Kurdish Studies
Feb 2024
Volume: 12, No: 2, pp.5223-5239
ISSN: 2051-4883 (Print) | ISSN 2051-4891 (Online)
www.KurdishStudies.net

Received: December 2023 Accepted: January 2024
DOI: https://doi.org/10.58262/ks.v12i2.387

Contributions of Metacognitive Strategies to the Inferential Reading Comprehension Level

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Abstract

The purpose of the research was to establish the contributions of the use of metacognitive strategies in the level of inferential reading comprehension in 5th-grade students of the IED El Carmen in the city of Santa Marta. The population consisted of 380 elementary school students, from strata 0, 1, and 2, between 9 and 11 years old, with a non-probabilistic sample of 34 students. Non-experimental field research was applied with a mixed nature approach, following a post-positivist paradigm. The standardized test named Evaluar para Avanzar (Evaluating for Advancing), designed by the Colombian Institute for the Evaluation of the Quality of Education, ICFES (2020), and the Metacognitive Abilities Inventory (MAI), designed by Schraw & Sperling (1994) and validated by Huertas et al. (2014); implemented in the usual classroom space, were used. Quantitative and qualitative results were obtained through which it was established that the contributions of Metacognitive Strategies to the level of Inferential Reading Comprehension in 5th-grade students had a greater representation in the strategies of Organization, Monitoring, and Planning with a predominance of Declarative and Macrostructural inferences, with a positive correlation between the categories of Metacognitive Strategies and Inferential Reading Comprehension.

Keywords: *Inferences; Understanding; Reading; Reading comprehension; Metacognition; Reading strategies.*

Introduction

This research is based on the identification of a problem arising from the experience of the authors in their classroom practice on the low rates of Inferential Reading Comprehension (IRC) presented by 5th-grade students in the results of the SABER tests and characterization of fluency and reading comprehension, whose objective was framed in establishing the contributions to the use of Metacognitive Strategies (MCS) to the IRC in 5th-grade students of the IED El Carmen in Santa Marta - Colombia.

For its development, conceptual elements were reviewed as the definition of the categories by the theoreticians who routed the present study. Starting with the concept of reading, which according to the Ministry of National Education (1998), transcends academic scenarios, since it allows enriching the conceptual schemes, the way of seeing and understanding the world as an essential requirement for the scientific and cultural development of students.

Reading is understanding and for this, it is necessary to develop several cognitive processes:

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anticipating what a piece of writing will say, providing previous knowledge, making hypotheses and verifying them, drawing inferences to understand what is suggested, and constructing meaning, among others (Cassany, 2006).

In this regard, Solé (2011) mentions that understanding implies knowing how to use autonomously a set of cognitive and metacognitive strategies that allow processing texts in different ways, depending on the objectives that guide the reader's activity. Such strategies for Flavell (n.d., p.32, cited by Vega et al., 2018), are understood as "planned and goal-oriented behavior."

Recent studies indicate that difficulties in reading comprehension processes are evident at all levels of education, due to the lack of dissemination and implementation of didactic strategies by teachers, which favor the development of metacognitive processes in the student and thus accommodate the mental processes necessary to successfully deal with a type of written text.

In this regard, Caballero (2008) states that there are two problems related to the teaching of reading comprehension in the classroom: the lack of approach by teachers to other strategies that allow them to raise the level of reading competence in their students, and the fear of exploring other strategies that require greater accompaniment and knowledge on the part of the person guiding the reading process.

On the other hand, according to Cisneros et al. (2010), the concept of inferences implies a relocation of the reader's role during the reading exercise, since he/she is no longer limited to the decoding of signs, semas, phrases, sentences, and texts, but enters more actively to complete and conclude the information that the text offers behind the lines.

León (2003), emphasizes the importance of inferences in reading comprehension and clarifies that when inferring, the reader makes use of cognitive and metacognitive strategies to build new propositions from those already given, thanks to which the reader reorganizes the information read within a structured representation that, ideally, manages to be integrated within a global structure.

For their part, MCS, according to García (2015), are higher capacities that allow knowing one's learning process such as: thinking, planning, regulating, and controlling intelligent performance. These conscious self-regulatory abilities are grouped into five components, which for this study are considered subcategories of the MCS category, namely: planning, monitoring, organizing, debugging, and self-assessment.

Based on these theoretical contributions, the present research was supported towards the fulfillment of its objectives, focused on the following questions:

What characteristics does the IRC of the study population present when employing MCS when faced with an inferential type of text?

Which MCS are most frequently used by the study population to solve IRC tasks?

Which of the MCS used by the study population is the most effective for the achievement of IRC?

It is intended that the results obtained derive from didactic changes in the classroom that stimulate and favor the awareness, training, and application of IRC, both in the reading process and in life itself.

Method

The study was projected towards a mixed approach, based on description and analysis through information; a Post-positivist paradigm was used, which was close to the approach adopted in that it handled a quantitative methodology that opens space for qualitative strategies for the analysis of existential reality. Due to its purpose, it was of an applied type given its practicality and the confrontation of theoretical contributions with the results; likewise, field research was conducted in the learning space of the target population based on the application of standardized tests and inventories.

The research was carried out over a period of 12 months, during which a non-probabilistic sample of 34 5th-grade students from El Carmen Secondary School, 36% female and 64% male, was taken.

To characterize the IRC level of the students, Evaluar para Avanzar (Evaluating for Advancing) test for grades 4 and 5, designed by ICFES (2020), was selected as an instrument to characterize the IRC level of the students, who authorized its use for research purposes, respecting the copyrights.

To characterize the level of IRC reached by the students, the classification of inferences made by Castillo et al. (2007), which comprises the subcategories: Enunciative, Referential, Lexical, and Macro-structural, was chosen because of its affinity with the Evaluar para Avanzar test.

For the identification of MCS, the instrument "Inventory of Metacognitive Skills" created and validated by Schraw & Sperling (1994) and later translated and validated by Huertas et al. (2014) was applied as a reliable instrument that can be used to learn about the MCS awareness of students, through their self-report, with response options in Likert scale.

The instrument measures the regulation of cognition from the components of planning, organizing, monitoring, debugging, and assessment, which make up the subcategories of analysis and are directly related to the theoretical foundations framed by Garcia (2015), defining CME as higher capacities that allow knowing one's learning process such as: thinking, planning, regulating and controlling intelligent performance, grouping these conscious self-regulatory skills in three categories: planning, control, and self-evaluation.

The organization, analysis, and processing of information was carried out through tabulation, graphing, and correlation between categories to obtain quantitative and qualitative data that facilitated the descriptive analysis of the contributions of the MCS in the IRC processes of the target population. The results obtained in both categories were contrasted, facilitating the explanation and interpretation of the contributions of the former to the latter.

Results and Discussion

The following information corresponds to the results of the IRC Category, its respective subcategories, Enunciative, Lexical, Referential, and Macro-structural, and their indicators, obtained by the 5th-grade students when solving the questionnaire Evaluar para Avanzar (Evaluating for Advancing).

Table 1 shows that of the total (680) questions, 238 corresponded to the Enunciative subcategory, obtaining 104 correct answers and 134 incorrect answers; 102 to the Lexical subcategory, obtaining 43 correct answers and 59 incorrect answers; likewise, the Referential

subcategory participated with a total of 136 questions, obtaining 54 correct answers and 82 incorrect answers; followed by the Macro-structural with 204, obtaining 87 correct answers and 117 incorrect answers. In total, the students obtained 288 correct answers (42%) and 392 incorrect answers (58%) in the IRC category.

Table 1: Overall results of the Inferential Reading Comprehension Category

Subcategories	Number of indicators	Number of questions	Total sample the sample	Hits by sample questions	Sample question mismatches
Enunciative	5	7	238	104	134
Lexical	3	3	102	43	59
Referential	3	4	136	54	82
Macro-structural	4	6	204	87	117
Total	15	20	680	288	392
Percentage			100%	42%	58%

Source: Own Elaboration.

Figure 1 shows the results by subcategory according to the hits obtained by the study population in the IRC category, showing the highest score in the Enunciative subcategory, with 43.6% of hits, in second place was the Macro-structural with 42.6%, in third place the Lexical with 42. This implies that inferences with low scores, such as the Referential and Lexical, from the microstructural level of the text, have a significant influence on the IRC, and that the latter, with 39.6 % of the total of the test, is more important than the former since the former reached 58% of the total of the test.

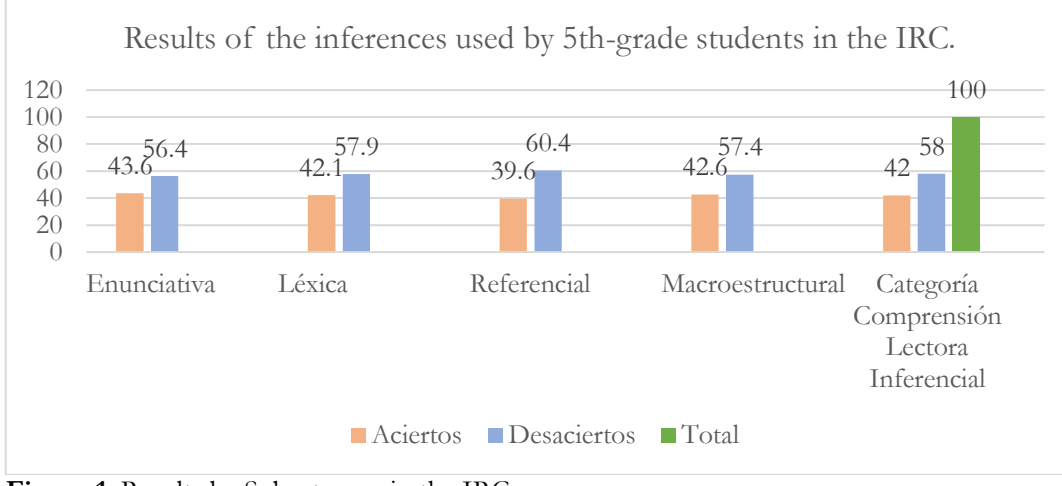

Figure 1: Results by Subcategory in the IRC
Source: Own Elaboration.

When using Enunciative inferences, the following IRC characteristics were evidenced in the students, identifying the polyphony or voices of the characters in a literary text, temporarily locating an event in the text based on literal information, identifying the sender of a text, identifying the target audience of a text, more easily solving questions based on discontinuous texts such as comics, differentiating the textual typology, identifying the discursive relationships between the Enunciatory - Enunciated - Enunciator.

Likewise, confusion was evidenced in the students when relating the witness narrator with other characters in the story.

The results in the enunciative inferences of the present study coincide with what was reported in the study by Bustamante et al. (2018) when evidencing the student's ability to identify basic aspects of the text presented explicitly, define and answer questions about the actors present in the text, locating and recovering specific information from the text.

In this regard, Solé (1999) refers to autonomous readers as subjects capable of learning from texts. To this end, readers must be able to question their comprehension, establish relationships with what they read and what is part of their background, question their knowledge and modify it, and establish generalizations that allow them to transfer what they have learned to other contexts and different contexts.

Likewise, some deficiencies were found in relation to the skills required to answer enunciative questions, such as the recognition of who acts, evidencing confusion when relating the witness narrator with other characters in the story. Pernía (2018), in his research, developed didactic situations in which he valued prediction and inference as reading strategies for the development of reading comprehension, but likewise, as mentioned by Solé (1999), for the reader to understand, it is necessary that the text itself is understood and that the reader possesses adequate knowledge to elaborate an interpretation about it. When speaking of "adequate prior knowledge", the author comments that this does not refer to "knowing" the content of the text, but rather that there is an optimal distance between the text and the reader's knowledge that allows the process of attribution of meanings that characterizes comprehension.

The second most effective type of inferences used by students to solve inferential questions were the Macro-structural ones with 42.6% success, as shown in Figure 1, above the total 42% obtained in the IRC category, evidencing the following skills in the students: making hypotheses from the global meaning of the text, recognizing the type of text according to its form and content, recognizing chains of meanings between words, which allows them to find meanings contextually.

Likewise, they presented some deficiencies related to the hierarchization of ideas to find the topic of the text and the ability to relate previous knowledge with new knowledge.

In Muñoz & Ocaña's study (2017), some coincidences with the present study are presented in relation to the significantly high results in these inferences. The aforementioned researchers reinforced through workshops the students' prior knowledge, facilitating the identification of the topic, the fundamental ideas, and the relationships between them, results that are far from those obtained in the present research since some deficiencies were evidenced related to the hierarchization of ideas to find the subject or theme of the text and the ability to relate prior knowledge with new knowledge.

In third and fourth place in terms of correct answers are the subcategories Lexical and Referential with 42.1% and 39.6% respectively, as shown in Figure 1. They are grouped because both belong to the Microstructural level, which deals with the relationships of meanings between words and the phenomena of grammatical agreement in relation to the coherence and cohesion of the text. The management of the lexicon plays a preponderant role in the relationships of meanings and therefore in inferential reading comprehension, as Cisneros et al (2010, p. 85) comment "the combination of lexical entries is the conceptual basis that supports interpretation".

The students presented the following skills to solve the lexical questions: management of contextual meanings of words, and lexical retrieval of meanings through substitutions in a text.

Despite the low results in this type of inference, the question (18) with the highest successes in the IRC category was evidenced, evaluating the ability to extract the meaning of an expression and choose another that indicated a similar message, i.e., management of synonyms and morphological knowledge that allowed them to associate chains of meanings. Bustamante et al. (2018), in their research on the deepening of the four types of inferences based on the use of the cartoon, conclude in relation to lexical inferences that it is necessary to manage the vocabulary so that the student can identify the semantic chains of words and the meaning relationships between them, identifying the communicative situation.

To complement what was mentioned by these authors, it is essential to strengthen lexical retrieval in the grammatical contexts of words, not only in the field of the unknown word but also in its different connotations, that is, the polysemy of words, strengthening indicators with low results, related to rhetorical strategies in a text.

Regarding the Referential subcategory, the following skills were identified in the students: establishing the relationships between linguistic and non-linguistic elements characteristic of posters and cartoons, two textual structures whose interpretation was facilitated to the students, with a greater predominance of the cartoon. Some of the questions related to this type of discontinuous text reached the highest number of correct answers.

However, there is evidence of difficulty in relating pre-knowledge and new knowledge regarding the handling of connotative and figurative language related to rhetorical figures of speech that point to the semantic level of this type of inference.

The lowest results of the inferences in the present study were obtained by the Referential ones, coinciding with the study of Bustamante et al. (2018), who mentions that the children obtained low performances with a tendency to basic performance, reflecting the difficulty in establishing relationships between old ideas and new ideas, as well as the lack of resources to make inferences from what they have read.

In this regard, Martínez (2002) mentions that most of the ambiguities in comprehension arise because of the lack of knowledge of the referential relationship established in a text, between a linguistic mark and a term that allows it to be filled with meaning. It is necessary to make a series of relational cognitive movements with a before or after to find the meaning through the textual proposal offered by the author of the text.

Figure 2 shows the correct answers per question in each of the subcategories, showing the highest percentage in the Enunciative subcategory with 43.6%, with questions 12 (67.6%) and 17 (62%) achieving the highest scores of correct answers. The first is based on a cartoon and evaluates the student's ability to identify the voices of the characters, the second refers to the student's ability to identify the audience to which the text is addressed. In this case, the type of text on which the question is based is a poster, so it is still evident that these discontinuous texts facilitate the activation of the enunciative inferences and in general the process of reading comprehension, starting from the literal.

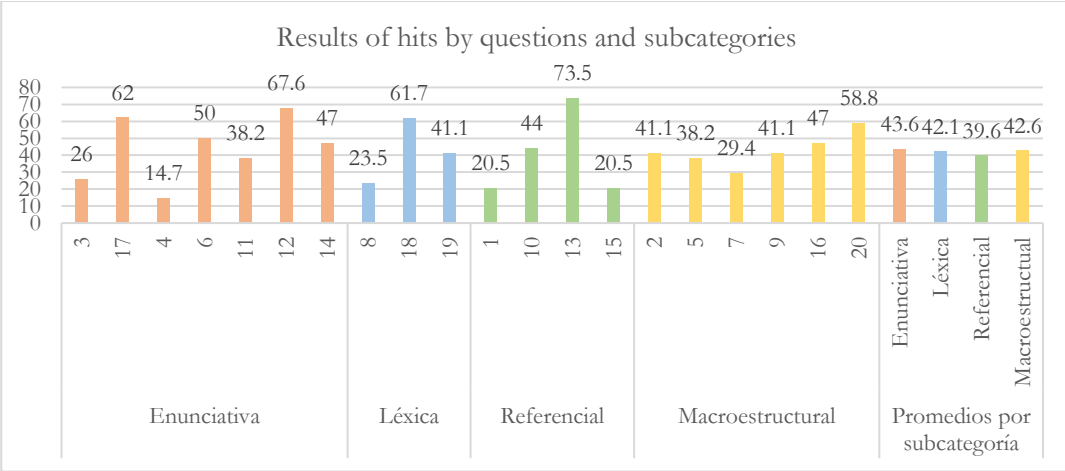

Figure 2: Results of Hits by Question and Subcategory on the IRC.
Source: Own Elaboration.

On the other hand, Figure 2 shows that question 4 (14.7%), obtained the lowest percentage of correct answers; it is noteworthy that this question based on a continuous text evaluates the same as question 12, but the difference is the type of text on which it is based.

Likewise, the macro-structural inferences, located in the second place of correct answers with 42.6%, presented in questions 20 (58.8%) and 16 (47%), the highest percentage of correct answers, two questions based on different texts, the first on an informative text, entertainment news, and the second, a poster, but they evaluated the same aspect: the ability to formulate hypotheses on the general topic. This type of inference allows the student's ability to identify the structure of different textual typologies while recognizing components of the communicative intention of the text and the categorization of ideas to hierarchize the information.

It is observed that students found it easier to make this type of demand when dealing with discontinuous texts; when these same elements were evaluated in a continuous text, the results varied towards less significant scores, which shows that the type of text is one of the key elements for making inferences. In this regard, Castillo et al. (2007) mention that in the process of inferring information, the reader's knowledge of the subject matter of the text also comes into play, as well as the possibility of identifying the type of text: narrative, argumentative, explanatory, informative, etc., and the explanation of the functioning of some linguistic phenomena (the logical function of a text component, the communicative function of the text in general, the way the information is organized in the text...).

Figure 3 shows that the indicators with the best performance were found in the Enunciative subcategory, with an average of 13.9%, in relation to the 42% of correct answers obtained in the IRC category, followed by the Macro-structural with an average of 11.1%; in third place, the indicators of the Lexical, with an average of 8.4% and finally those of the Referential with an average of 7.4%, showing a close percentage relationship. These last two subcategories evaluate the microstructural relationships of the text about cohesion and coherence, indicating that the 5th-grade students were able to make some kind of inferences from the relationship between the actors in the communicative act, that is, the interaction between the enunciator and the enunciatory, identifying the voices in a text, sometimes formulating hypotheses about the general theme of a text and managing to select ideas at a local and global level, trying to hierarchize them, but it was difficult for them to find the relations of meaning that the author constructs to refer to the same referent or to establish different relations among them.

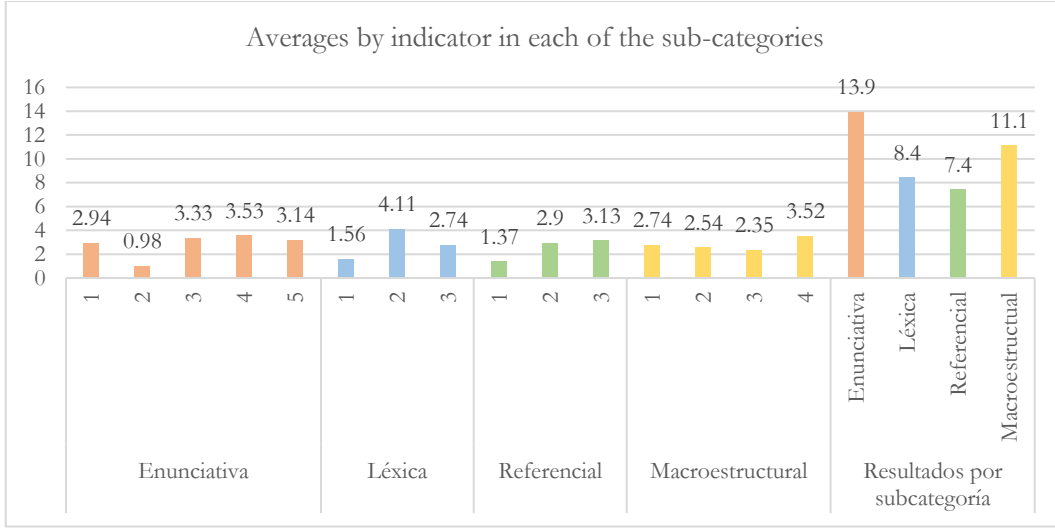

Figure 3: Averages by Indicator and Subcategory of the IRC.
Source: Own Elaboration.

According to Cisneros et al. (2010), these difficulties are often due to a lack of knowledge about the terms used by the author. It was observed that not knowing the meaning of a word made it difficult for students to find the general idea and infer the meaning by the context of the terms and the semantic chains that are woven throughout the discourse.

The following information corresponds to the results of the MCS Category, its respective subcategories: Planning, Organization, Monitoring, Debugging, and Assessment, and their indicators, obtained by the 5th-grade students when applying the Metacognitive Abilities Inventory MAI.

The results shown in Figure 4 establish that, on average, the MCS category obtained a score on the Likert scale of 4.01, placing it on the "Agree" scale; likewise, the subcategory with the highest average frequency of use by 5th-grade students in the IRC was Monitoring (4.1), followed by Debugging (4.09), Planning (4.0), Assessment (3.97) and, lastly, the least used were those of Organization (3.88)

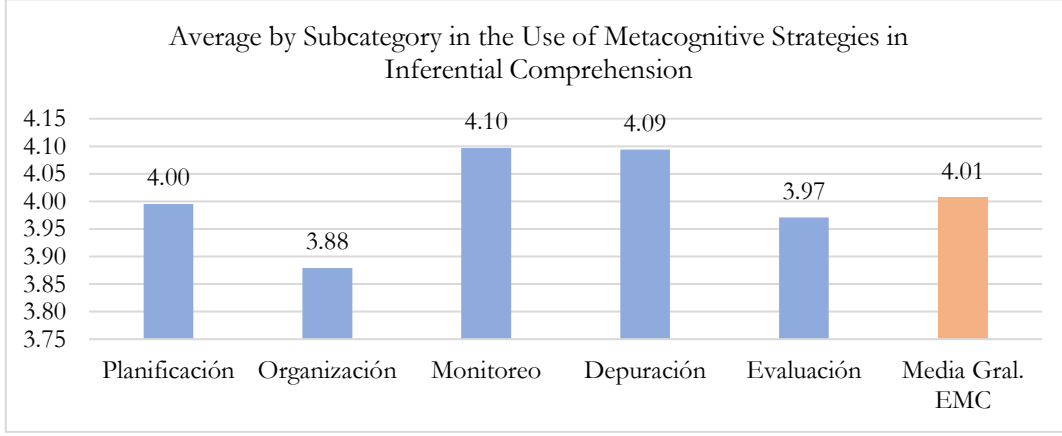

Figure 4: Use of Metacognitive Strategies in IRC.
Source: Own Elaboration.

Table 2 shows the average frequency of use of MCS by subcategory, in which it is observed that, in general, 74% (this is the sum of the percentages Completely Agree and Agree of the overall average) of the 5th-grade students stated that they use MCS in the IRC, while 10% (this is the sum of the percentages Completely Disagree and Disagree of the overall average) revealed that they do not use them.

Regarding the Planning subcategory, the results of the frequency of using this type of strategy (Table 2) show that 73% (this is the sum of the percentages Completely Agree and Agree) of the students in the 5th-grade used planning strategies in the IRC, while 8% revealed that they did not use them (Completely Disagree plus Disagree)

Table 2: Average Frequency of MCS Use by Subcategory.

Likert Scale	Average Frequency of MCS Use by Subcategory (%)					
	Planning	Organization	Monitoring	Debugging	Evaluation	Average
NSNR	3	1	0	1	1	1
Strongly Disagree	4	6	2	4	4	4
Disagree	4	6	7	6	6	6
Neither Agree nor Disagree	16	17	13	12	18	15
Agree	24	30	33	28	28	29
Strongly Agree	49	40	45	49	43	45
Total (%)	100	100	100	100	100	100

Source: Own Elaboration.

Likewise, Figure 5 showed that the planning MCS presented an average frequency of use of 4.00 on a Likert scale, that is, the students found that they "Agree" that they use them for IRC, with indicators 23 "I think of different ways to solve a problem and choose the best one" and 42 "I carefully read the statements before starting a task" being those with the highest scores.

Similarly, it is shown that, out of a total of six indicators in the Planning subcategory, four of them were above the overall average of the MCS category (4.01), and above the overall average of the subcategory (4.00), ranking third in IRC use for the other subcategories, after Monitoring and Debugging.

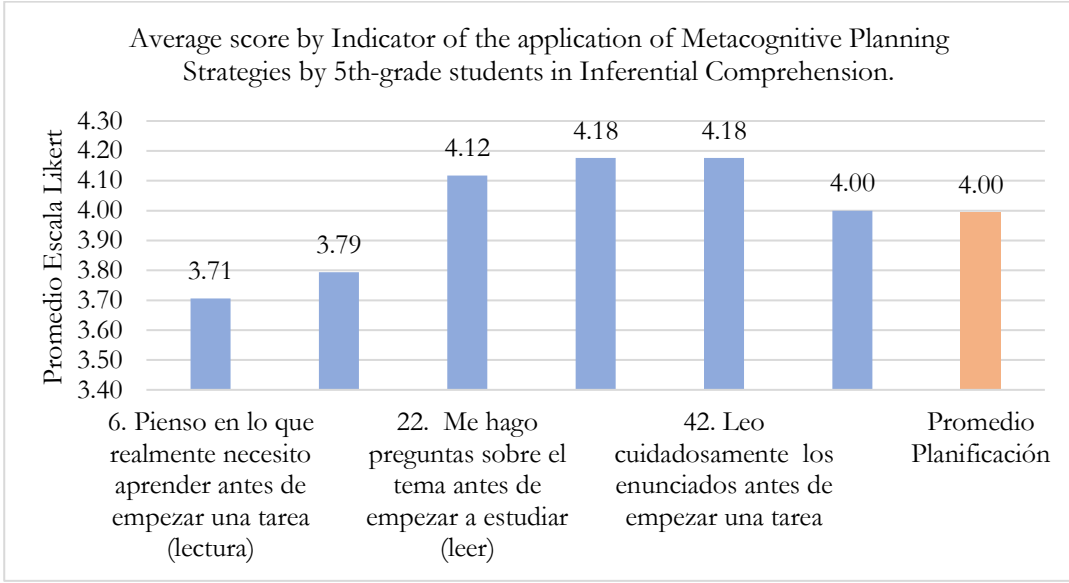

Figure 5: Average Per Indicator of the Planning Subcategory.
Source: Own Elaboration.

Figure 6 shows that, of the total indicators of the Organization subcategory, only four of them are above the overall average of the MCS category (4.01), placing it at the lowest level of use in the IRC with respect to the other subcategories, with an overall average of 3.88.

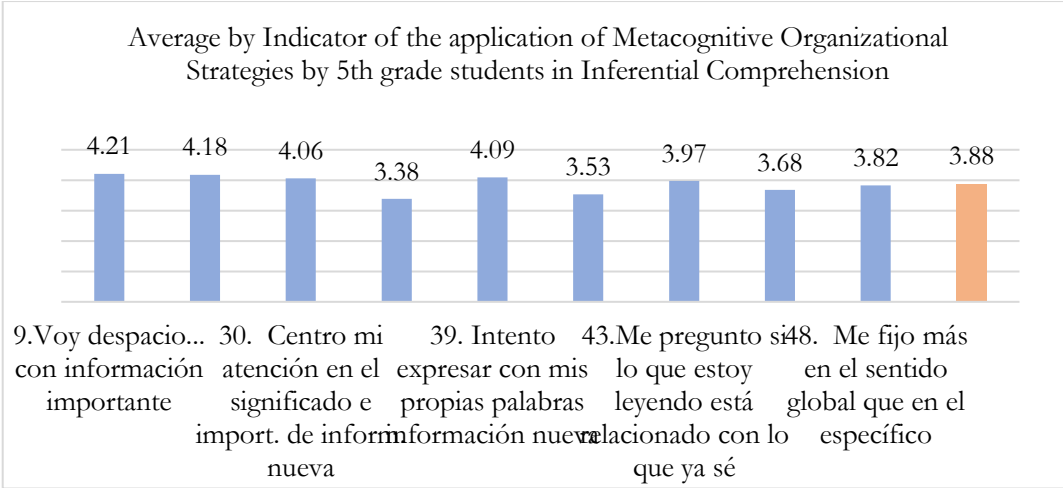

Figure 6: Average Per Indicator of the Organization Subcategory (Source: Own Elaboration).
Source: Own Elaboration.

The results of the use of Organizational Strategies are shown in Figure 7, showing that 70% of the study population (that is, the sum of the percentages Strongly Agree and Agree) uses Organizational MCS in the IRC.

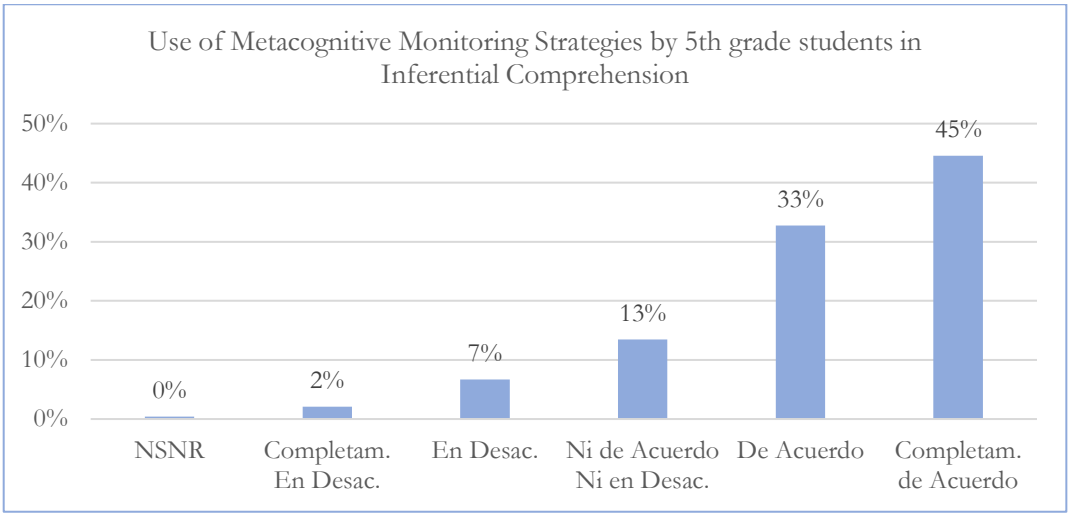

Figure 7: Utilization of Metacognitive Monitoring Strategies in IRC.
Source: Own Elaboration.

Figure 8 shows that the Monitoring indicator with the highest level of applicability by 5th-grade students in the IRC was number 1 "I constantly ask myself if I am achieving my goals" with an average of 4.24 and that of the total of the seven indicators in this subcategory, six of them were found equal to or above the overall average of the MCS category (4.01), placing it at the highest level in terms of use in the IRC with respect to the other subcategories, with an overall average of 4.1.

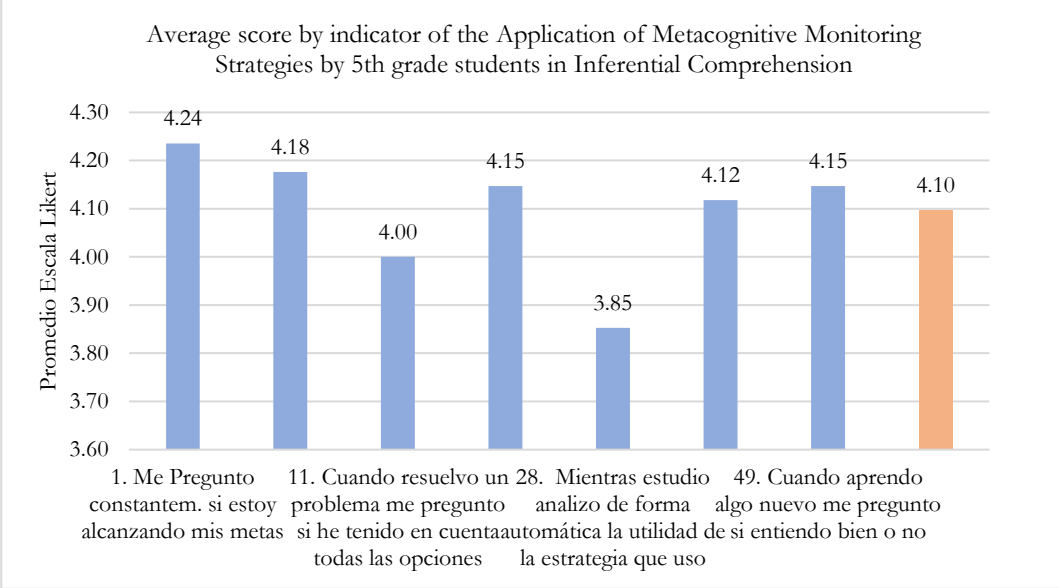

Figure 8: Average Per Indicator of the Monitoring Subcategory.
Source: Own Elaboration.

From Figure 9, it can be deduced that 77% of the study population frequently used debugging strategies (this is the sum of the percentages Strongly Agree and Agree) in the IRC processes.

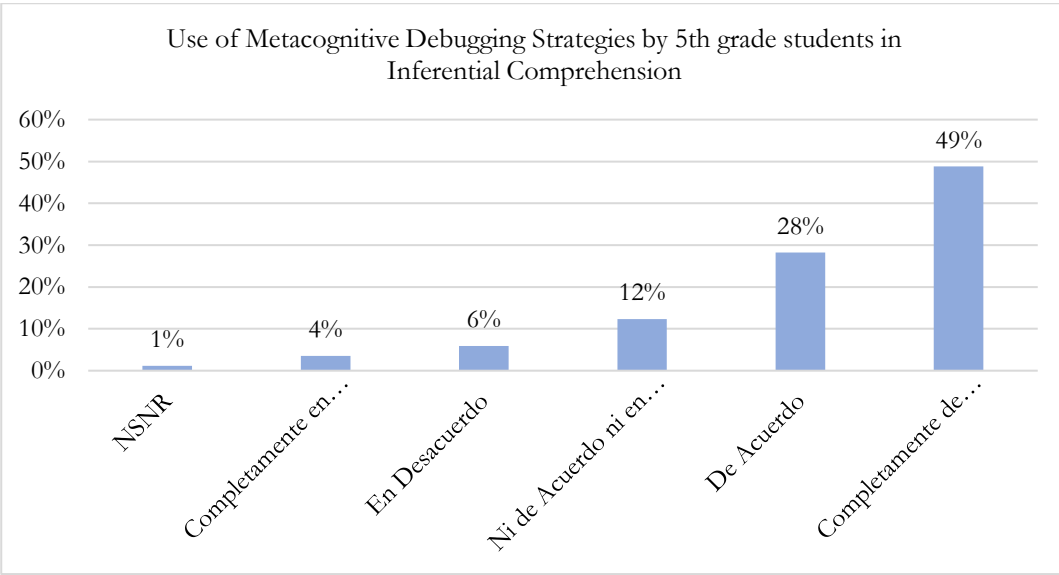

Figure 9: Use of Metacognitive Debugging Strategies in IRC.
Source: Own Elaboration.

Figure 10 shows that the indicator of the subcategory Debugging with the highest level of applicability by 5th-grade students in the IRC was 52 "I stop and reread when I am confused" with an average of 4.53 and that, of the total of five indicators of the subcategory, three of them were higher or equal to the overall average of the MCS category (4.01), ranking second in use in the IRC with respect to the other subcategories, with an overall average of 4.09.

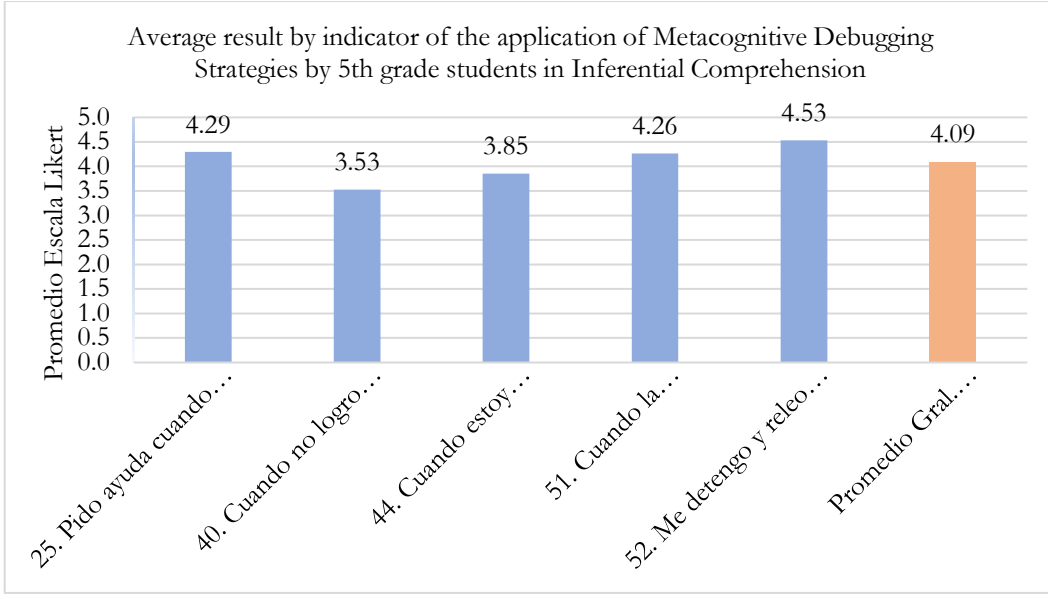

Figure 10: Average Per Indicator of the Subcategory Debugging.
Source: Own Elaboration.

Figure 11 shows that 71% of the study population frequently used Evaluation strategies (that is, the sum of the percentages Strongly Agree and Agree) in the IRC processes.

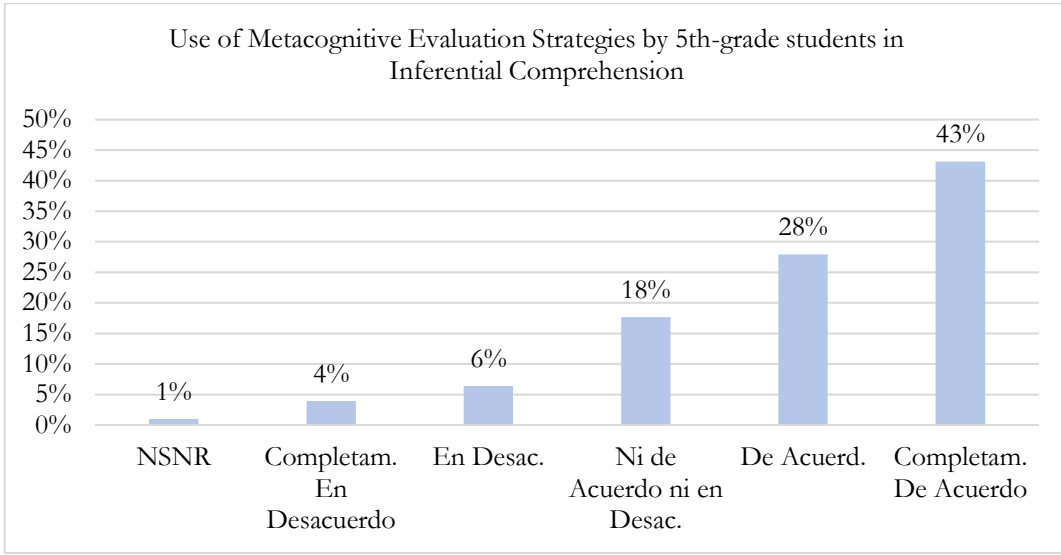

Figure 11: Use of Metacognitive Evaluation Strategies in the IRC.
Source: Own Elaboration.

The indicators of the Evaluation subcategory, shown in Figure 12, show that the indicator with the highest level of applicability by 5th-grade students in the IRC was 38 "After solving a problem, I ask myself if I have taken into account all the options" with an average of 4.44. In addition, of the total of the six indicators in the subcategory, three of them are equal to or above the overall average of the MCS category (4.01), ranking fourth in terms of use in the IRC in relation to the other subcategories, with an overall average of 3.97.

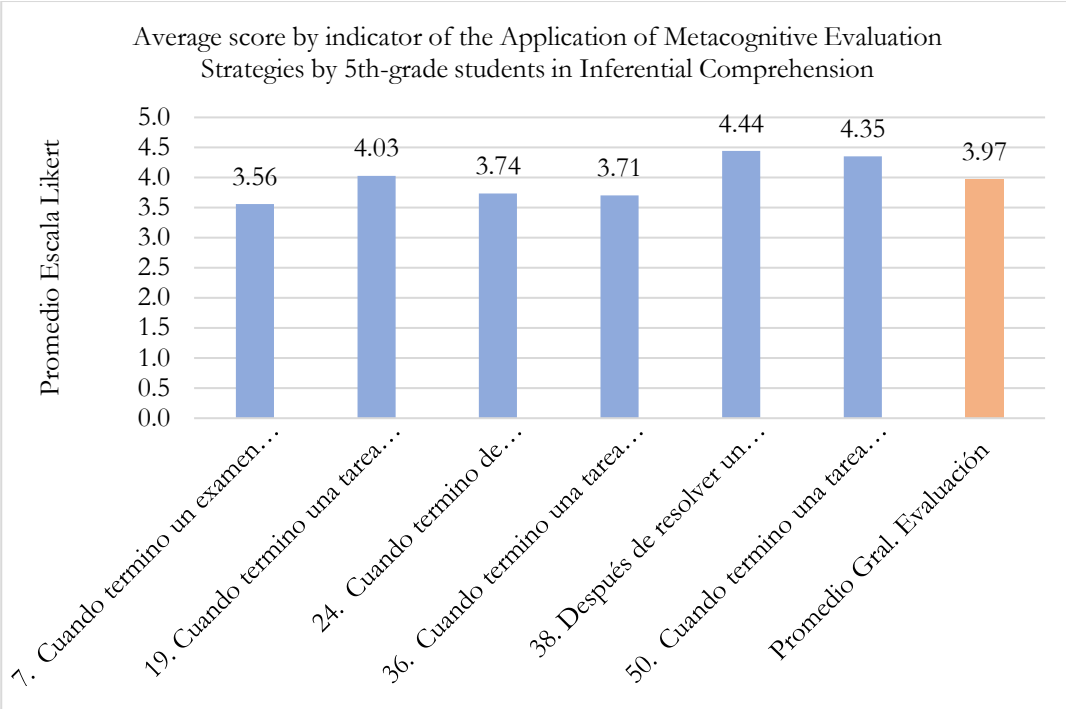

Figure 12: Average by Indicator of the Evaluation Subcategory.
Source: Own Elaboration.

Figure 13 shows the average results obtained per student in the application of the MAI Inventory and the Evaluate to Advance test, taken into account to find the correlation between the categories of analysis (Figure 14).

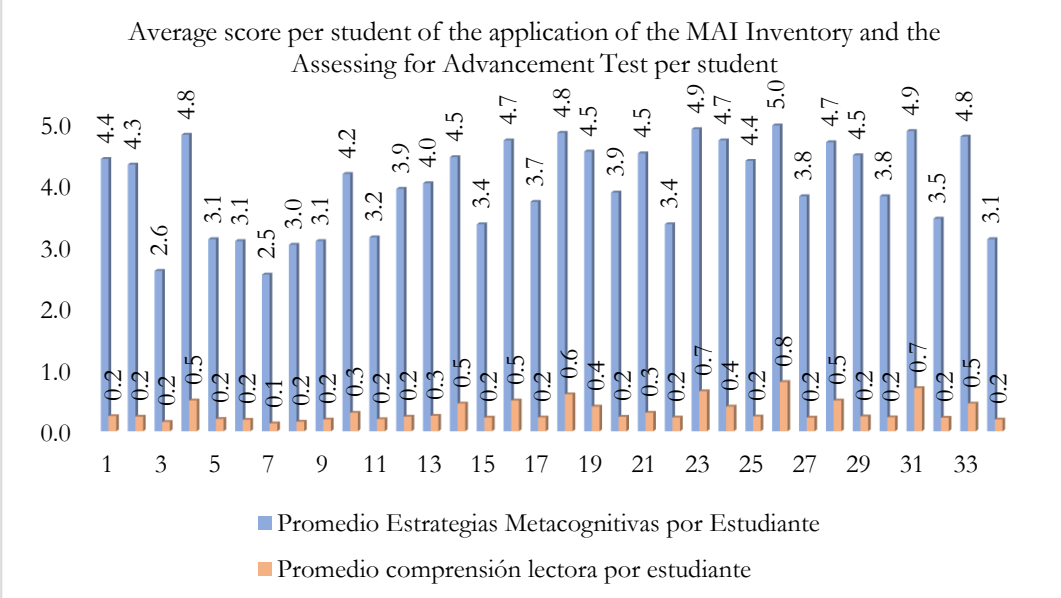

Figure 13: Verage Score Per Student on MAI Application and CLI Test.
Source: Own Elaboration.

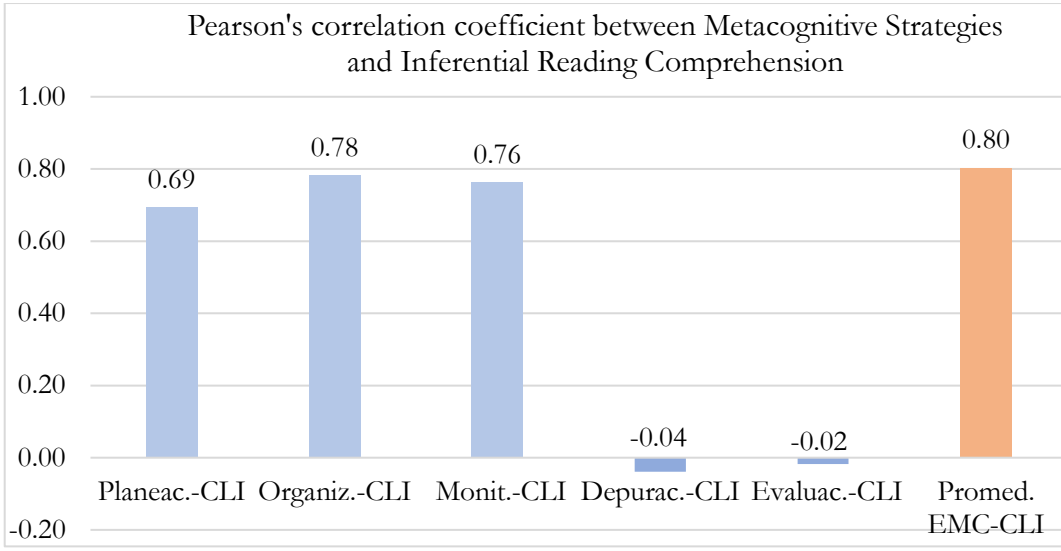

Figure 14: Pearson's Correlation Coefficient between MCS, MCS Subcategories and IRC.
Source: Own Elaboration.

The quantitative and qualitative results of the research show that 5th-grade students use MCS for the development of IRC processes and that there is a good positive correlation of 0.8 between these two categories; that is, there is a direct linear relationship between them, in which when one increases, so does the other; however, studies conducted by Castrillón, Morillo & Restrepo (2020) show that this relationship is not statistically significant. For his part, Silva (2016) evidenced in his study a great positive impact on the use of strategies for the improvement of the level of IRC.

Similarly, it was found that Organizational Strategies showed the highest correlation on IRC, with a value of 0.78, followed by Monitoring, with 0.76, and Planning with 0.69. In addition, the debugging LMEs, with a correlation of -0.04, and evaluation, with a correlation of -0.02, showed negligible dependence relationships with the IRC.

These results are similar to the study of Guerrero (2017), who affirms that the strategies of Reading Planning at the inferential level are significantly related to students' comprehension of argumentative texts. According to this author, the contributions that Planning makes to IRC are related to the prediction and anticipation of the consequences of one's actions, it implies the understanding of the task to be performed, the knowledge, and the plan to solve it. Likewise, with regard to the supervision strategies or reading monitoring at the inferential level, a direct relationship with the comprehension of argumentative texts is evident.

On the other hand, a relationship was NOT established between Evaluation Strategies and IRC, which, according to the same author, is mainly due to the fact that the students have not received the pertinent reinforcement for the self-recognition and application of IRC evaluation strategies.

It is noteworthy that, in terms of MCS, the students obtained an average of 4 on the Likert scale, agreeing with its use, while 58% of them did NOT answer the IRC test correctly, showing deficiencies in the latter. This is perhaps because, according to Flavell (1993, cited by Crespo, 2004), one of the characteristics of the metacognition construct is that it can have deficiencies or be insufficient, inaccurate, or used inappropriately as is the case with other forms of human

knowledge, which is why it is deduced that the students did not apply the IRC correctly in the IRC test. Crespo (2004) affirms that what makes metacognitive knowledge different is not its nature but the object that occupies it.

Similarly, Castrillón et al. (2020) affirm that a strategy is conditioned by its effectiveness and the objective of the task to be solved, which is evidenced in the low results of indicator 36 "When I finish a task I ask myself to what extent I have achieved my objectives", which aims to evaluate the objectives of the task.

In this regard, Africano and Quintana (2017) mention that IRC requires a deeper and broader analysis of the ideas that are read, it requires an attribution of meanings related to personal experiences and prior knowledge possessed by the reader.

It is evident then, that the most used MSs according to the students were not the ones that directly influenced the correlation between both categories and were not evidenced in the best results of the IRC subcategories: enunciative and macrostructural.

Regarding the effectiveness of the IRCs used by the study population in the achievement of IRC, it was observed that the subcategories Organization, Monitoring, and Planning reached the highest correlation coefficients, ranging between 0.78, 0.76, and 0.69, respectively, with an overall average between the MCS and IRC categories of 0, 8, which shows that the MCS make significant contributions to the IRC, in agreement with the study conducted by Guerrero (2017), through which it was determined that the inferential level reading self-regulation strategies are significantly related to students' comprehension of argumentative texts.

Conclusions

This study "Contributions of Metacognitive Strategies to the Inferential Reading Comprehension Level" yielded the following conclusions and recommendations:

- The greatest contributions of MCS to the IRC level of 5th-grade students were, from highest to lowest, through the subcategories of Organization, Monitoring, and Planning.
- The characteristics of the IRC level had a predominance of Enunciative and Macro-structural inferences, making it easier for them to make inferences from discontinuous texts.
- The most frequently used MCS by 5th-grade students in the IRC were Monitoring, followed by Debugging, Planning, Evaluation, and finally, Organization.
- The most effective MCS or those with the greatest direct influence on IRC in 5th-grade students were Organization, followed by Monitoring, and finally Planning.
- The MCS most used by students are not necessarily the most effective or the ones that have the greatest direct impact on IRC.

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