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Metacognitive strategies in the development of reading competence of English academic texts in systems engineering students at a Public University

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Abstract: English in Colombia continues getting low results. Engineering students at a public university, Tuluá location, are not the exception. Therefore, metacognition emerges as an alternative for education as a transformative element that join with renewed didactic strategies, fundamentally promotes teaching to learn. Then, the research of the incidence of using metacognition, intracognition and metareading as strategies through direct instruction and constant practice is proposed with the aims of optimizing reading comprehension in English, and finding other paths that lead to the acquisition of greater comprehension skills by students who enter the program and seek to complete successfully their undergraduate studies.

This project was quasi-experimental research. Information was gathered by applying pre-test, post-test, MARSI test, SORS and a didactic intervention. The results obtained show that using metacognitive strategies generate better levels of English in reading texts comprehension. In addition, using metacognitive strategies promotes students to develop autonomous learning, self-regulation, and self-assessment skills. Analysis encourages discussion about the implementation of direct instruction in metacognition and its use at universities. Metacognitive strategies will result in a better reading capacity of the students, which should be the major goal of any activity that involves education in today's conditions and the challenges it demands.

Keywords: Education, Intracognition, Metacognition, Metareading, Reading comprehension.

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1. Introduction

English in Colombia still presents extremely poor results in the academic field. The low results obtained in international and national tests as the Program for International Student Assessment (PISA), SABER PRO, SABER 11, British Council Test, etc., demonstrate it. The students of the Systems Engineering program at the Tuluá campus of a public university are no unfamiliar with this situation. Educators must seek mechanisms that lead to remedy this situation. Thus, this research project was born, whose objective is to investigate the incidence that the use of metacognition and its strategies may have, more precisely meta-reading, in improving the levels of textual comprehension in English. The research seeks to improve the results of students in the comprehension of texts in English using metacognitive strategies. This research also seeks to determine what the students known about metacognitive reading strategies. It is crucial that

students take conscience of metacognitive reading strategies; develop autonomous learning skills; implement self-regulation and self-assessment procedures. To achieve this goal; it is imperative they know what reading is and the actions this activity involves.
The research question was: What will be the incidence of the use of metacognitive strategies in the development of reading competence of academic texts in English I-II-III in systems engineering students at a Public University?

Reading is one of the fundamental elements of education and therefore of learning. In this manner, reading comprehension, in turn, determines the progress of the individual's critical, concentrated, creative and cogitative thinking. Reading is the ability to develop deductive processes, draw conclusions, and establish a dialogue with an author or authors. In short, reading grounds the student and accompanies him/her throughout the training process and his/her life.
The aforementioned is the reason the degree of reading comprehension that a student achieves will directly affects the results that he/she could obtain academically. Hence, in a foreign language field, in this case English, reading demands more work in terms of information processing. Also, it requires the use of more precise strategies that allow the student to achieve the objectives when reading. The student must reach knowledge, but what is knowledge?

Knowledge is information processed by the individual. It is also the reflection of the background of the mind of an individual. There are diverse ways in which this reflection can come to be, how knowledge and habits interaction occur. In other words, a systematic reflection of the conceived world; a reflection that has certain characteristics that arise from the interaction of known subjects with known objects. Therefore, comprehension includes obtaining information about a particular object. It is the unconsciousness of a situation in the intelligence of a person. All the processes of comprehension base on what is captured through our senses, the incorporeal, ethereal, and fundamental signs to reach a holistic understanding, that is, an intrinsic perception, a total enthronement.

A large amount of research has been conducted to improve the academic results students obtain. That is the reason why, based on the principle that reading comprehension is a fundamental pillar for a successful learning process, both teaching and learning have resorted to metacognition and the principles of self-regulation. In international context, Bustos and García (2021) have conducted research about development of literality in the university through metacognition and self-regulation at the Universidad Pedagógica de Morelos, Mexico. The objective was to analyze reading practices as well as metacognition and self-regulation processes and how these practices favored or hindered cognitive processes, in addition to inquiring about how to develop the metacognition and self-regulation processes to promote comprehension during the academic life.

They conducted a systematic analysis using triangulation contrasting social categories, researchers, and theoretical categories. The results obtained indicate that there is a deficient reading comprehension as well as a lack of knowledge and a linguistic misplacement, which is due to the absence of a conceptual scaffolding as well as a poor development of thinking and self-regulation skills. Also, they were able to determine that professors from universities consider the student must reach higher education equipped with the necessary language skills. They affirm that the lack of continuity in the school trajectory has a direct effect on the reading comprehension development. It also establishes that in college subjects only a literal reproduction of the ideas expressed in the texts is demanded, while when accessing higher education students are required to expose and develop their thinking, a task for which they have not been trained. Moreover, they established that students do not have study habits or self-regulation strategies.

In conclusion for this work, to obtain a better comprehension capacity today, the development of metacognitive skills is relevant since these allow students to look at their results after interacting with a written text and to communicate their ideas, persuade, argue and establish value judgments. Finally, they state that metacognition stands as an imperative element in the regulation of learning, in its own needs such as the modification of self-regulation processes, discipline, commitment, motivation and the understanding that the causes of academic failure or success are under the control of the student himself.
In another investigation conducted by Gaona et al. (2021) with the title of use of meta reading comprehension strategies of university students conducted at the César Vallejo University, Piura, Peru, they compared the degree of using reading comprehension strategies metareading comprehension in two universities. They conclude that the students of both universities have a low level of appropriation of what meta reading comprehension is, therefore it confirms the current problem generated in education by not

presenting mechanisms that lead to obtaining a high degree of comprehension on the part of students and underline the current consequence that this nation has, which is nothing more than professionals with little analytical capacity, poor judgment and a critical spirit.

One more investigation conducted by Gamboa (2020) entitled metacognitive strategies to improve students' reading skills and developed at the metropolitan technological university in Mérida, Yucatán, Mexico whose objective was to identify the consequences generated by applying metacognitive strategies in comprehension of reading in higher education for the development of a teaching model.
The results found establish that the group that received the instruction and applied metacognitive strategies achieved the highest results in terms of reading comprehension skills of texts in English. Verifying the hypothesis presented for this research and confirming that the fact that by implementing metacognitive strategies in reading English texts contributes significantly to improving comprehension skills. It underlines the great benefit that students can obtain, and that metacognition can be taught and learned and that its use improves reading comprehension. Finally, it indicates that metacognitive strategies should be applied to the reading of any type of text to achieve a significant understanding and produce a critical, sustained, and well-argued reaction as a result.

2. Theoretical Overview Of The Main Concepts

Metacognition appeared in the 1980s. It emerges as an alternative for education as a transforming element with renewed didactic strategies, fundamentally promotes teaching to learn. Teaching to apprehend defined as providing learning tools to the student. Thus, the student will have the opportunity to discover how he learns and what learning strategies lead him to obtain better results. This originates from breaking the traditional paradigm to address the activities to be developed in a class placing the students as the protagonist of their own processes.

Despite finding a large amount of information, research and academic work based on metacognition, it is not possible to determine a very precise definition due to the terminological and fundamental differences found. On one hand, Brown (1987) defined it: “the knowledge of our cognitions” (p.23). But it is said by other authors that the main objective of metacognition research should be to comprehend the various mental processes and to know when, how and for what purposes they should be used. Other publications bring metacognition closer to the field of autonomous learning, but this leaves aside the didactic role of teaching to learn, which creates a divergence with metacognitive theory.

Metacognition has focused primarily on everything that learning involves. From there some clues have emerged that have been classified as follows:

Meta-attention: Answers the question about what are the attention problems and the activities that must be put into practice by the student to avoid distractions. Know how care and its associated factors work, such as the ability to concentrate, the necessary space in terms of comfort and adequacy.

Meta-memory: It involves knowing how memory works. The limitations and activities aimed at improving it, remembering, controlling forgetfulness. Try to find the intelligence that is possessed to establish the most appropriate memory methods for everyone. This makes it necessary for each one to discover the characteristics of his memory. In this way, it will be possible for some to work better using graphics, for others to write, record, draw and make flowcharts. In short, it opens up a wide range of possibilities to propose activities in class that stimulate each student and give them the opportunity to carry them out successfully.

Meta reading: Refers to both the functioning, as well as the mental operations that must be performed to assume a reading. From the very act of reading, the decoding, identification and recognition of symbols and letters; the actions performed on it. It implies judging, defining, difficulty, coherence and perhaps most importantly, that it be read. This ultimately determines the regulation of the action of reading.

Meta writing: Like meta reading, it determines the knowledge that must be possessed to write. The purpose of the task, the implied expression, the purpose for which it is written, and the types of writing relevant to the idea or message to be conveyed, as well as to the target audience.

Meta-understanding: It involves understanding the processes necessary to understand what to understand and how to achieve it. It is conceived as the most important phase of metacognition, since, if we do not understand that we do not understand something, how will it be understood then.

Meta-ignorance: It really does not fall under the category of metacognition. However, Buron (1993) introduces the term and defines it as not knowing that one does not know. It is interesting because it leads to questions about what is unknown. In this specific case, not knowing how to learn is one of the weaknesses of the educational process.

If one does not know how to learn to perform certain tasks, it is possible to infer that these activities will imply a high degree of difficulty to be conducted successfully. Not knowing the ability to understand then translates into meta ignorance.

Metacognition contains two crucial elements:

1.- The discernment of intellectual systematizations.

2.- Self-regulation of mental operations.

The first involves everything related to memory in terms of controlling the mental processes of memory, the aspects that cause distraction. The second refers to what must be done to achieve the objective, that is, through which mechanisms the possibility of forgetting is eliminated, distractors are eradicated. It is essentially what is called self-regulation. This regulatory role makes it possible to create a cycle that connects the goals and the means of achieving them.

It is decisive students take possession of learning to apprehend, and this occurs when they are provided with learning strategies such as cognitive skills. Hence, teach its use and objective will enable them to discover what are the best results they could obtain when conducting the proposed learning activities. It must also involve learning to reflect on and evaluate mental processes to achieve the necessary autonomy and, therefore, acquire the skills that generate necessary self-regulation systems to use metacognition successfully.

Students arrive in the classroom, often not knowing what is expected of them. They are not taught to learn and therefore this makes their task difficult. In addition, they also make the mistake of not teaching them to learn. Ultimately, the student thinks that because he got a passing grade, which is what was expected of him. However, the reality is that in many cases they do not know if they understood or not and simply did a memory task (Holt, 2004).

The stage of memory has not yet been passed. Students spend during their school life; secondly because that is what they have learned to do in a self-taught way. Metacognition tends to change to lead to thinking, deduction, reasoning, and understanding. However, it goes further because it includes the necessary tools, in this case, metacognitive. This is where metacognition plays a leading role. Processes need to be reviewed. Determine what needs to be changed in terms of learning strategies. Provide the student with what to do and how to do it to instruct him in learning to learn. This means giving them the opportunity to discover how they learn to learn, and gaining insight into how they function mentally when performing different study tasks. At the same time, he appropriates the learning strategies that will guide him to achieve the objectives that have been previously established.

As mentioned above, a large body of literature on metacognition and strategies has been developed where more effort is made to change learning techniques to the child population. However, given the critical role metacognition plays in reading comprehension, problem solving, social gnosis, independent learning, and self-regulation, the field of application can be expanded to include the adult population, fields in which there are not many studies.

Several authors agree that metacognition is linked to behavior. Within this line, the knowledge of the personal reality of the individual, his attitude, his life aspiration, the self-concept has been considered. The latter of motivation, specifically linked to self-esteem. Another little-explored field in terms of the direct

relationship that it may have with metacognition, since it involves the knowledge that the individual has of his conception, the way of assuming the world and the way of facing difficulties.

Reading is one of the priority skills that must be developed and mastered; it is the basis of learning and the gateway to the acquisition of culture (Paris et al., 1991). If a student does not know how to read, he will be doomed to educational failure, in the same way; You will not be able to acquire effective learning strategies. Therefore, first you must learn to learn to read, so that the reading processes are replaced and at the same time be able to insert metacognitive skills. In other words, reach the target reading.

Metacognitive Strategies

According to O'Malley and Chamot (1990) these strategies encompass the thinking learning process aspects, such as, planning learning, monitoring the learning task, and evaluating how well it has been learned. The following are their descriptions:

A.- Planning: preview of the concept of early learning task or organizational principles (before organization). Present a strategy for completing the task at hand and create a plan for the sections, sequences, main ideas, or language features you will use to complete the task.

B.- Focused attention: Resolve in advance to focus attention on a learning exercise and avoid any possible disruption. Strive to maintain concentration conscientiously while your execution is conducted.

C.- Selective attention: Focusing attention on specific elements of the language input or situational details to help in the performance of a task; addressing specific aspects of language input during task execution.

D.- Self-management: Understanding the conditions that help one to successfully perform language tasks and arranging for the presence of those conditions; monitor one's language performance to maximize the use of prior knowledge.

E.- Self-supervision: Reasoning, modification or rectification of one's own understanding or performance of conducting a linguistic exercise.

F.- Identification of problems: explicit identification of the pivotal points that need resolution of an exercise, as well as the elements that problematize its successful completion.

G.- Self-assessment: Verification of the results of the performance of the language against a proper disposition of completeness and precision; check one's own philological epitome, which strategies are used and the ability to conduct the assignment in question.

Finally, it is crucial to remember that the most exciting advancement in recent strategic research, might not necessarily transfer into an effortless application because instructing students and effectively implementing such tactics may be the most difficult of all.

3. Methodology

This study belongs to quasi experimental research by it seeks to solve a real problem in a specific field of education, such as the lower level of reading acuity of texts in English that is exhibited in an educational institution in a certain program. It is a quasi-experimental investigation by its participants have been previously selected and distributed into an experimental group and a control group. It makes use of the descriptive methodology in how much it uses quantitative and qualitative observation.

The methods used to collect information under the objectives outlined for this research were:
The MARSI (Metacognitive Awareness of Reading Strategies Inventory) and SORS (Survey of Reading Strategies) instruments were designed to assess students' metacognitive awareness and reading strategies in English exclusively in academic environments (Mokhtari & Sheorey, 2002). The survey is limited and asks what students believe or think they have about the strategies and not what are the current ways in which they conduct English reading. In short, find out about the metacognitive awareness of the students and the metacognitive strategies they use or think they use when doing purely academic readings in English. The validity of this instrument lies in the unified construct.

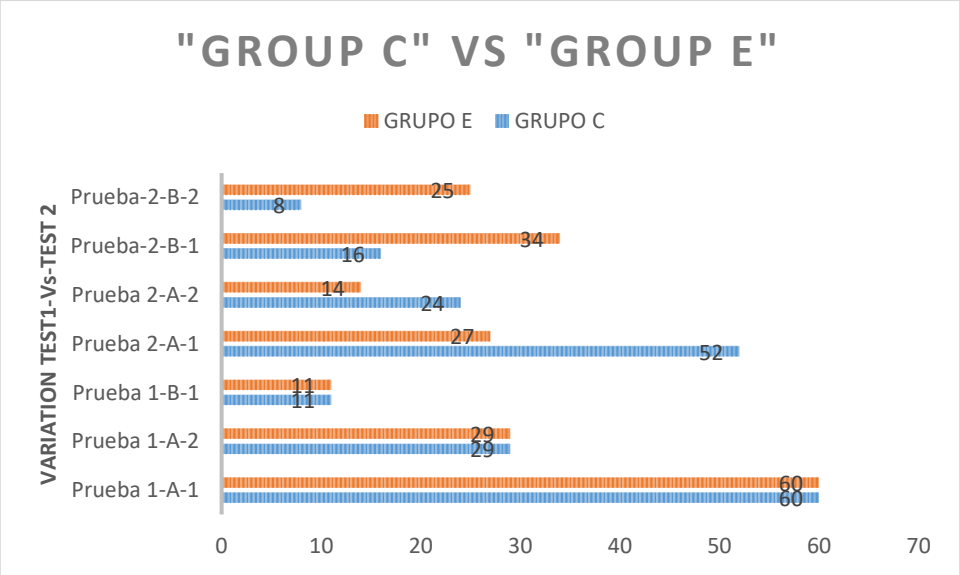
It is made up of six aspects. Firstly, content aspect of validity, including evidence of content appropriateness, representativeness, and Metacognitive Awareness Inventory of Reading Strategies Review (MARSI) and tests for technical quality. Secondly, characteristic aspect of efficacy that outlines the hypothetical summaries of the strong observations to the responses to the items. Thirdly, structural aspect of validity that assess the fidelity to which the scoring system adheres to the specified constructive domain's organizational principles. Fourthly, the validity's generalizability component, which assesses the degree to which rating distinctiveness and exegesis span across demographic groups, settings, and tasks. Consequently, evidence from measures of other qualities, including convergent and discriminant evidence, is part of the external element of validity. Likewise, component of validity, which deals with the current, highly biased effects of applying the experiment and the implications of score interpretations as the central idea of the exercise.

Placement English pretest and post-test. The Cambridge English Test was used to determine the students' English level at the very beginning of the intervention and at the end. It allowed contrasting data gained and further analysis. Then, a didactic sequence intervention was conducted for 120 hours. The aim was to train students in metacognition and its strategies. Each session was assessed by using a Likert scale to collect data about the use of metacognitive strategies and their influence on the reading activities proposed.

4. Discussion

The most significant of the findings is the proven confirmation that providing students with metacognition tools to read texts in English generates a significant improvement in their comprehension, in addition to contribute to the achievement of a more structured mastery of the target language. Bono et al. (2018) establish in their conclusions because of their research how the production of knowledge, critical and analytical capacity underwent a metamorphosis reflected in the monographs conducted by their students. Cohen et al. (2000) defined it very well when establishing that training in metacognitive strategies provided students with the ability to decide how, when, for what and why to use the most appropriate tools to conduct a reading task. He also argues that such strategies facilitate their learning efforts and the use of the foreign language. He adds that teaching students how to develop explicitly their own individual system of strategies helps them acquire the target language more efficiently as well as promotes them to self-assess and self-direct their learning.

Figure 1: Variation Test 1- vs. Test 2



Source: Own elaboration

The final comparison of results between initial and final test presents a great variation as can be observed in the comparative graph. The control group that developed normal class activities is now distributed in 52% at level A-1; 24% at the A-2 level; 16% at the B-1 level and 8% at the B-2 level. This allows us to establish that despite not having used metacognitive reading strategies; the usual practice in the classroom achieved a certain level of improvement, although not incredibly significant. Variations in the experimental group were greater. The results now spread out 27% for the A-1 level, 14% for the A-2 level, 34% for the

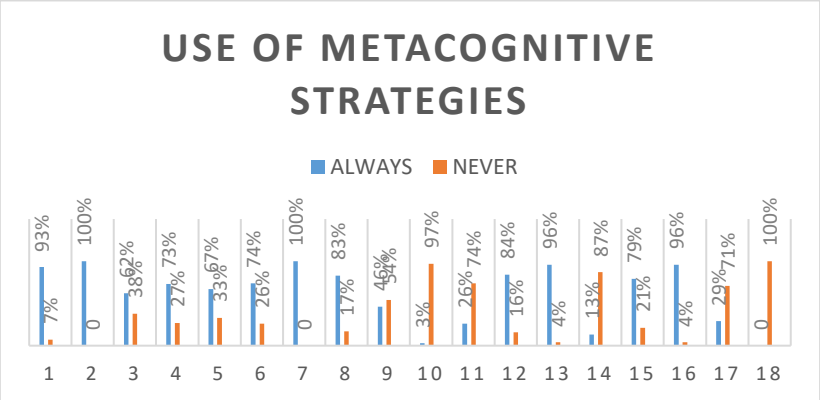
B-2 level, and a staggering 25% for the B-2 level. The figures show significant increase in the levels of English reading comprehension in the experimental group due to in the first test there were no students located at the B-2 level. This reflects that the application of metacognitive reading strategies had a remarkably positive influence on their comprehension skills and contributed significantly to obtaining these results.

The findings also indicate that developmental limitations can make students resistant to learning certain characteristics. Therefore, it is challenging for students to pay attention to both form and meaning at the same time, due to their poor ability to process lesser amounts of information. If a student's interlanguage is prepared to acquire a new feature. Although student readiness is a matter of confidence and competence, the power of strategies to compensate or close gaps in student progress should not be ignored.
In summary, it is possible to point to a consensus in the literature on metacognitive strategies that instruction in these strategies can help students in four main ways. First, reflect on the tactics that are used. Second, use certain maneuvers in the task when it is hindered by anxiety, memory loss, and the requirement to speak right away during oral communication. Undoubtedly, overcoming these obstacles will increase the effectiveness of learning. Third, control the efficiency of the strategies you already use. Likewise, to establish new strategies and leave ineffective strategies through a conscious and critical reflection on their own use of strategies.

It was also found that there is no culture of reading texts in English in the formative space in which the research has taken place. This means that therefore the levels of reading comprehension are low. Which in turn is consistent with the results obtained in the international tests and those conducted in the national context called Saber 11, Saber Pro. Another main finding was the lack of metacognitive strategies knowledge for reading comprehension of English texts. Which translates into obstacles and interferences to achieve a better understanding of what is read. Reading in English is only done to respond to a task assigned in the subject. This is consistent with the work of Bustos and García (2021) when they argue in their results the existence of a lack of knowledge and a linguistic misplacement as well as the lack of development of thinking and self-regulation skills. In addition, it can be located within what is proposed by complex thinking (Morin, 1998) in terms of the need to develop reflective thinking strategies that promote dialogue, which generate modification and produce a holistic view from the mind of the subject.

The findings also suggest that for students to know the scaffolding behind metacognition and all that this requires for the adoption of its strategies constituted a challenge, but also an opportunity to appropriate new tools that would pave the way towards a better understanding. production and more successful academic performance. Difficulties faced with uprooting old habits and the traditional way of studying, in this case reading was one of the most mentioned aspects, as well as the need to have a clearer and broader linguistic foundation in the English language to conduct a deeper assimilation and understanding of the texts to be read. As expressed by Cabero et al. (2018) attention, concentration, reflection, and self-regulation capacities must be supplied through the student's awareness. So, they can develop an individual rhythm and transform their learning process. This is aligned with the propaedeutic principles defined as the knowledge required to start the study of a subject (Morin, 1998). Also, it incorporates pedagogical elements with the firm objective of maximizing people's development. It implies individual action to learn and their ability to reflect, read and interpret.

Figure 2: Use of metacognitive strategies



Source: Own elaboration

An additional and highly relevant discovery is the confirmation of explicit and direct instruction of metacognitive reading strategies. Gamboa (2020) manifests it in his work conducted at the technological university of Mérida in Mexico. He categorically underlines that metacognitive strategies can be taught; but as in the observations made in this project, they are tasks that consume a lot of time and require a great commitment from the group of students involved in this process. Likewise, the development of procedural knowledge is consistent with the teaching of metacognitive techniques. More procedural knowledge must be acquired by students in order to reduce negative affective influences and begins to see some success. Many students lack experience with language learning and are afraid of language.

Chamot et al. (1996) also mention the direct and motivating influence that effective instruction can have on the learner. They emphasize that students set higher goals for their academic performance when they have access to effective strategies, and this is a key factor in motivation. One of the most important aspects of being a successful learner is having self-control and choosing the learning strategies. This form of self-control will be expanded to the extent that the student is now metacognitively aware of the relationship between the strategies he uses and his learning results.

5. Synopsis of the Main Research Outcomes

One of the main research outcomes was a significant increase in reading comprehension levels in the experimental group. Initially, there were no students at the B2 level in the entrance test. This reflects that the use of metacognitive reading strategies had a notably positive influence on their comprehension skills and significantly contributed to achieving these results. According to the comparison between the effects achieved by the experimental group and the control group after completing the didactic lesson, whose primary objective was to address the problem posed, and with the ultimate goal of determining whether there was an impact on the results of reading content in English by using metacognitive strategies, the outcome was positive, as it led to an increase in the final scores and levels reached by the students. Additionally, another relevant aspect of the research process was the increased use of metacognitive reading strategies and the development of autonomous learning skills.

Another research outcome regarding the use of metacognitive strategies are: Over 90% of the group created a list of objectives before starting to read in English. 100% of the participants have built and continue to use a vocabulary book where they collect new words. Slightly more than 60% of the group listen to music and look up the lyrics to read them. 75% keep a journal of notes regarding what they do in class and their opinions about the activities. Around 80% read labels, advertisements, articles of interest at least three times a week. 77% are using the strategy of recording themselves reading aloud to monitor their pronunciation. 100% of the group created a portfolio of the work done in class. More than 80% of the group worked with materials found on the web for practice on their own initiative. 55% listened to audio articles from referenced sites such as VOA News and BBC. Only 3% reported having had contact with native English speakers for purely practical purposes. 35% joined sites like Global Pen-Friends, which was suggested to establish contact with native English speakers. More than 85% rewrote texts from advertisements, labels, and instructions presented in English. Over 90% used online dictionaries and glossary pages suggested on the web as tools. Only 16% used the strategy of recording movie subtitles to compare them with the original dialogues. More than 75% used the strategy of recognizing true and false cognates while reading. Over 95% conducted self-assessments of their progress, identifying weaknesses and strengths during the didactic intervention.

6. Conclusions

After conducting the intervention work, it is possible to draw the following conclusions that respond in a pertinent way to the objectives outlined in this investigation:

If, as the extensive review of the literature and research on the subject seems to imply, students need to be in college to develop a repertoire of strategies and learn how to deploy them effectively, what exactly is the teacher supposed to do to encourage this?

For the teaching of metacognitive strategies to be effective, one must discover and discuss the strategies that the student has already used for specific learning tasks, present new strategies by naming and

describing them explicitly, model the strategies, explain why and when they can be used, and provide thorough practice. Chamot et al. (1996) also make the caveat that for the framework of training in metacognitive strategies both to be effective; Other factors, such as the length of time devoted to instruction, the degree of integration of the instruction into the regular curriculum and normal classroom activities, and the degree to which the teacher has been trained in strategy instruction, should be considered.

Facilitators have the responsibility of explaining and modeling metacognition strategies and gradually encouraging participation and application of these strategies until they can do it independently, considering that there is a lack of knowledge about metacognition and metacognitive reading strategies by students. In addition, the level of proficiency in the English language is extremely low and despite considering reading as the easiest skill to acquire, a low level of comprehension also persists.

The primary reason of low level of reading comprehension in the English language is due to the lack of reading habits in most students. It is not read in the native language; therefore, it lacks a wide vocabulary in it. Of course, much less is read in English and therefore the absence of a fundamental vocabulary and a mastery of grammatical structures makes reading comprehension in English difficult.

Metacognition appears as a fundamental tool for students. The appropriation of its use is essential to train autonomous students who identify which metacognitive reading strategies are more related to their abilities and how to use them in their favor to reach higher levels or what can be called meta comprehension. Part of this includes knowing how to go to previous knowledge, educational experiences, recognition of one's own interests and motivations that lead to more meaningful learning. It is also essential for educators to know and incorporate the elements provided by metacognition to engage students by facilitating teaching and learning. Above all, the latter where the student must assume the leading role and the commitment to take care of building their own knowledge and understanding.

Direct instruction of metacognitive strategies is possible. It does require a determined effort on the part of the educator who engages in this task. But it requires even more a prominent level of commitment from the students, since, ultimately, they will be the ones through their effort and dedication who achieve the appropriation of these strategies and therefore benefit academically and cognitively.

Metacognition and the use of the strategies it provides contribute to the development of autonomous learning. It forms a student who is more aware of himself and of the tasks that he must assume as an apprentice. Teaches to plan how to approach academic assignments, identify the objectives to be achieved and how to reach them. Also, it gives you self-regulation skills, which means acquiring mastery and control over your own learning. Finally, it helps to develop a capacity for self-criticism and self-evaluation that should lead to the search for better results in their academic activities every day.

Only to the extent that students reach a maturity of thought and autonomous learning capacity will the results obtained today in terms of reading texts in English be transformed. But ineffably, that maturity and those capacities will also have to be reflected in other subjects and in the cognitive, social, and affective growth of the students.

Finally, it is feasible to allege some advantages and disadvantages of the use of metacognitive strategies in the university context as follows: higher level of self-awareness, goal planning and improvement, effective monitoring, and evaluation, improved problem-solving ability, active participation and self-regulation, deeper understanding and transferability, lifelong learning skills.

They also have some potential drawbacks such as requiring additional cognitive effort and mental resources. Students may feel overwhelmed by the complexity of using these strategies along with the demands of reading in a foreign language. This can lead to increased cognitive load and potentially hinder comprehension rather than improve it. Long time availability is needed. Metacognitive strategies require explicit instruction and practice for students to use effectively, limited effectiveness for novice learners, and strategies that are successful in one language or culture might not be in another.

7. Limitations, Implications, and Further Directions of Research

It is essential to conduct more in-depth research on metacognition and reading comprehension strategies in English within the Colombian educational context. Incorporating learning about the process of learning itself, planning for learning, reflecting on how to learn, and assessing what has truly been learned into English language curricula, it should be a task carried out by institutions with the involvement of students before such curricula are designed and implemented.

Mechanisms must be sought to promote a shift from the traditional practices prevalent in primary and secondary education institutions. Eliminating the transmission-based model that dominates and is evident in students who enter higher education. Instead, a model should be adopted that fosters the development of thinking skills and establishes habits of reflective, self-critical, and self-evaluative learning. These abilities are not only necessary for academic success but also for the professional life of university graduates.

It is equally important to engage the entire educational community in fostering reading habits among students by creating reading groups. Moreover, explicit instruction in metacognitive reading strategies should be provided across all subjects before beginning any teaching-learning process. This way, students will understand from the outset that they are responsible for their level of knowledge, as well as their comprehension and problem-solving abilities.

References

1) Bono, A., Boatto, Y., Aguilera, M., & Fenoglio, M. (2018). Tareas de clase de gestión metacognitiva. Una propuesta de intervención pedagógica en el aula universitaria. Innovación educativa (México, DF), 18(78), 143-170. https://ri.conicet.gov.ar/handle/11336/164292

2) Brown, H (1987). Principles of Language Learning and Teaching. Prentice Hall. New York. https://smartlib.umri.ac.id/assets/uploads/files/af2ff-language-teaching-principles-1-.pdf

3) Bustos, R., & García, I. (2021). Desarrollo de la literacidad en la Universidad mediante la metacognición y la autorregulación. Diálogos sobre educación. Temas actuales en investigación educativa, 12(23), 00014. https://doi.org/10.32870/dse.vi23.967

4) Cabero, J., Piñero, R., & Reyes, M. (2018). Material educativo multimedia para el aumento de estrategias metacognitivas de comprensión lectora. Perfiles educativos, 40(159), 144-159. https://idus.us.es/handle/11441/70259

5) Chamot, A., Barnhardt, S., El-Dinary, P., & Robbins, J. (1996). Methods for Teaching Learning Strategies in The Foreign Language Classroom. University of Hawaii Press. Hawaii. http://dx.doi.org/10.1515/9780824897376-015

6) Cohen, L., Manion, L., & Morrison, K. (2000). Research Methods in Education (5th ed.). Routledge. https://doi.org/10.4324/9780203224342

7) Gamboa, C. (2020). Metacognitive Strategies for Improving Students' Reading Skills. Península, 15(2), 99-115. https://www.researchgate.net/publication/346938094_Metacognitive_Strategies_for_Improving_Students'_Reading_Skills

8) Gaona, G., Oyanguren, J., & García, V. (2021). Nivel de uso estrategias de metacomprensión lectora de estudiantes universitarios. Horizontes. Revista De Investigación En Ciencias De La Educación, 5(18), 515–522. https://doi.org/10.33996/revistahorizontes.v5i18.192

9) Holt, J. (2004). Instead of Education: Ways to Help People Do Things Better (1st ed.). Sentient publications. https://books.google.com.co/books?id=oRk28eZoYNkC&pg=PR5&source=gbs_selected_pages&cad=1#v=onepage&q&f=false

10) Mokhtari, K., & Sheorey, R. (2002). Measuring ESL students reading strategies. Journal of Developmental Education, 25 (3), pp. 2-10. https://www.researchgate.net/profile/Kouider-Mokhtari/publication/285641803_Measuring_ESL_students%27_awareness_of_reading_strategies/links/5666234608ae418a786f3da5/Measuring-ESL-students-awareness-of-reading-strategies.pdf

11) Morin, E., (1998). Introducción al pensamiento complejo. Gedisa Editorial S A. https://cursoenlineasincostoedgarmorin.org/images/descargables/Morin_Introduccion_al_pensamiento_complejo.pdf

12) O'Malley, J. M., & Chamot, A. U. (1990). Learning strategies in second language acquisition. Cambridge, UK: Cambridge University Press. http://dx.doi.org/10.1017/CBO9781139524490

13) Paris, S. G., Wasik, B. A., & Turner, J. C. (1991). The development of strategic readers. In R. R. Barr, M.L. Kamil, P. Mosenthal, & P. D. Pearson (Eds.). The handbook of reading research (Vol. 2, pp 609-640). New York: Longman. https://www.routledgehandbooks.com/doi/10.4324/9780203447772.ch22