended phrase is to develop metacognitive skills; in other words, cultivate thinking abilities. These abilities have a positive impact on reading, problem-solving, inquiring, and writing.

Scholars, such as Whitebread et al. (2009), mentioned that children who are taught to develop metacognitive skills are more likely to increase these skills over the years (Larkin, 2006). However, few studies show the impact of teaching metacognitive skills in high school students.

2.4. Teaching metacognitive strategies

Students who are taught or use metacognitive skills have shown better performance than those who are not or do not (Zimmerman & Schunk, 2011). When students have a plan and a procedure to reach a goal, their performance is much higher, and the chances of meeting the goals increase. Mitchell (2015) proposed a set of seven strategies to improve students' metacognition skills:

1. Teach students how their brains are wired for growth.

   Allowing students to get to know their own brain and how it works could improve their performance.

2. Let students recognize what they do not understand.

   Not understanding is not a bad thing; instead, it is a chance to analyze where the confusion might be and be aware of it. This will cultivate their self-consciousness.

3. Provide opportunities to reflect on coursework.

   Every human being uses their cognitive knowledge to act. Students must conduct them into metacognitive knowledge.

4. Have students keep learning journals.

   It is a great tool to monitor their thinking. On top of that, it is an excellent way to encourage students to create their own model of learning.

5. Use a "wrapper" to increase students monitoring skills.

   Provide students tips or pieces of advice that include metacognitive practice.

6. Consider essay vs. multiple-choice exams.

   This helps students plan, reflect and monitor their tasks.

7. Facilitate reflexive thinking.

   Reflection is purely a metacognitive process that will make them better thinkers.

Consequently, Djudin (2017) concluded that the best place to learn and practice metacognitive skills is at school, where students have plenty of opportunities to develop this ability as teachers will guide the process all the way through.

2.5. Reading comprehension

Reading comprehension was first mentioned by Durkin (1978), when he declared that several cognitive processes take place in readers' minds. Since then, there have been many studies and researches about the importance of conquering the field of reading comprehension. Collins and Pressley (2002) recognized more than 30 cognitive and metacognitive processes presented during reading comprehension.

Additionally, Palincsar and Brown (1984), Pearson and Fielding (1991), Rosenshine and Meister (1994) have pointed out that the reader uses cognitive and metacognitive strategies when attempting to comprehend the text. These strategies include: summarizing, connecting prior knowledge and experiences with the text, writing questions, looking up the meaning of unknown lexicon, and making predictions about the text. Recently, Veeravagu, Muthusamy, Marimuthu, and Subrayan (2010) defined reading comprehension as:

> a thinking process by which a reader selects facts, information, or ideas from printed materials; determines the meanings the author intended to transmit; decides how they relate to previous knowledge; and judges their appropriateness and worth for meeting the learner's own objectives (p.206).

2.6.1. Reading comprehension skills vs. strategies

On the other side, Afflerbach, Pearson and Paris (2008) analyzed the use of skills and strategies in reading comprehension during the last three decades and concluded that there is a confusion between these terms, according to teachers and students. Apparently, they are similar; therefore, people started to use these as synonyms. However, the results showed some differences, which are explained in Table 1.

Table 22

Differences between reading skills and reading strategies

Skills	Strategies
Automatic actions that result in decoding and comprehension with speed, efficiency, and fluency and usually occur without awareness of the components or control involved.	Deliberate, goal-directed attempts to control and modify the reader's efforts to decode text, understand words and construct meanings of a text.

Adapted from Afflerbach, P., Pearson, P. D., & Paris, S. G. (2008).
Clarifying differences between reading skills and reading strategies. The Reading Teacher, 364-373.
Retrieved from http://www.jstor.org/stable/20204600.

Furthermore, the study conducted by Solheim, Frijters, Lundetrae, and Uppstad (2018) proposed that reading strategies could be applied early in the classrooms by using spelling; thus, they would raise the level of grammatical knowledge and motivate students. If students know the meaning of the word or its root, they will not feel that reading is foreign to their knowledge. Some spelling rules that have been applied in the early stages have been helpful in academic performance and daily life decisions. Students must be skillful and strategic readers and, as both complement each other, it is important to know the right time to apply them, according to the objective and goals.

For Habók and Magyar (2019), it is about teaching reading skills or applying reading strategies in the classroom and remembering and applying them in all academic activities. Developing in students an education routine will serve as a basis for correct academic performance, considering reading, spelling, calligraphy, and even speaking. Professionals

will always read papers and will have to recall what they read. At any point in their careers, they will have to use a piece of knowledge –or a whole article–as a reference or just provide examples. Therefore, reading comprehension skills and strategies are key for success.

Not only should a strategy be applied in the classroom, but several activities must be linked for achieving the best reading comprehension abilities, mixing oral reading with silent reading, and reinforcing it by listening to the readers or teachers. This can be key to improving the level of understanding in students (Turkyılmaz, Can, Yildirim, & Ateş, 2014). For many years, teachers have been working with only one of the mentioned strategies; however, to have a whole level of understanding in the classroom, it is necessary to connect all of them in one. This could be achieved, for example, by applying one by one, in order to analyze the most important parts of each one; doing so, the students will define which one is more suitable for them, and their reading comprehension level will certainly improve.

2.7. Brain and gender factors that are involved in reading comprehension

The brain is the organ in charge of all of the processes of human beings. If a teacher develops the correct activities to create an opportunity for the right nerves to connect, students will work more conveniently, and they will become critical readers instead of just readers.

The cognitive part of the brain begins its process when the person associates what they read with what they already know. Unconsciously, they want to know more; therefore, they need to connect ideas and transfer skills to have a higher academic and social performance (Billing, 2007). Also, Schaars, Segers, and Verhoeven (2019) assured that there is no variation in the learning process of readers of a native language or a foreign language. This way, they concluded that the brain collects and analyzes the information in the same way. The key for these authors is the strategy applied since this will be taken directly by the left hemisphere, and that strategy establishes how the student will remember or replicate what they have learned in class.

The left hemisphere acts to recognize the visual stimulation caused by reading. Some studies corroborate the change over time of the behavior of these brain circuits in students who were subjected to early reading comprehension activities with older students. They concluded that the earlier the brain is put to interaction with reading, the better quality of reading comprehension (Lebel et al., 2019). Another study that analyzed the importance of the left hemisphere in reading activities is the one of Soto et al. (2019), who assured that the brain retains information and is also capable of generating questions in readers. Thus, it can be inferred that when they read and perform deeper analyzes, they improve their reading comprehension. This is understandable when a person wants to keep looking for information or is able to generate more questions about what they had read.

Gender also plays an important role in reading comprehension; two out of five reading techniques are compatible for both genders, socio-cognitive and memory techniques. Nevertheless, males use the target technique more frequently, unlike females, who use more cognitive load (Lee, 2012). According to the study conducted by Abdelkarim et al. (2017), there is a difference between males and females in the classroom. The study concluded that if men walk, jump or run, their academic achievement will be higher; doing these physical activities before reading can improve their performance. On the other hand, women perform better in deductive evaluations, such as critical thinking and language understanding. As both genders eventually grow up and become interested in different things, this gap becomes shorter, and they can work with similar characteristics regarding reading comprehension.

Also, Shimanoff (1983) identified gender differences regarding the environment in which males and females are. Men tend to act and talk differently depending on the type of audience they are surrounded by; their body language is subtle when they have women around them. This can dramatically influence the level of reading comprehension in the class, as they will try to understand from a different point of view than the opposite sex. On the other hand, women tend to implement more emotional expressions such as "want" and "like" when interacting with others. Thus, there is a relationship between social

interactions and the learning process, as females feel more comfortable using and seeing expressive utterances than males.

Furthermore, Gentrup and Rjosk (2018) believed that there are still teachers who overestimate women's performance over men. The teacher has a concept about men that is difficult to change and that, on several occasions, can affect the student when they realize how the teacher behaves and treats them. There is also a teacher's bias towards their student once he knows the student's academic potential, which causes the first to have a higher academic expectation than for the rest of the class. Additionally, for Samuelsson and Samuelsson (2016), male students analyze the classroom environment differently: they perceive that when the teacher shows support and is aware, they can perform in a better way. On the contrary, female students are more independent when making decisions about the classroom environment; it can rely on the subject and, often, on the teacher.

Similarly, Logan and Johnston (2010) concluded that women have better reading comprehension performance than men. Their study took place in four primary schools, and it showed that some of the reasons are intrinsic motivation and school work. Several factors can contribute to those above; for example, the strategy applied before a reading activity and the type of learning that both women and men have learned during their school years. Another example is their competency beliefs and reading skills; it is essential to consider that reading strategies were created to help learners in any subject. The study of English as a foreign language demands a teacher to use strategies in the classroom, especially during reading activities; these strategies can be interpreted differently between males and females, which is key to their weak or strong performance.

Finally, Logan and Medford (2011) assessed the differences between men and women when doing reading activities based on their motivation. Boys' motivation for reading is much lower than girls'. This happens because there are many factors inside and outside the classroom that affect how they achieve the correct level of comprehension.

2.8. Metacognitive strategies in reading comprehension

During the reading process, everything is related. It is a cognitive and metacognitive development that brings together the types of learning of each person, the speed of understanding, and the student's experiences and connects them with what they are learning. The brain connects these fragments so the person can learn a language or understand reading activities (Taheri, Sadighi, & Bagheri, 2019).

Metacognitive strategies activate the nodes, which are linked to concepts and words that are stored in the brain. This allows the learner to develop critical thinking and, at the same time, cultivate self-improvement in their reading comprehension level (Oxford, 1990). If metacognitive strategies were consistently applied throughout the education process to generate a high level of reading comprehension in students, they would be fluent speakers in any language. For students who are learning English as a foreign language, the strategies implemented in reading comprehension activities are key to prevent people from stuttering either at an early or an advanced age (Ghaemi & Ghaemi, 2011; Hou, 2013; Rogaten et al., 2019).

Many studies determined how metacognitive strategies help improve levels of reading comprehension. First, Hong - Nam (2014) studied the relationship between metacognitive awareness and reading strategies in a Korean university, where 432 students participated. The results showed that many students used cognitive strategies, and the rest of them used metacognitive strategies to enhance their comprehension. The author concluded that students who learn a foreign language use a great deal of metacognition to improve their performance, including problem-solving skills, and go back to the text when they need it. He also stated that junior and senior students use more metacognitive strategies to increase understanding.

Also, Bae and Kwon (2019) conducted a study to understand what makes students use metacognitive skills. For this, 253 high school students from South Korea participated. Through surveys and focus group interviews, the authors disclosed that using everyday conversations and problem-solving activities activates metacognitive thinking, which

leads to the use of metacognitive strategies. The results showed how readers became critical and logical readers, which also allowed them to select appropriate strategies according to the aim of specific tasks to take full advantage of their comprehension.

Finally, Mohseni, Seifoori and Ahangari (2020) related the impact of metacognitive strategies and critical thinking on reading comprehension. In their quasi-experimental study, they analyzed how a group that was taught to think critically, and was also trained with metacognitive strategies, had better performance than a group that was not exposed to any of these while doing a PET exam.

On top of that, Phelps (2009) argued that the teacher is the key piece in a successful class. When the teacher clearly understands the metacognitive strategies, objectives, and activities to be developed in the class, the student will understand everything. If these metacognitive strategies are used during reading activities, learners will know that it is not enough to read well but to analyze, infer and discuss what has been read. Achieving this goal is only possible if the teacher is trained in reading techniques and metacognitive strategies, which can motivate the student to be an active reader and, therefore, to connect their metacognitive skills for greater academic performance. Djudin (2017) described a model that a strategic reader should follow before, during, and after reading a text (Figure 1). These processes will help develop metacognitive skills in students.
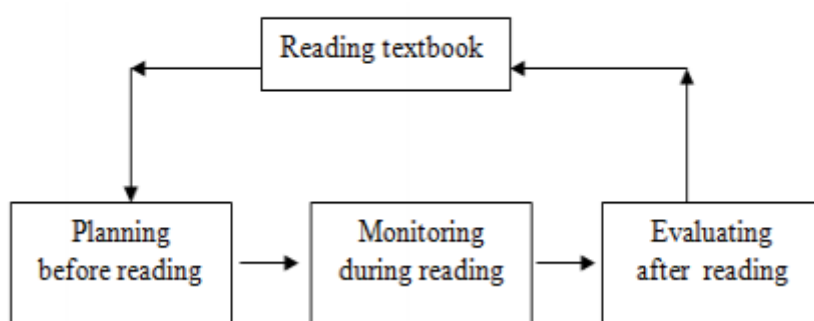
Figure 4. Model of metacognitive strategies in reading textbooks.

Adapted from Djudin, T. (2017, March). Using Metacognitive Strategies to Improve Reading Comprehension and Solve a Word Problem. Journal of Education, Teaching and Learning, 2(1), 124-129.

The author explained that teachers are guides for students and, in order to develop skillful and strategic readers, students must:

1.   Plan

This is when the teacher asks the students to think about the topic given, make predictions about the content, skim the text to get a general idea and analyze pictures, tables, headlines, or any other relevant information that could help the reader build some previous knowledge.

2.   Monitor

An excellent way to monitor during reading is making questions such as "Do I understand what I just read?" (Djudin, 2017, p.127). During this stage, the readers make notes or comments so that they can be turned into inferences or questions related to the content. It is also helpful to make graphic organizers with relevant information.

3.   Evaluate

This refers to making reflections and analyzing the text. There are some questions related to the content, but also regarding headlines and subtitles. An essay is a good option at this point. The reader will be assessed to give a personal opinion rather than answering yes or no, or *wh* questions.

This model has shown positive outcomes in students while doing reading comprehension activities. For instance, Ahmadi, Ismail and Abdullah (2013) studied the effectiveness of this model in EFL/ESL students and concluded that schools and universities should teach metacognitive strategies for reading, writing, mathematics, and physics. This, in order to help readers enhance and improve reading comprehension and solve problems.

CHAPTER III

3.1. Research Approach

For the purpose of the investigation, a quantitative approach was chosen. According to Hernández, Fernández, and Baptista (2014), the quantitative approach aims to find reliable outcomes based on specific steps and schedules that can be confirmed. It is also a descriptive type of investigation. It shows the student's behavior while doing the surveys to provide relevant information about the use of metacognitive strategies and their relation with reading comprehension and the perception from teachers regarding the reading material available to teach in EFL classrooms. This paradigm will evaluate students' reading comprehension level when reading, depending on the metacognitive strategy used in class, which will show if the students genuinely comprehend readings (Creswell, 2014).

3.2. Research Design

It is a non-experimental design, as there is not variable manipulation; their incidents and relationship will be described as they occur in their natural context. Likewise, the data collection is Intersectional transversal, as the variables were studied in a specific population, described and compared, at a specific time to identify the information and data that allow leading to a result (Hernández, Fernández, & Baptista, 2014).

3.3. Population and sample

The population for this study was 110 senior high school students of the "*Unidad Educativa San Francisco*", a local high school in Ibarra, Ecuador. Fifty-seven girls and 53 boys between 16 and 17 years old (Table 2). Additionally, five teachers who work in the school were considered to participate in the study (Table 3). The school was selected based on location, socioeconomic status, and demographic characteristics. Because the sample is small, the whole group will be considered for this paper.

Table 23

Students' Population

Class	Number of Students	Female	Male
Class "A"	38	15	23
Class "B"	37	22	15
Class "C"	35	20	15
TOTAL	**110**	**57**	**53**

Source: "Unidad Educativa San Francisco, 2020"

The senior classes from this high school were chosen for this study because the students at this stage are finishing a critical educational process. According to the standard curriculum, senior students at this point are able to "skimming and scanning, underlining ideas and boxing supporting details, predicting answers to pre-reading questions using title and pictures, deducting, debating, and inferring the writer's intention" (EDUCACIÓN, 2008, p 14). These characteristics matched with the CEFR standards, which stated that students with those skills are in B1 level, which means that they can understand texts related to their fields of interest and infer and conclude ideas from written information.

Table 24

Teachers'Population

Teachers	Female	Male
School	1	1
High School	3	
Total	4	1

Source: "Unidad Educativa San Francisco, 2020"

Five teachers who work in the school were asked to answer the evaluation form, which aims to know the opinion and perspective teachers have over reading material and how this material complements the learning process inside the classroom.

3.4. Strategies and data collection tools

3.4.1. Metacognitive strategies use

For the purpose of this study, there were two tools applied in each skill assessment segment. The segment of Metacognitive strategies was evaluated by using "The Survey of Reading Strategies" (SORS), developed by Mokhtari and Sheorey (2002), which helps measure metacognitive awareness in three aspects: Global reading strategies, Problem-solving reading strategies, and Supporting reading strategies (Koudier & Ravi, 2002). The survey used the Likert scale from 1 to 5: where 1 is "never", 2 is "occasionally", 3 is "sometimes", 4 is "usually", and 5 is "always. For this study, there was an adaptation from the 30 – questions original survey, summarizing 12 questions from each aspect, which were chosen after applying a pilot survey (see appendix 1). Al the tools were applied in the English language and by the guidance of the author.

Table 25

Metacognitive Strategies

Conceptualization	Categories	Indicators	Items	Techniques and Instrument
It helps measure metacognitive awareness in three aspects: **Global reading Strategies, Problem-solving reading strategies** and **Support reading Strategies**	1. **Global reading Strategies**	Analysis of the performance	1.I review the text first by noting its characteristics like length and organization 4.When reading, I decide What to read closely and What to ignore. 7.When I read, I guess the meaning of unknown phrases 9.I critically analyze and evaluate the information present in the text 12.When text becomes difficult, I read aloud to help me understand.	Survey of Reading Strategies (SORS)
	2. **Problem-solving reading strategies**	Preferences when reading	2. I read slowly and carefully to make sure I understand what I am reading. 5.I use reference materials (e.g. dictionary) to help me understand what I read. 8. When reading, I translate from English into my native language. 11. When Reading, I think about information in both English and mother tongue.	
	3. **Support reading Strategies**	Reflection and inference	3. I take notes while reading to help me understand What I read. 6. I think about What I know to help me understand What I read. 10.I underline or circle information in the text to help me remember it.	

Source. The author

3.4.2. Skills assessment

The reading comprehension segment was evaluated by applying a questionnaire created based on the LECTUM test, created by Riffo et al. (2011), a test that measures the reading comprehension in students. The original system includes 14 tests that diagnostic levels of understanding considering: textual, pragmatic, and critical aspects involved in reading comprehension. The questionnaire used a performance scale in each item from 1 to 5, where 1 is "very low", 2 is "low", 3 is "average", 4 is "high", and 5 is "very high". There was an adaptation from de original test after applying a pilot test. The adaptation summarized the three aspects in 10 main questions. The text chosen for this activity was the article on page 14 from the Government's English Book that students from this course have (see appendix 2).

Table 26

Reading comprehension

Conceptualization	Categories	Indicators	Items	Techniques and Instrument
Measures reading comprehension considering three aspects: **textual, pragmatic,** and **critical aspects**	1. Textual aspect	Questionnaire	1.What is the text about? a. It is about Williams's sisters' life after ten years of practice. b. It is about the success of the Williams sisters over the last ten years. 2. How does the story begin? a. With a summary of the Williams sisters' life b. With Williams sisters' introduction 3. What are the parts of the text? a. Introduction, body, conclusion. b. Introduction and body.	Questionnaire
	2. Pragmatic aspect	Use of terms and lexical bank	4.In the text, "beyond" means a. Further b. Near to c. Currently	

5.The phrase "They have hit the headlines" according to the text
means:

    a. They have damaged someone

    b. They have made something important and now are famous.

    c. They have fought with someone

6. In the third paragraph second line, the word "outstanding" refers to:

    a. good at something

    b. bad at something

    c. both are correct

3.	Critical Aspect	Inference	7. By which year have they became number 1?
			8. Why have the Williams sisters hit the headlines several times?
			9. What do they do to be in shape?
			10.What specific information did you find important?

Source. The author

3.4.3. Content Analysis

A content analysis and evaluation form was created to categorize and assess the reading material used by teachers inside the classroom. The score of the file is over 10 points, each question is worth 1 point, where 1 is closer to the use of metacognitive strategies and 0 is far from using them. The form was validated for two teachers from the master's program (see appendix 3). When the questions are not dichotomous, one option is graded over 1, the middle one over 0,5, and the last over 0. Example: What is the level of grammar tips that the activity includes to link them to the unit content? Hi = 1; Low = 0.5; None =0. On the other hand, when the questions are dichotomous, one option is graded over 1 and the second one over 0. Example: Does the activity include a glossary of terms? Yes= 1; No= 0. The information considered to create this evaluation form has been thought to match the metacognitive criteria proposed by Mokhtari and Sheorey (2002), and it is detailed as follows:

Table 6

Content Evaluation: Glossary of terms

Variable	Glossary of terms
Explanation	A list of words or phrases containing the terminology of a specific subject or related subject fields and based on terminology work (Saakje, Claus, & Willem-Jan, 2001).
Scale	Dichotomous questions Yes No
Question	1. Does the activity include a glossary of terms?

Source. The author

Table 7

Content Evaluation: Images use

Variable	Images use
Explanation	According to Carnerio cited by Freitas and Castanheira(2007), "Teachers use the number and quality of images displayed in textbooks as criteria for choosing which textbook to adopt in their classrooms".
Scale	None One More than one

Question	2. How many images does the text include?

Source. The author

Table 8

Content Evaluation: Level of grammar tips

Variable	Level of grammar tips
Explanation	Schulze (1998) concluded that it is beneficial and convenient to display formal grammar structures during reading activities.
Scale	Hi Low None
Question	3. What is the level of grammar tips that the activity includes to link them to the unit content?

Source. The author

Table 9

Content Evaluation: Objective- purpose

Variable	Objective- purpose
Explanation	"The purpose influenced both the overall reading rate, and the allocation of processing to different parts of the text" (Mills, Diehl, Birkmire, & Mou, 1995).
Scale	Hi Low None
Question	4. To which level is the objective or purpose of the activity clearly explained?

Source. The author

Table 10

Content Evaluation: Relationship between the content and the target group

Variable	Relationship between the content and the target group
Explanation	Students tend to behave differently depending on the type of text they have; they interact with the text creating meaning from the text (Davis & Neitzel, 2010).
Scale	Very related Some related No relation at all
Question	5. How much is the content of the activity related to the B1 students' group?

Source. The author

Table 11

Content Evaluation: Text Length

Variable	Text Length
Explanation	Depending on the word number used in the text, the level of the reader skill may vary. Therefore, the comprehension process might differ (Carter, Walker, O'Brien, & Hough, 2017).
Scale	Between 50 and 100 words Between 101 and 200 words More than 200 words
Question	6. What is the length of the reading text assigned to in the activity?

Source. The author

Table 12

Content Evaluation: Headlines

Variable	Headlines
Explanation	The primary purpose of the headlines is to catch the readers' attention and attract curiosity about the text (Chen, Yimin, Niall, Conroy, & Victoria, 2015).
Scale	Dichotomous questions Yes No
Question	7. Do headlines of the activity predict what the texts will be about?

Source. The author

Table 13

Content Evaluation: Text components

Variable	Text components
Explanation	When the text includes components correctly, the readers' reading speed increases as well as the level of recalling information from the text (Petros, Bentz, Hammes, & Zehr, 1990).
Scale	Dichotomous questions Yes No
Question	8. Does the text include an introduction to locate the student in the context of the activity?

Source. The author

Table 14

Content Evaluation: Recurrence with the text content

Variable	Recurrence with the text content
Explanation	According to Schad and Engbert (2012), the reader's attention and feelings vary depending on the text.
Scale	Dichotomous questions Yes No
Question	9. Compared to the rest of the book, does the text of this particular activity offer the reader a fresh content?

Source. The author

Table 15

Content Evaluation: Level of engagement (real-world text)

Variable	Level of engagement (real-world text)
Explanation	Providing engaging activities help readers use and improve their cognitive processes while reading (Samira, Mohammad, & Yamini, 2020).
Scale	Dichotomous questions Yes No
Question	10. Does the activity include engaging words or phrases for the readers?

Source. The author

Table 27

Analyzing and evaluating reading material

Conceptualization	Categories	Indicators	Items	Techniques and Instrument
	1. Metacognitive Knowledge	Stored Information	1. Does the activity include a glossary of terms? 6. How many images does the text include? 7. What is the level of grammar tips the activity includes to link them to the unit content?	Content evaluation form
Measures the use of three elements of metacognition **Metacognitive Knowledge, Metacognitive Monitoring and Self-regulation, and Metacognitive Experiences**	2. Metacognitive Monitoring and Self-regulation	Planning, monitoring, and evaluate own's performance	2. Do headlines of the activity predict what the texts will be about? 8. To which level is the objective or purpose of the activity clearly explained? 9. How much is the content of the activity related to the B1 students' group?	
	3. Metacognitive Experiences	Experiences linked to a person.	3. Does the text include an introduction to locate the student in the context of the activity? 4. Compared to the rest of the book, does the text of this particular activity offer the reader a fresh content within each unit? 5. Does the activity include engaging words or phrases for readers?	

Source. The author

CHAPTER IV

This chapter presents the results of this quantitative non-experimental study. Data was gathered from 110 senior students and Five teachers from "San Francisco" high school located in Ibarra city. The information was gathered employing tests, evaluations, and one survey.

Due to COVID 19, all the tools were presented online using google drive forms and applied through the virtual platform ZOOM. For the purpose of this study, it was essential to know the level of reading comprehension among the senior students. Therefore, the first tool applied was the reading comprehension test, a 10-question test divided into multiple choice answers and open-ended questions. The second tool (SORS), a 12 - question survey to analyze the use of metacognitive strategies in the students while doing reading activities. On the other hand, the evaluation tests' link was sent to the teachers to gather information related to the reading material to analyze and evaluate from the teacher's perspective.

4.1. Results

The analysis of the results has been divided into two sections. The first one explains the skills assessments findings in the students, and the second describes the content evaluation and analysis of the texts from teachers. The results are presented according to the explanation given in Chapter II in the operationalization of the variables.

4.1.1. Skills assessment

4.1.1.1. Reading assessment

It was essential to know the level of comprehension among the 110 senior students. Therefore, a reading comprehension test was applied to measure reading comprehension considering **textual, pragmatic,** and **critical aspects** (Riffo et al., 2011).

a. **Textual Aspect**
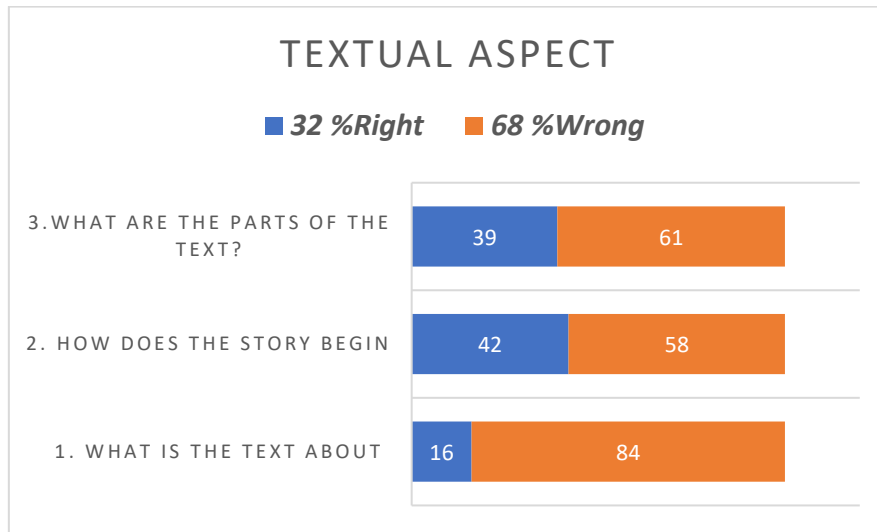
Figure 5.Textual Aspect

The figure shows that 68% of the senior students did not answer correctly. Nevertheless, 32% of the students chose the correct answers. There is by far a big difference between correct and incorrect answers. It is clear that most of the students did not comprehend what has been asked to do. They have not developed the ability to gain a global idea from the text. These results confirm what Solheim et al. (2018), concluded in their study. They agreed that applying reading strategies at early stages during the learning process could lead to the development of skimming skills in EFL classes.

b. **Pragmatic Aspect**
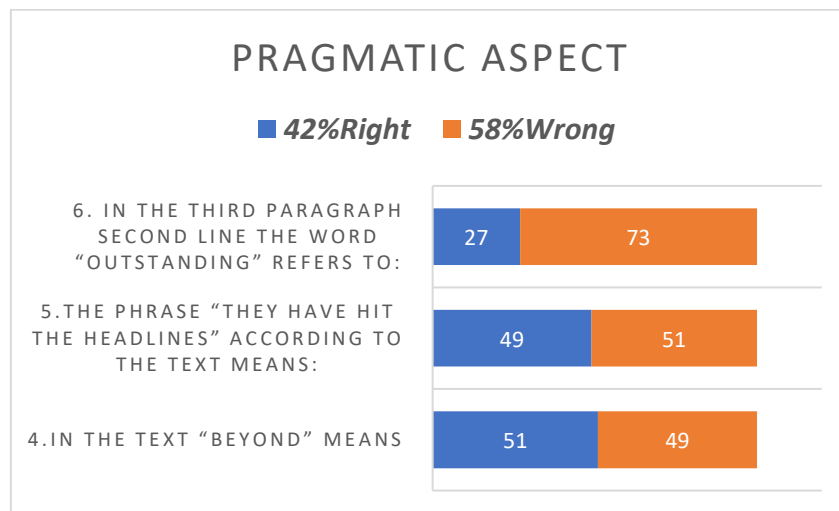
Figure 6. Pragmatic Aspect

The graph displays 52% of students who did not choose the correct option. However, there is 48% of the students chose th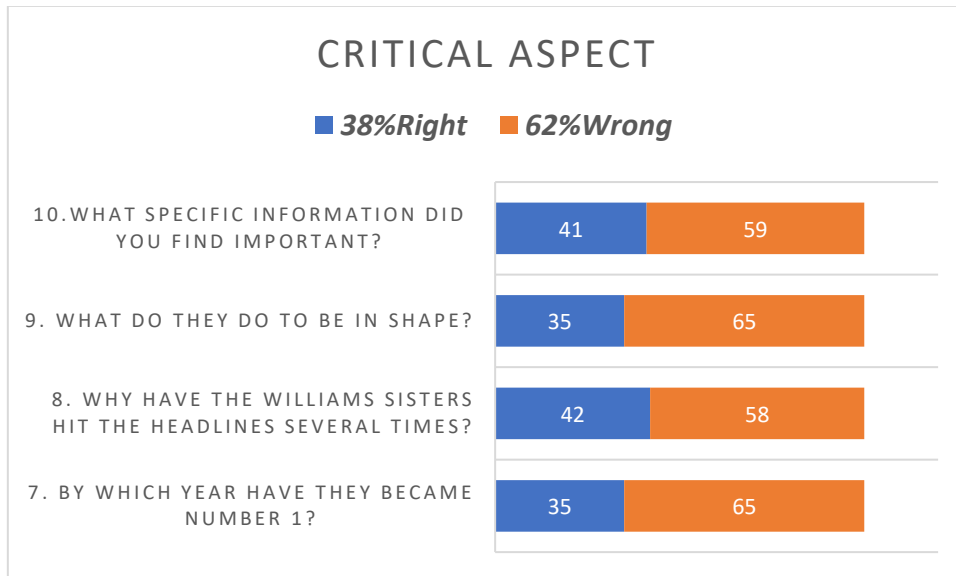e correct answer. This tendency confirms that there is a lack of lexical bank of vocabulary among the class as well as a misunderstanding of phrases.

c. **Critical Aspect**

Figure 7. Critical Aspect

The graph shows that 62% of students chose the incorrect answer. On the other hand, 38 % answered correctly. As this section was elaborated with open-ended questions, different information was gathered. Nonetheless, most of the students have trouble looking for specific information they are not familiar with with the text's content. This finding broadly supports the work of Riffo et al. (2011) where they link this issue with the lack of scanning ability among the students.

4.1.1.2. Metacognitive strategies skills

To analyze if the students applied metacognitive strategies while reading, the reading strategies (SORS) survey was applied to the students. To complete this survey, they had to choose from a Likert scale that goes from 1 to 5, where **1** is "never", **2** is "occasionally", **3** is "sometimes", **4** is "usually", and **5** is "always", the statements that were more likely

to be done by them while reading. The literature shows that (SORS) helps measure metacognitive awareness in three aspects; those aspects were classified as follows:

Table 28

Global reading strategies percentage

GLOBAL READING STRATEGIES	PERCENTAGE %				
	1	**2**	**3**	**4**	**5**
1.I review the text first by noting its characteristics like length and organization.	6	23	41	22	8
4.When reading, I decide What to read closely and What to ignore.	15	17	32	26	10
7.When I read, I guess the meaning of unknown phrases.	6	24	29	28	13
9.I critically analyze and evaluate the information present in the text.	16	23	25	27	8
2.When text becomes difficult, I read aloud to help me understand.	21	27	18	26	7
	13	**23**	**29**	**26**	**9**

Figure 5. *Global reading strategies percentages.*

Table 29

Global reading strategies average of the frequency table.

GLOBAL READING STRATEGIES	FREQUENCY TABLE					AVERAGE
	1	**2**	**3**	**4**	**5**	
1.I review the text first by noting its characteristics like length and organization	7	25	45	24	9	**3.03**

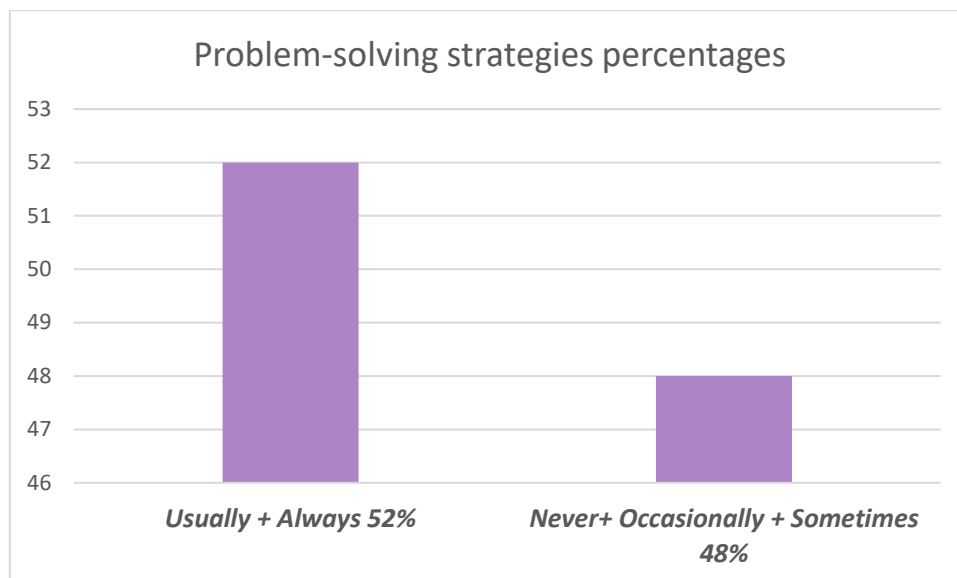|	1	2	3	4	5	
4.When reading, I decide What to read closely and What to ignore.	16	19	35	29	11	**3.00**
7.When I read, I guess the meaning of unknown phrases	7	26	32	31	14	**3.17**
9.I critically analyze and evaluate the information present in the text	18	25	28	30	9	**2.88**
2.When text becomes difficult, I read aloud to help me understand.	23	30	20	29	8	**2.72**

Table number 17 shows that 65% of the students "never," "occasionally," and "sometimes" use global reading strategies when reading, and only 35 % of the students use them "usually" and "always" (see figure5). Table number 18 displays information about the frequency in which the students use these global reading strategies. On average, the lowest score is 2.72 of students' responses which correspond to "occasionally" near to "sometimes" regarding the item "when the text becomes difficult, I read aloud to help me understand. These results reflect those of Djudin (2017), who also found that students are not used to applying global reading strategies while reading.

Table 30

Problem-solving reading strategies percentage

PROBLEM-SOLVING READING STRATEGIES	PERCENTAGE				
	1	2	3	4	5
2. I read slowly and carefully to make sure I understand what I am reading.	21	27	18	26	7
5.I use reference materials (e.g. dictionary) to help me understand what I read.	6	12	25	23	34
8. When reading, I translate from English into my native language.	5	15	22	26	31
11. When Reading, I think about information in both English and mother tongue.	4	14	23	42	18
	9	17	22	30	22

Figure 6. *Problem-solving strategies percentages.*

Table 31

Problem-solving reading strategies average of the frequency table

PROBLEM-SOLVING READING STRATEGIES	FREQUENCY TABLE					AVERAGE
	1	**2**	**3**	**4**	**5**	
2. I read slowly and carefully to make sure I understand what I am reading.	23	30	20	29	8	**2.72**
5.I use reference materials (e.g. dictionary) to help me understand what I read.	7	13	28	25	37	**3.65**
8. When reading, I translate from English into my native language.	6	17	24	29	34	**3.62**
11. When Reading, I think about information in both English and mother tongue.	4	15	25	46	20	**3.57**

Table number 19 illustrates the percentage of the use of problem-solving reading strategies. The 52% of the students "usually" and "always" use this kind of strategy while doing reading activities. On the other hand, 48% of the students use them "never", "occasionally", and "sometimes" (see figure 6). Table number 20 shows the average of the frequency table. On average, it is noticeable that students use strategies related to translation from "sometimes" to "usually". On top of that, 3.65 of the class uses reference materials such as dictionaries to help them understand the text. Whereas the lowest score is 2,72, which corresponds to the strategy that requires more time, this is "I read slowly and carefully to make sure I understand what I am reading", indicating that students tend to choose the quickest way to solve what they do not understand.
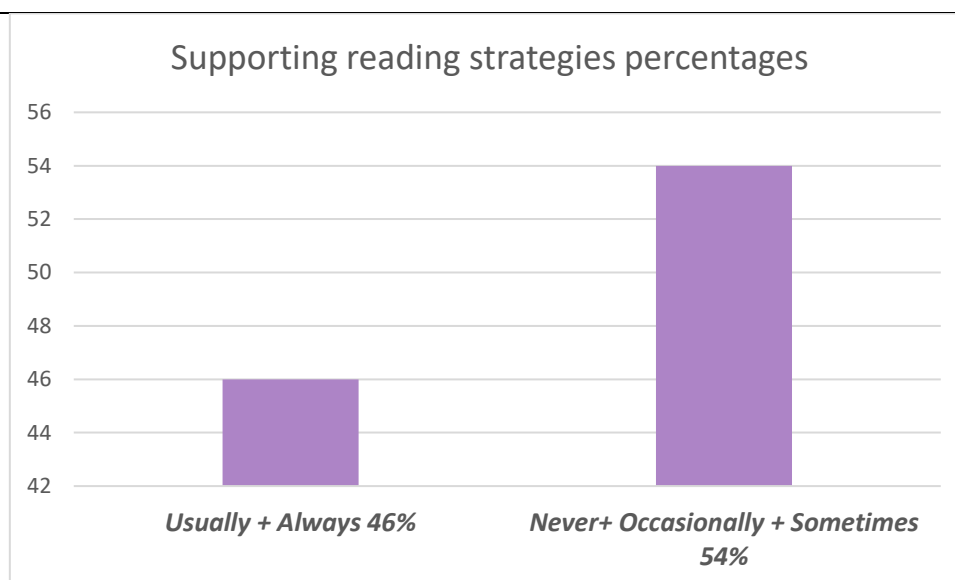
Table 32

Supporting reading strategies percentage

SUPPORTING READING STRATEGIES	PERCENTAGES				
	1	**2**	**3**	**4**	**5**
3. I take notes while reading to help me understand What I read.	3	6	23	26	42
6. I think about What I know to help me understand What I read.	15	17	32	26	10
10.I underline or circle information in the text to help me remember it.	10	25	29	21	15
	9	**16**	**28**	**24**	**22**

Table 33

Supporting reading strategies average of frequency table

SUPPORTING READING STRATEGIES	FREQUENCY TABLE					AVERAGE
	1	**2**	**3**	**4**	**5**	
3. I take notes while reading to help me understand What I read.	11	39	33	13	14	**2.82**
6. I think about What I know to help me understand What I read.	3	7	25	29	46	**3.98**
10.I underline or circle information in the text to help me remember it.	11	28	32	23	16	**3.05**

Figure 7. *Supporting reading strategies percentages*

Table number 21 illustrates that 54% of students "never", "occasionally", and "sometimes" use supporting reading strategies. In contrast, 46% of the class use them "usually" and "always" (see figure 7). On the other hand, table number 22 reports the average of the responses among the students, considering the frequency in the use of the strategies. The findings indicate that 3.98 of the class use the second strategy in this element which is: "I think about what I know, to help me understand what I read", being the highest value among the whole test. This result is statistically significant for the study.

4.1.2. Content Analysis

To understand the characteristics of the reading activity text, a content evaluation form was given to the teachers to measure the use of three elements of metacognition in the reading material.

Table 34

Content evaluation form results

Criteria	Teacher 1	Teacher 2	Teacher 3	Teacher 4	Teacher 5	Average
Metacognitive Knowledge						
1. Does the activity include a glossary of terms?	0	0	0	0	0	**0**
6. How many images does the text include?	1	1	1	1	1	**1**
7. What is the level of grammar tips that the activity includes to link them to the unit content?	1	0	0.5	1	0.5	**07**
Average						**0.5**
Metacognitive Monitoring and Self-regulation						
2. Do headlines of the activity anticipate what the texts will be about?	1	0	1	1	1	**0.8**
8. To which level is the objective or purpose of the activity clearly explained?	1	0.5	0.5	0.5	0	**0.5**

9. How much is the content of the activity related to the B1 students' group?	1	1	0.5	0.5	0.5	**0.7**
10. What is the length of the reading text assigned to in the activity?	0	0.5	0.5	0.5	1	**0.5**
Average						**0.62**
Metacognitive Experiences						
3. Does the text include an introduction to locate the student in the context of the activity?	1	1	1	0	0	**0.6**
4. Compared to the rest book, does the text of this particular activity offer the reader a fresh content within each unit?	1	0	1	1	0	**0.6**
5. Does the activity include engaging words or phrases for the readers?	0	1	0	0	0	**0.2**
Average						**0.46**
Total, per teacher	**7**	**5**	**6**	**5.5**	**4**	

The table above illustrates the results of the content evaluation and analysis of a specific reading activity (see appendix 3) given to the teachers in the local high school. The highest grade given to the reading activity was 7, and the lowest was 4. The table also shows that the lowest value which corresponds to "metacognitive experiences", with a value of 0.46 on average.

4.2. Discussion of the findings

The test, survey, and content evaluation form disclosed important information that has been divided into four main fragments, which are explained as follows:

The data suggest a link between the lack of abilities on identifying the textual aspect and not using global reading strategies. The **textual aspect** shows 68% of wrong answers. This means that 7 out of 10 students do not comprehend sentences within the text. According to Riffo et al. (2011), this happens because students cannot picture the text as a whole and cannot join ideas or sentences to understand what they read. The authors concluded that the textual aspect at this level requires skilled readers that can recognize general ideas from the text and understand the context to answer questions. Therefore, it is clear that most of the students have not developed this skill over the school years. As a result, the textual aspect in the students is significantly low, and there is a need to increase this skill among the senior students.

On the other hand, the **global reading strategies** survey showed that only 35% of the students "usually" and "always" use these strategies when reading, which means that most of the students do not analyze or pay attention to the characteristics of the text. Mina, Mehrabi, and Massoud (2017) ratifies that these strategies are mostly general and are applied intentionally. The study conducted by Flavell, Miller and Miller (2002) concluded that readers could pre-visualize the text when using the global reading strategy and have a general idea about the context.

According to the data, there is a possible relation between the pragmatic aspect and problem-solving strategies. The **pragmatic aspect** indicates the lowest percentage among the three of them, 58% of students answered incorrectly, which means that 6 out of 10 students have an average knowledge within this aspect. This suggests that the semantic level in the students is relatively high whether they use grammatical links to remember vocabulary or were exposed to a larger lexical bank. Riffo et al. (2011), concluded that the pragmatic aspect of the students enhances the level of lexical bank and the correct use of terms when doing reading activities. Regarding **problem-solving strategies**, 52% of the students "usually" and "always" use this kind of strategy. This evidences that students are familiar with translation; translating words or even phrases is a common habit in the class. Furthermore, the results of the study conducted by Flavell, Miller and Miller (2002), proved that using problem- solving strategies measures the

speed of reading as well as the level of comprehension among the class, in this case, the level of the class using this strategy is average.

It is also possible to link the critical aspect and supporting reading strategies that play an important role in reading comprehension. The c**ritical aspect** shows that 62% of the students selected the wrong answer. In other words, 6 out of 10 students do not recognize the main idea and supporting details of the text, but their level of inference is low as they had to answer open-ended questions. The studies done by Riffo et al.(2011) and by Mina, Mehrabi, and Massoud (2017) agreed that the critical aspect is a mixed between macro structures and microstructures that make up the text. Additionally, **the supporting reading strategies** survey showed that 46% of the class "usually" and always" use these strategies.

Nevertheless, they do not implement other actions such as note-taking, underlining unknown words, or thinking about previous knowledge. That is why Flavell, Miller and Miller (2002), concluded in their study that supporting reading strategies help students develop routines that will help them understand the content of the text employing sustain responses to the reading text. These results remarkably evidenced that students already use metacognitive strategies when reading. This study supports the conclusion provided in the studies conducted by Hong and Nam in 2014 and the results obtained in the study carried out by Bae and Kwon in 2019. Nonetheless, there is not a process or a thoughtful guide so that senior students could implement these strategies while reading.

In regards to the content evaluation form, data indicate that there is a paradox between the lowest value of 0 given to the inclusion of a glossary of terms, and the no implementation of engaging words or phrases, even though students heavily rely on translation strategies. Nevertheless, the findings strongly seem to indicate that the reading material given to the students can be adapted using metacognitive strategies according to the student group that the teacher has. Several theories support this belief.

First of all, Metacognitive knowledge, according to Flavell (1979), helps readers remember stored knowledge as well as their behavior when reading. Therefore, it can be

said that the use of Global reading strategies might significantly improve the metacognitive knowledge in the class.

Second, Flavell et al. (2002) concluded in their study that during the Metacognitive Monitoring and Self-regulation process, students are capable of plan, monitor, and evaluate their own performance during reading activities. In two other studies, the use of these strategies showed a positive increase in the level of comprehension in the class. Costa (1985), Whitebread, et al., (2009). Consequently, implementing supporting reading strategies in the class, such as taking notes, underlining information through text, will help students better understand the reading activity.

Finally, according to Flavell et al. (2002), metacognitive experiences help readers link affective experiences with them during reading activities. In essence, this process helps students analyze the situations as if they were solving problems. Consequently, implementing problem-solving strategies in the class such as re-reading the text, starting over when the text becomes difficult, and using reference materials will offer growth of understanding the text among the class.

CHAPTER V

5.1. Proposal

"Flexible methodological guide to evaluate and improve reading material according to metacognitive strategies to efficiently work with EFL senior high school students**".**

5.2. Rationale

Reading might be challenging for students, especially if they have to read in a foreign language. EFL students have developed specific skills during their school years to understand and communicate in English. However, proving a model that could lead to a complete understanding from the students is essential. Nowadays, English one of the most spoken and written languages. Therefore, teachers might generate interest and motivate their students when doing reading activities.

On the other hand, reading material is a fundamental part of the learning process, providing students engaging stories, ensuring that real-life language used in the class could integrate all the skills students need to acquire the written information. This proposal seeks to help English teachers to evaluate reading material before giving the class. By doing so, teachers can improve the material by using metacognitive strategies to increase the level of reading comprehension among senior high school students. This guide is flexible and could be adapted to any reading material that teachers use in regular classes.

5.3. Development

METHODOLOGICAL

MODEL

TO

EVALUATE & IMPROVE

READING MATERIAL

Methodological model to evaluate and improve reading material according to metacognitive strategies that will work efficiently for EFL senior high school students.

The student's job is to learn the language; the teacher's job is to learn the student.

Caleb Gattegno

CONTENTS

Introduction

Reading is a natural way of communication, through written material, people get all kind of information, form opinions, and make decisions based on the purpose of the reading; if there is not a goal to achieve while reading, people might get distracted or lost the main idea of the text.

Reading in English is not different from reading in a native language. However, to succeed in this task, teachers need to plan and create a need or purpose. By doing so, reading becomes a tool to encourage students to develop their language (Djudin, 2017). English teachers have to adapt the material to fulfill students' needs. Using metacognitive strategies while reading activities encourages readers to use their knowledge to complete specific tasks (Flavell, Miller, & Miller, 2002).

In this proposal, nine metacognitive strategies related to improving reading comprehension skills are presented in this order: 1. Global reading strategies, which mention the use of metacognitive knowledge. 2. Problem-solving reading strategies to develop de use of metacognitive monitor and self-regulation and 3. Supporting reading strategies which refer to the use of metacognitive experiences(Djudin,2017).

Before putting them into practice, teachers and instructors should keep in mind the objectives of each of them and what type of groups are best suited. If necessary, specific changes can be made to suit their needs, such as the number of students, the English level, and the time for the activity. The most important thing to remember is that this Flexible Methodological Model can be applied in any reading activity available for students. On the other hand, the approach considered for developing this methodological model is the communicative approach, which seeks to involve students in real and meaningful communication activities.

Metacognition and Reading

Metacognition has been widely used while doing reading activities, as there is a relation between the cognitive and metacognitive development of the readers' brain. Every person had used metacognitive strategies in different levels, such as re-reading an address to check the directions or analyzing their performance if they achieved the goal or if they need to continue reading to clarify ideas.

Several scholars have conducted studies and have proved the importance of applying metacognitive strategies in EFL students to enhance reading comprehension as well as activating metacognitive thinking to be used in everyday situations. This Flexible methodological model will help teachers improve levels of reading comprehension in their students considering the three metacognitive elements defined by Flavell, Miller, and Miller (2002), which are summarized as follows:

1. **Metacognitive Knowledge**
   It is the stored knowledge of the person that helps them remember actions and experiences with other people.

2. **Metacognitive monitoring and self-regulation**
   Flavell et al. (2002) explained that besides its use to guide, control, and regulate one's own cognition and learning, it is also essential to have the consciousness of planning, monitoring, and evaluating one's performance.

3. **Metacognitive Experiences**
   Involves the affective experiences that are linked to the person. They can be short or long in duration and simple or complex in context (Flavell, 1979).

Evaluating Material

It is essential to evaluate the reading material before the class. Therefore, a checklist will help teachers analyze if the material they will be working with is suitable for the students and, more importantly, the items that each metacognitive element includes in the reading activities.

This checklist has been divided considering the three elements defined by Flavell (2002). Each element has a grade that goes from 0 to 1, where 0 means that the activity does not meet the criteria; 0.5 means that the activity somehow meets the criteria, and 1 that the activity is appropriate for the students.

Table 1

Checklist to evaluate reading material

Checklist to evaluate reading material			
1. *Metacognitive knowledge*			
Score / Criteria	1	0.5	0
Does the activity include a glossary of terms?			
How many images does the text include?			
What is the level of grammar tips that the activity includes to link them to the unit content?			
		Total	
2. *Metacognitive Monitoring and Self-regulation*			
Grade / Criteria	1	0.5	0
Do headlines of the activity predict what the texts will be about?			
To which level is the objective or purpose of the activity clearly explained?			

How much is the content of the activity related to the B1 students' group?			
What is the length of the reading text assigned to in the activity?			
		Total	

3. *Metacognitive Experiences*			

Criteria Grade	1	0.5	0
Does the text include an introduction to locate the student in the context of the activity?			
Compared to the rest of the book, does the text of this particular activity offer the reader a fresh content within each unit?			
Does the activity include engaging words or phrases for readers?			
		Total	

Source: The author

Once the reading material has been evaluated, it is time to improve the items that obtained lower scores by implementing 9 metacognitive strategies, which have been divided considering each metacognitive element designed by Flavell, Miller, and Miller in 2002.

METACOGNITIVE KNOWLEDGE

GLOBAL READING STRATEGIES

Global Reading Strategies

Global reading strategies occur when readers perform the activity at a higher-order level; this is when they think about previous knowledge and connect it with the text.

By applying Global reading strategies, readers can use their personal reading style in the text, and also, they connect the ideas with their personal background by making hypotheses or predicting aspects from the text, which later can be checked.

Becoming aware of these strategies develops in readers their Metacognitive Knowledge skills that will help students understand the activity by activating the stored information they have in their brains and connecting them with the reading activity they are about to do.

Here are three strategies that can be developed in an EFL class.

Strategy 1
"Guessing what the text is about"

Description

Guessing or predicting what the text is about before reading is a strategy that aims to activate previous knowledge in the students and enhance readers with the context as they can relay into the reading activity. It is important to analyze the activity and incorporate as much information as possible to help the readers get the overall idea about the text.

Didactic goals

> ➢ To activate store knowledge for a higher reading understanding.

Teaching content

- o Glossary of terms
- o Definitions

Materials

- Flashcards.
- Powerpoint presentation.
- Reading material

Directions

Firstly, make a list of the essential vocabulary, terms, or even phrases that might confuse the students. The main idea is to help students understand what the text will be about by analyzing this glossary. Therefore, the recommended length for the glossary is 10 to 15 words.

How to create a glossary of terms:

1. Read the activity carefully and highlight the words or phrases you consider can be difficult for the students to understand.
2. Once you have finished, copy the list of words or phrases and write a brief definition of them. Do not include the word in the definition. You can add examples for better understanding.

3. Search for images that can be matched with the definitions; you can use PowerPoint presentation or printed flashcards.

4. Show the pictures to your class and encourage them to tell you the word or its definition.

5. Show the definitions or examples you prepared and ask the class to match them with the pictures.

6. Allow the students to share as much information as possible.

7. Once you have all the pictures matched. It is time to have a conversation about the text. Start asking questions such as:

    A. What do you think the story is about?

    B. Which image do you think the text will refer to?

8. Once you have consolidated the information, ask the students to match the pictures with the paragraphs.

9. Copy the main ideas the students give so they can be demonstrated after the activity.

10. Provide various scenarios and ask the students to tell you which one is related to the activity. (copy the answers to check the information later).

11. Show the students the reading text.

Follow these steps, and you will help students to acquire knowledge at a higher-order level (see figure 1).
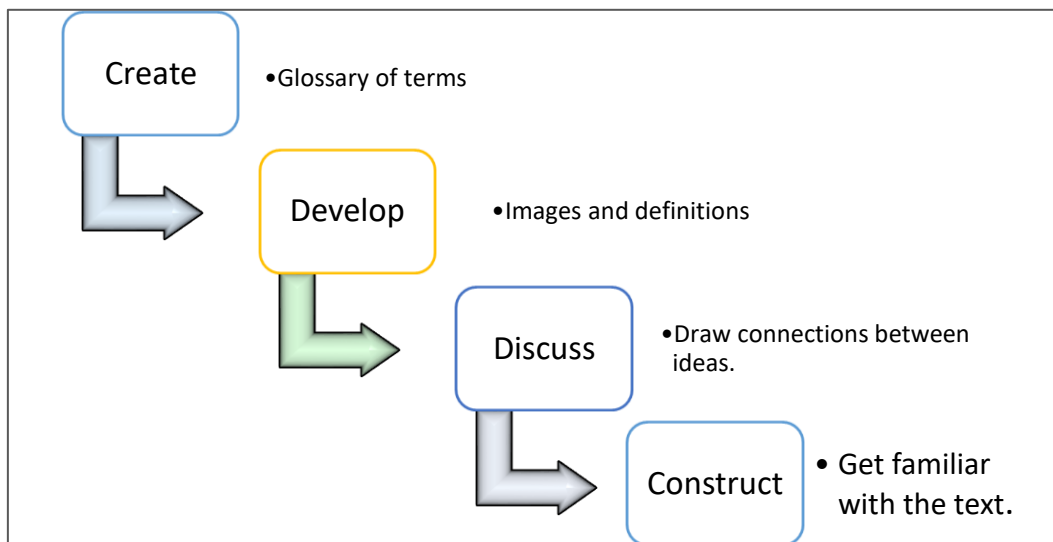
Figure 1. Process of strategy one "Guessing what the text is about".

<div align="center">

Strategy 2
"Characteristics of the text"

</div>

Description

Every text, magazine, textbook, blog, and article has characteristics made to catch the student's attention, based on content and audience to increase their interest in the activity as well as de-codifying relevant information. Using top-down and bottom-up strategies is ideal for encouraging students' participation and positive responses.

Graphic organizers (such as timelines, flow charts, and mind maps) can help readers to "see" the relationship(s) among ideas more clearly and will make skimming and scanning easier.

Didactic goals

➢ To familiarize students with the features of the text.

Teaching content

o From charts to concepts
o Identify written patterns

Materials

• Reading material
• Graphic organizer
• Markers
• Highlighters

Directions

1. Show the reading activity to the students.
2. Ask them to analyze the organization by skimming to get an overview of the text.
3. Ask questions such as:
   a. Does this text have images? How many? Can you describe number one?
   b. Does the text have several paragraphs? How many? What information do you think there is in each paragraph?
   c. Are there any charts; Why information can you see in the charts?
4. Provide the students a graphic organizer to write ideas from the text (Appendix 1).

5. Ask the students to skim the text, looking for images, tables, italicized or bolded words.

6. Explain to students that they have to write down what they think each feature means in the graphic organizer.

7. Ask the students to share what they found (This activity can be made in groups)

8. Guide the students to deduct from their perspective and the graphic organizers the main ideas or important information from the text.

Strategy 3
"Grammar tips"

Description

Understanding simple and compound sentences, punctuation, the parts of the speech, and synonyms and antonyms might be confusing for students who had struggled with grammar during their learning processes. Grammar could be included in the reading activities. However, most of the time, teachers skip this part; perhaps they believe students already know or have seen these structures before.

The cognitive and metacognitive process that occurs during reading activities links the students' previous knowledge to make the text make sense for them. This only arises when students understand parts of the speech individually and later as a whole.

Didactic goals

➢ To make grammatical connections to understand the text as a whole.

Teaching content

o Grammar tips
o Parts of the speech

Materials

• Reading material
• Worksheet

Directions

1. Show the students the text. Ask them to search for any part of speech you like. For example, scan the text looking for simple sentences or scan the text looking for compound sentences.
2. Provide each student a worksheet including all grammar information you would like to gather from them (Appendix 2).
3. Ask the students to read the text and copy the information in the chart.
4. Lead discussion in the class
   a. Why is this the noun?
   b. Is this a compound sentence?
   c. What is the literal meaning of this phrase?

5. Ask students to share and compare their answers (this activity can be done individually or in small groups).

6. Clarify each doubt regarding grammar that students might have.

7. Ask students to keep a journal, with the grammar tips taught each time, for example, teaching Personal Pronouns by using pictures of the students' family members or pasting images from magazines. (Appendix 3).

METACOGNITIVE
EXPERIENCES

SOLVING
PROBLEM
STRATEGIES
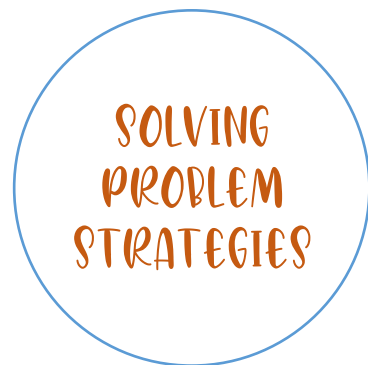
Problem- Solving Strategies

Problem-solving strategies allow students to become independent readers. They will search and find the solution from their own perspective, monitor their own process, and change the strategy to reach a goal.

When using problem-solving strategies, students work on their metacognitive strategy allowing them to add, delete or revise a scenario with conscious thoughts. They become judges of their performance and improve their reading weaknesses.

Here are three strategies that will help you improve this metacognitive element in your EFL students.

Strategy 1
"Pause and re-reading the text"

Description

Giving students the time to read at their own pace they can move on or go back to repeat a particular part of the text is key for developing confidence and enjoyment for reading. As well as to search for specific information from the written activity.

Didactic goals

➢ To become independent students in reading activities by using skimming and scanning strategies.

Teaching content

o Skimming
o Scanning

Materials

• Reading Text
• Highlighter

Directions

1. Start by analyzing the definitions of skimming and scanning.
   Skimming: Reading to get general ideas or an overview of the text.
   Scanning: Reading to get specific information such as dates, names, places.
2. Prepare questions for this activity; they can be yes/no questions, Wh questions, and open-ended questions (6 questions is a good number).
3. Ask the students to practice skimming and scanning the text by reading silently.
4. Encourage students to highlight relevant information that will help them understand the activity.
5. Read the text aloud to the students, providing important intonation and pause to get immersed in the text.

6. Ask the students to read and pause where they think the text has become difficult.

7. Explain the general idea of that particular part that was difficult and lead to a discussion about it.

8. Have the students answer the questions and clarify the doubts they might have.

Strategy 2
"Using a dictionary"

Description

Having a clear definition of a word or phrase helps readers better understand from a text. However, as teachers, using an L1-L2 dictionary cannot be a good idea. The question to be asked is: How many words should be translated? If the word can be explained easily in "English," there is no need for translation. If there is a similarity in both languages, it can be room for translation.

Nevertheless, the main idea is to encourage using an English- English dictionary to create an entirely English classroom environment.

Didactic goals

➢ To learn the correct use of a dictionary.

Teaching content

o Meanings of words and phrases
o Giving definitions

Materials

• English – English dictionary
• Reading activity

Directions

1. Ask the students to read silently and to underline or highlight the unknown words or phrases that they find.
2. Ask students to write down the vocabulary and to search for definitions in the dictionary.
3. Provide examples for each word until it is completely understood.
4. Once the definitions are clear, there will not be distractors.
5. Students can go back and re-read the text.

6. Provide a chart or questions to be answered for them to check how much they have learned.

Strategy 3
"Relying on mother tongue"

Description

When reading, it is common for students and sometimes for teachers to relay in the mother tongue or L1. This strategy is not a wrong decision. However, there is a right way to develop this strategy as it is vital to use it properly and not make it the only way to understand the text.

Didactic goals

> To acquire reading comprehension by relying on L1.

Teaching content

o Mother tongue or L1 strategies
o Getting general and specific information from the text.

Materials

• Reading activity

Directions

1. Read aloud the title or the topic of the activity and ask students for similar situations in their lives.
2. Encourage students to think of famous people, politicians, musicians, or local people that could have experienced those situations.
3. Once the class has analyzed similar situations, ask them to think about a common phrase or word used in their L1 for that scenario.
4. Monitor the use of mother tongue in the class, allocating turns to speak.
5. Correct and be consistent when hearing overload use of L1.
6. Ask them to write in their journals or on the board the words or phrases students provided (This activity can be done in groups).
7. Ask the students to read each paragraph and stop whenever you need to clarify or to involve the L1 word or phrase students wrote on the board.

METACOGNITIVE MONITORING AND SELF-REGULATION

SUPPORTING READING STRATEGIES
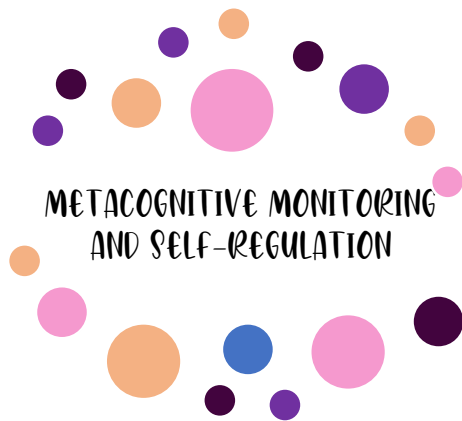
Supporting reading strategies

Supporting reading strategies have been developed to help readers when the reading activity becomes difficult. These aids must be clear and easy to follow.

When using supporting reading strategies, students activate their Metacognitive monitoring and self-regulation, which permits them to monitor their performance and evaluate how much information they get from the text.

Here are three strategies that can be applied in EFL classrooms.

Strategy 1
"Taking notes"

Description

Taking notes is a common strategy among students in education. However, little application has been made in reading activities. When taking notes, the brain absorbs information emphasizing main ideas, which will help them infer and make conclusions.

Didactic goals

- ➢ To encourage students to take notes while reading to summarize information and make connections with the text.

Teaching content

- How to use the "taking notes" strategy properly.
- Getting general and specific information from the text.

Materials

- Notebook
- Reading activity

Directions

1. Ask the students to read silently and to take notes. What notes should students take?
   a. Date of the activity and title
   b. Headlines and subtitles
   c. Keywords
   d. Write questions for your notes.
2. Ask students to create a summary from the notes.
3. Explain to students that they can remember and analyze information from the text that will be later used to answer the questions by taking notes.
4. You can ask questions related to the text and see if the students can answer only with the notes they took.
5. Ask students to go back to the text and check the answers.

Strategy 2
"Underlining and writing relevant information"

Description

A good reader can analyze and extract relevant information from a text. This strategy is ideal for generating readers' own awareness about the text as they will use their critical thinking skills.

Didactic goals

➢ To develop scanning skills for specific information.

Teaching content

o Scanning skills.
o Practice reading for specific information.

Materials

• Notebook
• Reading activity

Directions

1. Ask students to read the text and underline dates, names, numbers, places, or other information they might think are essential.
2. Provide the class open-ended questions (6 questions is a good number)
3. In their Journal, ask them to answer the questions by using the same information they underlined.
4. Discuss the answers in the class, checked if there are different responses.
5. Debate about the questions and answers.
6. Provide examples to each question and check the answers.

<div align="center">

Strategy 3
"Thinking about what I already know"

</div>

Description

This strategy allows readers to think about information they already have in their brains utilizing experiences and related to the text.

Didactic goals

 ➢ To develop awareness when reading.

Teaching content

 o Analyze owns awareness.
 o Control the learning process using gained information from the brain.

Materials

 • Notebook
 • Reading activity

Directions

 1. Read the headline of the activity to the class.
 2. Ask them to think about a similar situation they might have had and what happens in their lives.
 3. Ask them to write down the end of their personal story or experience.
 4. Discuss in the class how the story has been developed and the possible endings for it.
 5. Reflect in groups the similar scenarios.
 6. Ask the class to answer open-ended questions or Wh questions from the reading.

Appendixes

Appendix 1. Graphic Organizer (Strategy 2- Global reading strategies)

Tables

Images

Topic

Italicized or bolded words.

Symbols
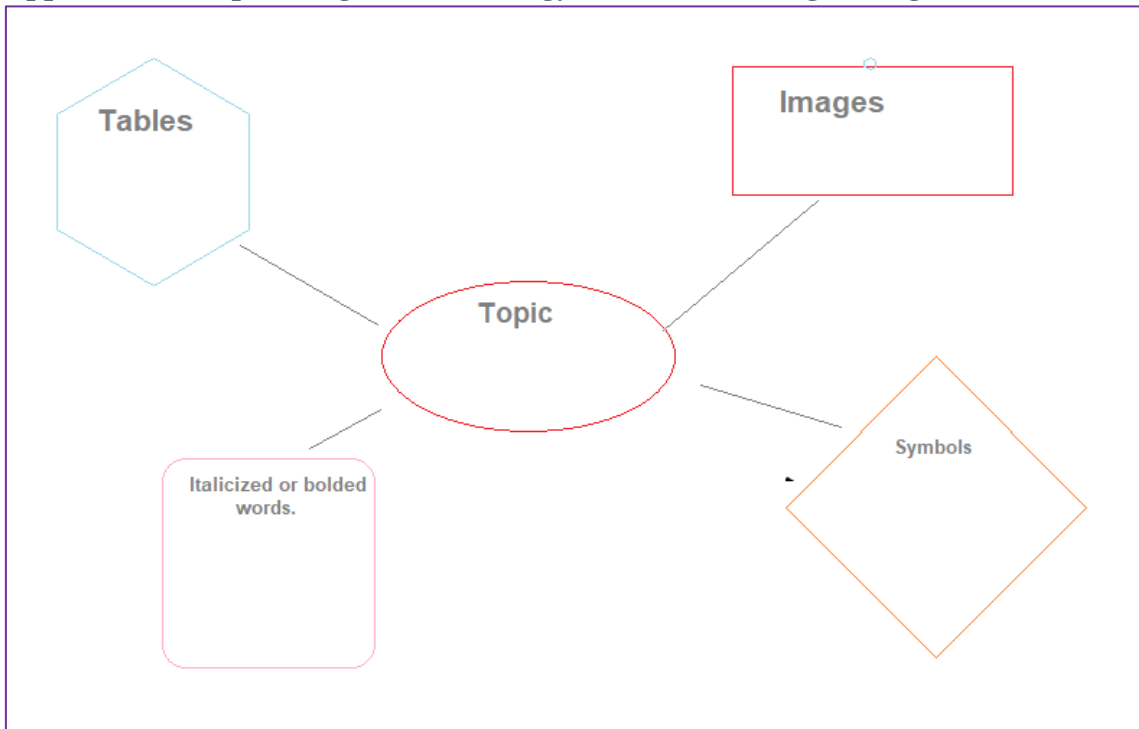
Appendix 2. grammar tips worksheet

Grammar Check List
Pronouns: Personal: _____Subject:_____Object:_____ Possessive:_____Reflexive:_____
Plurals: add "s":_____ add "es":_____
Verbs: Action:_____ Past tense:_____ Past Participle:_____
Adjectives: Quality:_____ Quantity: _____

Appendix 3. Journal

Journal # ____
Date:_____
Topic: **Personal Pronouns**

CHAPTER VI

6.1. Conclusions

The present study was designed to determine how metacognitive strategies relate to the development of reading comprehension among senior high school students. The results show that the lack of understanding in students might be because they have not developed deductive or inferring skills during their school years, which led to the deficiency of using reading strategies while reading.

The second significant finding was that EFL senior high school students already use metacognitive strategies unconsciously as part of their performance in reading activities.

The findings suggest that using methods that were trendy in the '60s, such as grammar-translation are no longer effective when learning a foreign language.

The results of this study highlighted the advantageous effects that evaluating and improving reading material could have on EFL senior students.

6.2. Recommendations

The findings urge English teachers to develop deductive and inferring skills by applying metacognitive strategies in the senior year and during students' school years.

The results suggested a need to stop using L1-L2 dictionaries in the early stages of learning. There should be clear instructions to adapt the use of L2-L2 dictionaries and avoid the grammar-translation method as much as possible.

The findings of this study make several contributions for English teachers to evaluate and improve the reading activities to generate interest and to involve students in the learning process and the use of metacognitive strategies.

This study will serve as a base for further studies to analyze the level of reading comprehension improvement in EFL senior students developing a longitudinal study to examine how much the student's comprehension improves after applying metacognitive strategies.

References

Abdelkarim, O., Ammar, A., Chtourou, H., Wagner, M., Knisel, E., Hökelmann, A., & Bös, K. (2017). Relationship between motor and cognitive learning abilities among primary school-aged children. *Alexandria Journal of Medicine, 53*(4), 325-331. doi:10.1016/j.ajme.2016.12.004

Afflerbach, P., Pearson, P. D., & Paris, S. G. (2008). Clarifying Differences between Reading Skills and Reading Strategies. *The Reading Teacher*, 364-373. Retrieved from http://www.jstor.org/stable/20204600

Ahmadi, M. R., Ismail, H., & Abdullah, M. K. (2013). The Importance of Metacognitive Reading Strategy Awareness in Reading Comprehension. *English Language Teaching, 6*(10), 235-244. doi:10.5539/elt.v6n10p235

Al-Saraj, T. M. (2014). Foreign language anxiety in female Arabs learning English: case studies. *Innovation in Language Learning and Teaching, 8*(3), 257-278. doi:doi.org/10.1080/17501229.2013.837911

Anderson, L., & Krathwohl, D. (2014). *A Taxonomy for Learning Teaching and Assessing: A Revision of Bloom's Taxonomy of educational objectives (abridged edition).* New York: Longman.

Bae, H., & Kwon, K. (2019). Developing metacognitive skills through class activities: what makes students use metacognitive skills? *Educational Studies*, 1- 17. doi:10.1080/03055698.2019.1707068

Billing, D. (2007). Teaching for transfer of core/key skills in higher education: Cognitive skills. *Higher Education, 53*(4), 483-516. doi:10.1007/s10734-005-5628-5

Brown., H. D. (2000). *Teaching by Principles an Interactive Approach to Language in Pedagogy* (Second Edition ed.). San Francisco, California: Longman.

Camahalan, F. M. (2006). Effects of a metacognitive reading program on the reading achievements and metacognitive strategies of students with cases of Dyslexia. *Eric Journal*, 77-93.

Cambridge. (2021). *Cambridge Dictionary.* England: Cambridge University Press. Retrieved from https://dictionary.cambridge.org/

Carrell, P. (1998). Interactive text processing: implications for ESL/second language reading classrooms. *Interactive approaches to second language reading*, 73-92.

Carter, M. D., Walker, M. M., O'Brien, K., & Hough, M. S. (2017). The effects of text length on reading abilities in accelerated reading tasks. *Speech, Language and Hearing,* 1-11. doi:10.1080/2050571x.2017.1415086

Chen, Yimin, Niall, J., Conroy, & Victoria, L. R. (2015). "News in an Online World: The Need for an Automatic Crap Detector. *In Proceedings of the 78th ASIS&T Annual Meeting*.

Claudia, C., & Astrid, P. (2016). The Williams:Beyond a Decade of Dominance. In M. d. Educación, *English Bachillerato General Unificado* (p. 176). Quito: Norma S.A.

Collins Block, C., & Pressley, M. (2002). Comprehension instruction. *Research-based best practices.*

Costa, A. (1985). *Developing Minds. A Resource Book for Teaching Thinking.* Virginia: Association for Supervision and Curriculum Development.

Cronquist, K., & Fiszbein, A. (2017). *El aprendizaje del inglés en América Latina.*

Davis, D. S., & Neitzel, C. (2010). The Relationship Between Students' Reading Orientations and their Strategic Activity During a Collaborative Reading Task. *Reading Psychology, 31*(6), 546–579. doi:10.1080/02702710903256593

Djudin, T. (2017, March). Using Metacognitive Strategies to Improve Reading Comprehension and Solve a Word Problem. *Journal of Education, Teaching and Learning, 2*(1), 124-129.

Durkin, D. (1978).). What classroom observation reveals about reading comprehension instruction. *Reading Research Quarterly, 14*, 481–533.

EDUCACIÓN, M. D. (2008). *ENGLISH AS A FOREIGN LANGUAGE FOR SUBNIVEL BACHILLERATO.* Quito: Ministerio de Educación.

Efklides, A. (2006). Metacognition and effect: What can metacognitive experiences tell us about the learning process? *Educational Research Review, 1*, 3–14.

Flavell, J. (1987). Speculations about the nature and development of metacognition. In Speculations about the nature and development of metacognition. In *Metacognition, Motivation, and Understanding*.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: a new area of cognitive-developmental inquiry. *American Psychologist*, 906–911.

Flavell, J. H., Miller, P. H., & Miller, S. A. (2002). *Cognitive Development.* NJ: Prentice-Hall: Saddle River.

Freitas, C. A., & Castanheira, M. L. (2007). Talked Images: Examining the Contextualised Nature of Image Use. *Pedagogies: An International Journal, 2*(3), 151-164. doi:10.1080/15544800701366456

Gamboa, A. (2017). Reading comprehension in English as a Foreign Language setting: Teaching strategies for sixth-graders based on the interactive model of reading. *Folios*, 159- 175.

Gentrup, S., & Rjosk, C. (2018). Pygmalion and the gender gap: do teacher expectations contribute to differences in achievement between boys and girls at the beginning of schooling? *Educational Research and Evaluation, 24*, 295-323. doi:10.1080/13803611.2018.1550840

Ghaemi, H., & Ghaemi, H. (2011). Application of Structural Equation Modeling in Assessing the Relationship Between Stuttering Students' Cognitive and

Metacognitive Strategies and Their Reading Comprehension Performance. *Language Testing in Asia, 1*(2), 7. doi:10.1186/2229-0443-1-2-7

Gooskens, C., Van Heuven, V. J., Golubović, J., Schüppert, A., Swarte, F., & Voigt. (2017). Mutual intelligibility between closely related languages in Europe. *International Journal of Multilingualism, 15*(2), 169–193. doi:10.1080/14790718.2017.1350185

Grabe, W. (1998). Reassessing the term interactive. *Interactive approaches to second language reading*, 56-70.

Green, K. H. (2010). Matching Functions and Graphs at Multiple Levels of Bloom's Revised Taxonomy. *PRIMUS, 20*(3), 204-216. doi:10.1080/10511970802207212

Habók, A., & Magyar, A. (2019). The effects of EFL reading comprehension and certain learning-related factors on EFL learners' reading strategy use. *Cogent Education, 6*, 1. doi:10.1080/2331186X.2019.1616522

Harris, T., & Hodges, R. (1995). *The literacy dictionary: The vocabulary of reading and writing.* Newark, DE: International Reading Association.

Hong-Nam, K. (2014). Investigating Metacognitive Awareness and Reading Strategy Use of EFL Korean University Students. . *Reading Psychology, 35*(3), 195-220. doi:10.1080/02702711.2012.675418

Hou, Y.-j. (2013). Taiwanese EFLs' Metacognitive Awareness of Reading Strategy and Reading Comprehension. *Paper presented at the Foundations of Augmented Cognition*.

Israel, S. E., Block, C. C., Bauserman, K. L., & Kinnucan-Welsch, K. (2005). *Metacognition in Literacy Learning: Theory, Assessment, Instruction, and Professional Development.* Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.

Koudier, M., & Ravi, S. (2002). Reading Strategies (SORS).

Larkin, S. (2006). Collaborative group work and individual development of metacognition in the early years. *Research in Science Education, 36*, 7–27.

Lebel, C., Benischek, A., Geeraert, B., Holahan, J., Shaywitz, S., Bakhshi, K., & Shaywitz, B. (2019). Developmental trajectories of white matter structure in children with and without reading impairments. *Developmental Cognitive Neuroscience, 36*, 100633. doi:10.1016/j.dcn.2019.100633

Lee, M. (2012). A study of the Selection of Reading Strategies among Genders bt EFL College Students. *Procedia- Social and Behavioral Sciences*(64), 310-319. doi:https://doi.org/10.1016/j.sbspro.2012.11.037.

Lee, M.-L. (2012). A Study of the Selection of Reading Strategies among Genders by EFL College Students. . *Procedia - Social and Behavioral Sciences, 64*, 310-319. doi:10.1016/j.sbspro.2012.11.037

Li, H., & Wilhelm, K. H. (2008). Exploring pedagogical reasoning: Reading strategy instruction from two teachers' perspectives. *The Reading Matrix, 8*(1), 96-110.

Logan, S., & Johnston, R. (2010). Investigating gender differences in reading. *Educational Review, 62*(2), 175-187. doi:10.1080/00131911003637006

Logan, S., & Medford, E. (2011). Gender differences in the strength of association between motivation, competency beliefs, and reading skill. *Educational Research, 53*(1), 85-94. doi:10.1080/00131881.2011.552242

Mills, C. B., Diehl, V. A., Birkmire, D. P., & Mou, L. (1995). Reading procedural texts: Effects of purpose for reading and predictions of reading comprehension models. *Discourse Processes, 20*(1), 79–107. doi:10.1080/01638539509544932

Mina, R., Mehrabi, K., & Massoud, K. (2017). The relationship between the Metacognitive Reading Strategies Use and Reading Comprehension Achievement of ELF learners. *Open Journal of Modern Linguistics, 7*, 65-74. doi:10.4236/ojml.2017.72006

Ministerio de Educación. (2018, mayo 17). *Ministerio de Educación Ecuador*. Retrieved from Ministerio de Educación Ecuador: https://educacion.gob.ec/sin-lectura-no-hay-educacion/

Mitchell., M. (2015, Apr 7). *"Metacognition: Nurturing Self-Awareness in the Classroom."*. Retrieved from www.edutopia.org: https://www.edutopia.org/blog/8-pathways metacognition-in-classroom-Marilyn-Price-Mitchell

Mohseni, F., Seifoori, Z., & Ahangari, S. (2020). The impact of metacognitive strategy training and critical thinking awareness-raising on reading comprehension. *Cogent Education, 7*(1), 1720946. doi:10.1080/2331186X.2020.1720946

Mokhtari, K., & Reichard, C. (2004). Investigating the strategic reading process of first and second language readers in two different cultural contexts. *System*, 379-394.

Mokhtari, K., & Sheorey, R. (2002). Measuring ESL Students' Awareness of Reading Strategies. *Journal of Developmental Education, 25*, 2-11.

Nietfeld, J. L., Li, C., & Osborne, J. W. (2006). The effect of distributed monitoring exercises and feedback on performance, monitoring accuracy, and self-efficacy. *Metacognition and Learning*, 159-179.

Oxford, R. (1990). *What every teacher should know*. New York: Newbury House. doi:10.1080/15235882.1993.10162651

Palincsar, A., & Brown, A. (1984). Reciprocal teaching of comprehension-fostering and monitoring activities. *Cognition and Instruction, 1*, 117-175.

Payro, P. C., Rosales, P. C., & Monteros, M. M. (2018). The habit of reading: an urgent need in the student of Education Sciences. *Universidad y Sociedad*, 180-189.

Pearson, D., & Fielding, L. (1991). Comprehension instruction. *Handbook of reading research, 2*, 815-860.

Petros, T. V., Bentz, B., Hammes, K., & Zehr, H. D. (1990). The components of text that influence reading times and recall in skilled and less skilled college readers. *Discourse Processes, 13*(4), 387–400. doi:10.1080/01638539009544767

Phelps, G. (2009). Just knowing how to read is not enough! Assessing knowledge for teaching reading. *Educational Assessment, Evaluation and Accountability, 21*(2), 137-154. doi:10.1007/s11092-009-9070-6

Quicke, J., & Winter, C. (1994). Teaching the Language of Learning: towards a metacognitive approach to pupil empowerment. *Quicke, J., & Winter, C. (1994). Teaching the Language of Learning: towards a metacognitive approach to pupil empowerment. British Educational Research Journal, 20(4), 429–445. doi:10.1080/0141192940200405.*

Richards, J., & Rodgers, T. (2010). *Approaches and Methods in Language Teaching.* United States: Cambridge.

Riffo, B., Véliz, M., Castro, G., Reyes, F., Figueroa, B., Salazar, O., & Herrera, M. O. (2011). *LECTUM. Prueba de comprensión lectora.* Chile: Conicyt, Proyecto Fondef D08i1179.

Rogaten, J., Rienties, B., Sharpe, R., Cross, S., Whitelock, D., Lygo-Baker, S., & Littlejohn, A. (2019). Reviewing affective, behavioral and cognitive learning gains in higher education. *Assessment & Evaluation in Higher Education, 44*(3), 321-337. doi:10.1080/02602938.2018.1504277

Rosenshine, B., & Meister, C. (1994). Reciprocal teaching: A review of the research. R. *Review of Educational Research, 64*, 479-530.

Saakje, M., Claus, F. L., & Willem-Jan, M. (2001). Developing a glossary of terms for burden of injury studies. *Injury Control and Safety Promotion, 8*(2), 107-110. doi:10.1076/icsp.8.2.107.3357

Samira, B., Mohammad, S., & Yamini, M. (2020). Analysis of IELTS and TOEFL reading and listening tests in terms of Revised Bloom's Taxonomy. *Cogent Education*, 1-23. doi:10.1080/2331186X.2020.1720939

Samuelsson, M., & Samuelsson, J. (2016). Gender differences in boys' and girls' perception of teaching and learning mathematics. *Open Review of Educational Research, 3*(1), 18-34. doi:10.1080/23265507.2015.1127770

Schaars, M. M., Segers, E., & Verhoeven, L. (2019). Cognitive and linguistic precursors of early first and second language reading development. *Learning and Individual Differences, 72*, 1-14. doi:10.1016/j.lindif.2019.03.008

Schad, D. J., & Engbert, R. (2012). The zoom lens of attention: Simulating shuffled versus normal text reading using the SWIFT model. *Visual Cognition, 20*(4-5), 391–421. doi:10.1080/13506285.2012.670143

Schmidt, R. (1993). Awareness and second language acquisition. *Annual Review of Applied*, 206-226.

Schraw, G., & Moshman. (1995). Metacognitive theories. *Educational Psychology Review*, 351-371.

Schraw, G., Crippen, J., & Hartley, K. (2006). "Promoting Self-regulation in Science Education: Metacognition as Part of a Broader Perspective on Learning.". *Research in Science Education*, 111-139. doi:10.1007/s11165-005-3917-8.

Schulze, M. (1998). Checking Grammar ? Teaching Grammar. *Computer Assisted Language Learning, 11*(2), 215-227. doi:10.1076/call.11.2.215.5691

Shimanoff, S. B. (1983). The role of gender in linguistic references to emotive states. *Communication Quarterly, 31*(2), 174-179. doi:10.1080/01463378309369501

Solheim, O. J., Frijters, J. C., Lundetræ, K., & Uppstad, P. H. (2018). Effectiveness of an early reading intervention in a semi-transparent orthography: A group randomised controlled trial. *Learning and Instruction, 58*, 65-79. doi:10.1016/j.learninstruc.2018.05.004

Solheim, O., Frijters, J., Ludetrae, K., & Uppstad, P. (2018). Effectiveness of an early reading intervention in a semi-transparent orthography: A group randomised controlled trial. *Learning and Instruction* (58), 65-79. doi:https://doi.org/10.1016/j.learninstruc.2018.05.004

Soto, C., Gutiérrez de Blume, A. P., Jacovina, M., McNamara, D., Benson, N., & Riffo, B. (2019). Reading comprehension and metacognition: The importance of inferential skills. *Cogent Education, 6*(1), 1565067. doi:10.1080/2331186X.2019.1565067

Spooner, A., Gathercole, S., & Baddeley, A. (2006). Does weak reading comprehension reflect an integration deficit? *Journal of Research in Reading*, 173-193. doi:10.1111/ j.1467-9817.2006.0028.

Stanovich, K. (2000). Progress in understanding reading: scientific foundation and new frontiers. *Guilford test*.

Storey, C. (2021). *The importance of a glossary*. Retrieved from The big word: https://en-gb.thebigword.com/news/knowledge-base/the-importance-of-a-glossary/#:~:text=A%20glossary%20documents%20the%20key,and%20are%20therefore%20regularly%20translated.&text=By%20utilising%20a%20glossary%2C%20you,the%20highest%20quality%20and%20accurac

Taghvayi, D., Vaziri, S., & Kashani, F. (2012). The Effectiveness of Interactive Approach, Fernald Multi.Sensory Technique on Decrease Reading Disability. *Social and Behavioral Sciences*, 1264-1269. doi:https://doi.org/10.1016/j.sbspro.2012.12.060.

Taghvayi, D., Vaziri, S., & Kashani, F. L. (2012). The Effectiveness of Integrative Approach, Fernald Multi-Sensory Technique on Decrease Reading Disability. *Procedia - Social and Behavioral Sciences, 69*, 1264-1269. doi:10.1016/j.sbspro.2012.12.060

Taheri, H., Sadighi, F., & Bagheri, M. S. (2019). EFL learners' L2 achievement and its relationship with cognitive intelligence, emotional intelligence, learning styles, and language learning strategies. . *Cogent Education, 6*(1), 1655882. doi:10.1080/2331186X.2019.1655882

Torre, G., & Eden, G. (2019). Relationships between gray matter volume and reading ability in typically developing children, adolescents, and young adults. *Developmental Cognitive Neuroscience*, 100636. doi:https://doi.org/10.1016/j.dcn.2019.100636

Trice, A. (1985). "An Academic Locus of Control Scale for College Students.". *Perceptual and Motor Skills*, 1043-1046. doi: 10.2466/pms.1985.61.3f.1043.

Turkyılmaz, M., Can, R., Yildirim, K., & Ateş, S. (2014). Relations among Oral Reading Fluency, Silent Reading Fluency, Retell Fluency, and Reading Comprehension. *Procedia - Social and Behavioral Sciences, 116*, 4030-4034. doi:10.1016/j.sbspro.2014.01.885

Veenman, M. V., Hout-Wolters, V., M., B. H., & Afferbach, P. (2006). Metacognition and learning: conceptual and methodological considerations. *Metacognition and Learning,* 3-14.

Veenman, M. V., Van Hout-Wolters, B. H., & Afflerbach, P. (2006). Metacognition and learning:conceptual and methodological considerations. . *Metacognition and Learning*(1), 3-14. doi:10.1007/s11409-006-6893-0.

Veeravagu, J., Muthusamy, C., Marimuthu, R., & Subrayan, A. (2010). Using Bloom's Taxonomy to gauge students' reading comprehension performance. *Canadian Social Science, 6*(3), 205-212.

Weinert, F., & R.H.kluwe. (1987). Metacognition, Motivation, and Understanding. *New Jersey*.

Wenden, A. (1998). Metacognitive knowledge and Language learning. *Applied Linguistics*, 515-537.

Whitebread, D., Coltman, P., Pasternak, D. P., Sangster, C., Grau, V., Bingham, S., & Demetriou, D. (2009). The development of two observational tools for assessing metacognition and self-regulated learning in young children. *Metacognition and Learning*, 63-85. doi:10.1007/s11409-008-9033-1

Whittaker, C., & Van, G. (2012). Using a Metacognitive Approach with Case-Based Instruction to enhance teacher Reflection and promote effective educational practices for diverse learners. *Action in Teacher Education, 31*(2), 5-16. doi:10.1080/01626620.2009.10463514

Zhang, L. J. (2001). Awareness in Reading: EFL Students' Metacognitive Knowledge of Reading Strategies in an Acquisition-poor Environment. *Language Awareness*, 268-288. doi:10.1080/09658410108667039

Zhang, L. J., Gu, P. Y., & Hu, G. (2008). A cognitive perspective on Singaporean primary school pupils' use of reading strategies in learning to read in English.

British Journal of Educational Psychology, 245-271. doi:10.1348/000709907X218179

Zimmerman, B. J., & Schunk., D. H. (2011). "Self-regulated Learning and Performance: An Introduction and an Overview.". (B. J. Schunk, Ed.) *In Handbook of Self-regulation of Learning and Performanc*e, 1-12.

Zohar, A., & Barizilai, S. (2013, October). "A Review of Research on Metacognition in Science Education: Current and Future Directions.". *Studies in Science Education*, vol. 49, pp. 121-169. doi: 10.1080/03057267.2013.847261

Zohar, A., & Barzilai, S. (2013). review of research on metacognition in science education: Current and future directions. *Studies in Science Education*, 121-169. doi:10.1080/03057267.2013.847261

APPENDICES

Appendix A Instrument 1

SURVEY OF READING STRATEGIES (SORS)

Mokhtari and Sheorey (2002)

The purpose of this survey is to collect information about the various strategies you use when you read school-related educational materials in ENGLISH.

Each statement is followed by 5 numbers (1,2,3,4,5) tick (✔) in the one that best applies to you.

1	2	3	4	5
NEVER	OCCASIONALLY	SOMETIMES	USUALLY	ALWAYS

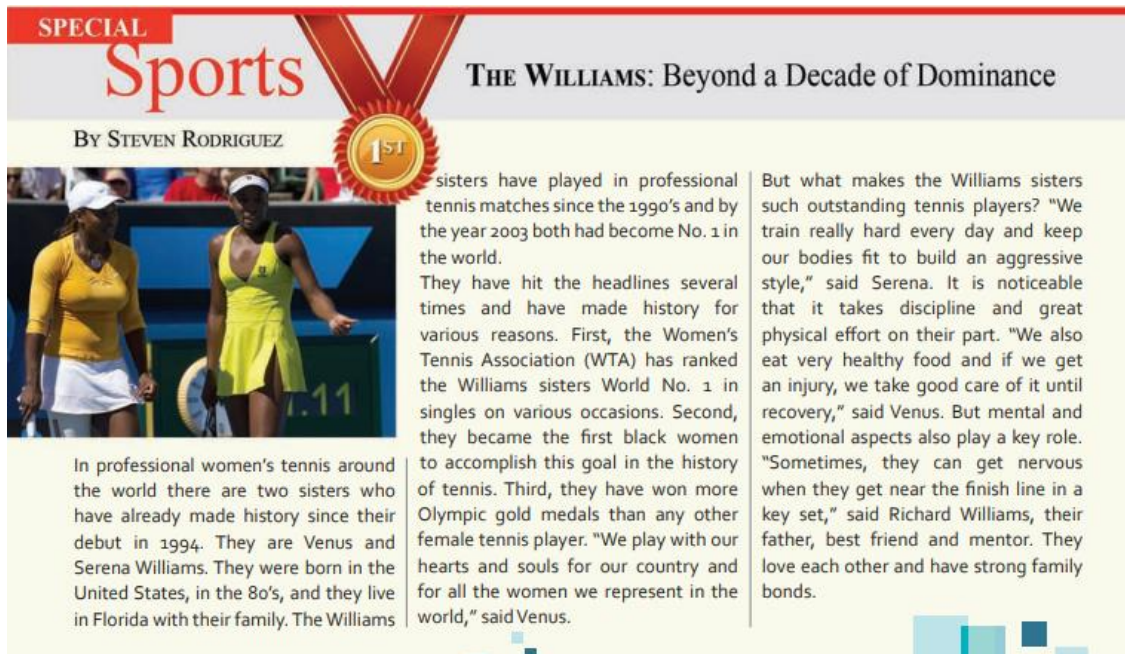| STATEMENT	1	2	3	4	5
1.I review the text first by noting its characteristics like length and organization					
2. I read slowly and carefully to make sure I understand what I am reading.					
3. I take notes while reading to help me understand What I read.					
4.When reading, I decide What to read closely and What to ignore.					
5.I use reference materials (e.g., dictionary) to help me understand what I read.					
6. I think about What I know to help me understand What I read.					
7.When I read, I guess the meaning of unknown phrases.					
8. When reading, I translate from English into my native language.					
9.I critically analyze and evaluate the information present in the text.					
10.I underline or circle information in the text to help me remember it.					
11. When Reading, I think about information in both English and mother tongue.					
12.When text becomes difficult, I read aloud to help me understand.					

Source: Mokhtari and Sheorey (2002) Measuring ESL Students' Awareness of Reading Stragies.

Journal of Developmental Education.

Note: This Instrument was adpated from the 30- item SORS original survey into 12 questions that are presented above.

Appendix B. Instrument 2

<div align="center">

READING COMPREHENSION TEST

Please read the text and answer the following questions:

</div>

SPECIAL Sports

THE WILLIAMS: Beyond a Decade of Dominance

BY STEVEN RODRIGUEZ

1ST

In professional women's tennis around the world there are two sisters who have already made history since their debut in 1994. They are Venus and Serena Williams. They were born in the United States, in the 80's, and they live in Florida with their family. The Williams sisters have played in professional tennis matches since the 1990's and by the year 2003 both had become No. 1 in the world.

They have hit the headlines several times and have made history for various reasons. First, the Women's Tennis Association (WTA) has ranked the Williams sisters World No. 1 in singles on various occasions. Second, they became the first black women to accomplish this goal in the history of tennis. Third, they have won more Olympic gold medals than any other female tennis player. "We play with our hearts and souls for our country and for all the women we represent in the world," said Venus.

But what makes the Williams sisters such outstanding tennis players? "We train really hard every day and keep our bodies fit to build an aggressive style," said Serena. It is noticeable that it takes discipline and great physical effort on their part. "We also eat very healthy food and if we get an injury, we take good care of it until recovery," said Venus. But mental and emotional aspects also play a key role. "Sometimes, they can get nervous when they get near the finish line in a key set," said Richard Williams, their father, best friend and mentor. They love each other and have strong family bonds.

Source: (Claudia & Astrid, 2016) The Williams: Beyond a Decade of Dominance, Ministerio de Educación page 176.

1.What is the text about?

      a. It is about Williams's sisters' life after ten years of practice.

      b. It is about the success of the Williams sisters over the last ten years.

2. How does the story begin?

      a. With a summary of the Williams sisters' life

      b. With Williams sisters' introduction.

3. What are the parts of the text?

      a. Introduction, body, conclusion.

      b. Introduction and body.

4.In the text, "beyond" means

      a. Further

      b. Near to

      c. Currently

5.The phrase "They have hit the headlines" according to the text means:

      a. They have damaged someone.

      b. They have made something important and now are famous.

      c. They have fought with someone.

6. In the third paragraph second line, the word "outstanding" refers to:

      a. good at something

      b. bad at something

      c. both are correct

7. By which year have they became number 1?

_____

8. Why have the Williams sisters hit the headlines several times?

_____

9. What do they do to be in shape?

_____

10. What specific information did you find important?

_____

Appendix C. Evaluation form

CONTENT EVALUATION FORM

This Content Evaluation Form aims to collect information about the importance of the content in reading activities in English for a B1 level.

Statements 1 – 5 are followed by Yes / No answer

Statement 6-10 are followed by multiple-choice.

Based on this reading activity, answer the following questions.

Source: (Claudia & Astrid, 2016) The Williams: Beyond a Decade of Dominance, Ministerio de Educación page 176.

Questions	Yes	No	
1. Does the activity include a glossary of terms?			
2. Do headlines of the activity predict what the texts will be about?			
3. Does the text include an introduction to locate the student in the context of the activity?			
4. Compared to the rest of the book, does the text of this particular activity offer the reader a fresh content within each unit?			
5. Does the activity include engaging words or phrases for the readers?			
Questions	None	One	More than one
6. How many images does the text include?			

Questions	Hi	Low	None
7.What is the level of grammar tips that the activity includes to link it to the unit content?			
8.To which level is the objective or purpose of the activity clearly explained?			
Question	**Very related**	**Some related**	**No relation at all**
9. How much is the content of the activity related to the B1 students' group?			
Question	**Between 50 and 100 words**	**Between 101 and 200 words**	**More than 200 words**
10. What is the length of the reading text assigned to in the activity?			

Appendix C. Instrument Validation Form

Title: "Metacognitive strategies in relation to the development of reading comprehension skills in EFL senior high school students in Ibarra- Ecuador"

General objective: Identify how metacognitive strategies relate to the development of reading comprehension skills in EFL senior high school students.

Specific objective related to the instrument: Identify how reading material used in the class includes metacognitive strategies to develop reading comprehension skills.

Author: Leydi Tatiana Vega Martínez

Judge:

Academic tutor: PhD. Lorena Toro Mayorga

> **Data collection instrument: Content Evaluation form**

Use a checkmark ☑

Scale:

Nothing	Low	Middle	High
1	2	3	4

Evaluation parameters	Criteria	1	2	3	4
Belonging	Does the form have a logical relation with the thesis specific objective?				
Importance	What is the instrument level importance with relation to the investigation?				
Organization	Is there a logical organization with the questions displayed in the instrument?				
Writing organization	Are the questions clear and concise?				

ID:

Signature:

Appendix D. High School Authorization Form

Unidad Educativa "San Francisco"

"EDUCACIÓN CON ESFUERZO Y BUEN TRATO COMO FRANCESCO"

2020 - 2021

PAZ Y BIEN

Oficio. 144-RUESF-20-21

Ibarra, 21 de diciembre de 2020

Doctora
LUCÍA YÉPEZ, MSc.
DIRECTORA
INSTITUTO DE POSGRADO – U.T.N.

De mi consideración:

Reciba un cordial saludo de *Paz y Bien* por parte de la UNIDAD EDUCATIVA "SAN FRANCISCO".

Me permito informar a usted que la señorita: Leydi Tatiana Vega Martínez, con número de cédula, 020148101-7 estudiante del Programa de Maestría en: Pedagogía de los idiomas nacionales y extranjeros mención Inglés , ha sido aceptada en esta institución para realizar su trabajo de grado "Metacognitive strategies in relation to the development of reading comprehension skills in EFL senior high school students in Ibarra-Ecuador".La Institución brindará las facilidades e información necesarias, así como garantiza la implementación de los resultados.

Particular que se comunica para los fines pertinentes.

Atentamente,

MSc. EDWIN BRAVO R.
RECTOR

EB/ Caicedo JC.
cc. archivo