IS THERE A RELATIONSHIP BETWEEN LEARNING STRATEGIES AND CRITICAL READING?

Naileth Patricia Caballero Cervantes
International University of La Rioja, Logroño, Spain
naipacace@hotmail.com https://orcid.org/0000-0001-7057-8527

Summary. The development of Critical Reading and the acquisition of Learning Strategies in the student will allow him/her to infer, analyze and create his/her own meanings, thus awakening his/her reflective and metacognitive attitude; fundamental elements in teaching-learning. The objective of the present study was focused on analyzing the variables Learning Strategies and Critical Reading of 9th grade high school students, which was done through a descriptive analysis using the correlation coefficient; the intention was to determine whether there is a degree of relationship between these variables to identify the factors that affect the learning process of students. These results showed that, in this case, there was no correlation between the variables: Learning Strategies and Critical Reading, however, the general objective of this research study was achieved, since the respective analysis was made in which it was found that students rarely use learning strategies for the reading process, thus making it difficult to achieve reading levels appropriate to the academic cycle in which they are. Subsequently, an intervention proposal is proposed to contribute to the strengthening of the application of learning strategies and to enhance reading levels, in order to improve results.

Key words: Learning Strategies - Critical Reading - Analysis - Reading Levels

¿EXISTE RELACIÓN ENTRE LAS ESTRATEGIAS DE APRENDIZAJE Y LA LECTURA CRÍTICA?

Resumen. El desarrollo de la Lectura Crítica y la adquisición de Estrategias de Aprendizaje en el estudiante le permitirá inferir, analizar y crear sus propios significados, despertando así su actitud reflexiva y metacognitiva; elementos fundamentales en la enseñanza-aprendizaje. El objetivo del presente estudio fue enfocado a analizar las variables Estrategias de Aprendizaje y Lectura Crítica de las estudiantes de 9° de secundaria, lo cual se realizó por medio de un análisis descriptivo utilizando el coeficiente de correlación; la intención fue determinar si existe un grado de relación entre dichas variables para identificar los factores que inciden en el proceso de aprendizaje de los estudiantes. Dichos resultados demostraron que, en este caso, no existió una correlación entre las variables: Estrategias de Aprendizaje y Lectura Crítica, sin embargo, el objetivo general de este estudio investigativo fue alcanzado, pues se hizo el respectivo análisis de las mismas en el que se pudo constatar que pocas veces los

estudiantes utilizan estrategias de aprendizaje para los procesos lectores, dificultando así alcanzar niveles de lectura propios del ciclo académico en el que se encuentran. Posteriormente se propone una propuesta de intervención para contribuir al fortalecimiento de la aplicación de estrategias de aprendizaje y potencie los niveles de lectura, para la mejora en resultados.

Palabras clave: Estrategias de aprendizaje- Lectura crítica- Análisis- Niveles de lectura

Introduction

Reading is nowadays considered one of the most important cultural and specifically academic competencies. It is considered that a person must be a reader in order to adequately develop his or her education, since the teaching-learning process takes place in all educational environments.

However, in recent years, national (Reading and Writing Network) and international studies: The Program for International Student Assessment (PISA) report and the Progress in International Reading Literacy Study (PIRLS), which evaluate the reading and writing levels of students, show not very encouraging results, as they show low reading levels, specifically in the comprehension of what they read, because they only identify the literal meaning of the text; this means that they cannot construct their own learning based on the experience they have with the outside world, that is, they cannot meaningfully construct their knowledge. According to the report of the observatory of the Universidad del Norte, compared to the ICFES tests of the official sector in the years 2016 to 2021 Only 41 % of students in public schools in the region showed inferential and critical reading skills of texts. This percentage is lower than that of Colombia, by 12 percentage points, meaning that 6 out of 10 students can do literal reading. (Valencia, 2021).

For authors such as Lozano (2016), reading is a process that is increasingly complex, he states that students manage to read, understand and infer, but at the moment of getting to perform critical reading, is where the difficulty lies.

From what has been said above, it can be inferred from the results obtained in the aforementioned research studies that the Basic Language Competency Standards of the Ministry of National Education, which aim to

> ... that the pedagogy of literature is basically centered on the students' playful, critical and creative appropriation of the literary work; that is to say, it is expected that they get to know the text, read it, enjoy it, make inferences, predictions, relationships and, finally, interpretations. (Ministry of National Education, 2006)

It should be noted that the role of the teacher is fundamental as a facilitator in the teaching-learning process. In this regard, Juan Carlos Vergara, director of the Master's program in Pan-Hispanic Linguistics at the Universidad de La Sabana, affirms that the language or Spanish teacher is a key mediator, since if a student has the wealth of having a good teacher in this area, the student will have an excellent level upon reaching university, therefore the educator's effort is evidently notorious.

Regarding evaluation, it is essential to take into account Decree 1290 of 2009, which refers to the fact that students have diversity in terms of their rhythms and styles in their way of learning, so at the time of evaluation, importance should be given to personal characteristics and learning styles; reorient educational processes in favor of the student's integral development and enable the implementation of pedagogical strategies that support the training of those students who present some difficulty in their performance. This means that in the role of a

teacher, evaluation cannot be pigeonholed into a routine summative procedure that often tends to label or schematize students' competencies; on the contrary, it should focus on the subjectivities and strengths of each individual so that it can be carried out through different possibilities.

Evaluating reading implies transcending the limits of routine, since the purpose of reading is in fact to understand and reflect on a type of text; it is to understand that I can find unknown words, it is to know what and how to read, it is to be aware that rereading facilitates comprehension, it is to be able to predict what happens in the text (Puente, 1990)

On the other hand, many teachers tend to confuse evaluation processes with measurement, so that their methods do not constitute elements that allow them to evaluate students subjectively, for example, the presentation of notebooks, written evaluation or dictation of phonemes; Rodriguez and Garcia (1972) as cited in Cordova (2010) indicate that evaluation goes beyond this, it implies a process that allows reorienting and planning teaching, has knowledge about what happens in the classroom from the pedagogy used and its insistence on student learning, reorienting, as often as necessary, the processes during the development of the same. This, undoubtedly, is one of the main foundations of the evaluation.

The evaluation of critical reading comprehension was rated superficially, i.e., with more basic indicators. Moreno, et al. (2010) argue that

> When the teaching of reading did not go beyond the formal level of phonographic decoding, assessment was carried out under the same concepts. Identify, recognize and reproduce signifiers, intonate, articulate, reproduce with melodic quality the syntagmatic chain[1] of the text. (p. 170)

After scientific research on the cognitive aspect, concepts of more global aspects, related to the intratextual and extratextual, began to be embraced. Finally, the identification of the contents of the text, the interpretation of the events of the text from the author's emotions, its production and the reader's capacity to produce from the text, other types of interpretations.

Therefore, the evaluation of the reading process requires evaluation criteria related to the aforementioned aspects that allow the interaction between the subject-text-context, to make reading an intellectual, dynamic and complex activity (Moreno et al, 2010).

Herrera (2017), points to the development of four cognitive skills which are clarity, conciseness, precision and appropriateness. These skills provide the tools to move in a text, although without leaving the literal level, and promote the development of a critical reading and it is from this, where strategies are implemented that will form these skills in young people and is tied to their habits and skills. This means that within this complex process, learning strategies play a fundamental role, since they are actions generated by the learner to learn and control his or her learning.

The term *Learning Strategies* is not something new, since throughout the history of the psychology of learning, emphasis was placed on them, demonstrating that the way in which the student learns has been of great importance in recent years. Monereo (1993) defines learning strategies as methods of cognition that guide actions in various educational manifestations in an intentional and direct manner, rescuing knowledge to reach a goal related to learning. Other authors relate it to those behaviors of the learners in their teaching and learning process.

---

[1] Said of a relationship: That which is established between two or more units that succeed each other in the spoken chain" (RAE, 2016).

On the other hand, Weinsten & Mayer (1983), affirm that learning strategies are based on behavior and thinking in learning, and this, in turn, influences the coding processes, an important aspect in reading, in which two important aspects stand out, the first is that these strategies imply a series of operations performed by the student to improve his learning and the second is that they have an intentional character (Valle & Cols, 1990).

For the development of critical reading, education must provide learning strategies in the student, such as acquisition, codification and recovery, which will allow him/her to infer and create his/her own meanings, through the reading of a text, this will develop in the learner, a reflective and metacognitive attitude; key elements in teaching and learning.

It is necessary to train students to the assertive use of learning strategies in each of the cognitive processes (acquisition, encoding and retrieval) so that they reach a reflection of both their tasks and their intrinsic motivation. Solé (1998) states that reading strategies involve goals, planning, evaluation and possible change.

Method

The present study was developed from the quantitative approach, since the aim was to find the relationship between the variables: *Learning Strategies and Critical Reading*, using specific instruments and the results obtained will be analyzed statistically, with a non-experimental design, since the variables will not be manipulated, but only analyzed from a descriptive approach and from these results the correlation between the two variables will be established, using a correlation coefficient and thus describing the relationship between them. The first is that *there is a relationship between learning strategies and critical reading*, the second is that *the greater the appropriation of learning strategies*, the *greater the improvement in critical reading processes* , and the third is that *the greater the appropriation of critical reading, the greater the improvement in learning strategies*.

Regarding the population, the participants in this research study were 9th grade students of the Colegio Eucarístico de la Merced in the city of Barranquilla; a private institution, with a single school day, offering education to boys and girls from preschool level (kindergarten, transition and pre-kindergarten) to vocational secondary education (tenth and eleventh grades). A sample of 30 female students was taken from this population, whose ages ranged from 14 to 16 years old. This sample was obtained by a purposive procedure.

The participants of this research study were selected taking into account the conformation of the academic groups of the Colegio Eucarístico La Merced, choosing the 9th grade as the population to be analyzed, taking 30 female students as a sample.

The school's faculty and administration were informed about the study and families were asked for permission on a global basis. With both permissions, and with the conditions of not altering the usual practice, the evaluation was limited to the application of the tests collectively in the group's regular classroom. Initially, the complete Prolec-SE-R battery was applied (Ramos and Cueto, 2016), subsequently ACRA, Escalas de Estrategias de aprendizaje (Román and Gallego, 2001).

For the evaluation of the ACRA scale, the indications indicated in the "steps to follow" mentioned above were taken into account, which will be recorded in the Excel spreadsheet and for the evaluation of the PROLEC-SE-R battery, of this test, only one of the tests will be evaluated, related to Comprehension of texts, for which students will be given two texts that they must read and then answer a questionnaire of 10 questions for each one. The reliability

level of the test is 0.85 and each correct answer will add one point, therefore, in order to pass the test, the student must answer at least 50% of the questions (10) correctly.

Results

Descriptive analysis of the variable Learning strategy

These are (conscious and intentional) decision-making processes in which the learner chooses to recover, in a coordinated manner, the knowledge needed to meet a given demand or objective, depending on the characteristics of the educational situation in which the action takes place (Monereo, 2000).

For the measurement of learning strategies, the learning strategies scale - ACRA (Román and Gallego, 2001) will be used to identify the most frequent learning strategies used by students when they are assimilating the information contained in a text, in an article, in some notes... when they are studying.

Description: There are four independent scales that assess the uses of information strategies employed by students and are discriminated as follows: acquisition (7 strategies), encoding (13 strategies), retrieval (4 strategies) and processing support (9 strategies). This scale can be applied in various forms of initial, final or follow-up evaluation and types of psychoeducational mediation.

Cognitive learning strategies or processing strategies can be defined as integrated successions of mental actions, which are activated with the intention of processing or mental activities that are activated for the purpose of providing information storage and utilization. There are four types of strategies:

1) Information Acquisition Strategies Scale: Attentional and repetition
2) Information Coding Scales: Nemotechnology, processing and organization.
3) Scales of Information Retrieval Strategies: search and response generation.
4) Processing Support Strategies Scales: metacognitive and socio-affective.

Scoring is defined depending on the application of the instrument; if it is done as a diagnosis or evaluation, prior to the intervention, the "A" items should be taken into account, that is, those strategies that are almost never or never used by the students. If the purpose is related to research, each point allows a score from 1 to 4.

The results of the mean and standard deviation of the ACRA test are presented below:

Table 1
Descriptive Analysis of the ACRA test

ACRA SCALES

Analysis	Acquisition	Coding	Recovery	Support
Media	2,07	2,43	2,13	2,60
Standard deviation	0,640	0,626	0,507	0,563

The results of each of the scales of the ACRA test are also shown:

Table 2

Descriptive analysis of the scales of the ACRA test

TYPE OF STRATEGY	ANSWER							
	Under	%	Basic	%	High	%	Superior	%
ACQUISITION	13	43,33	9	30	5	16,67	3	10
CODING	5	16,67	12	40	7	23,33	6	20
RECOVERY	9	30	10	33,33	3	10	8	26,67
SUPPORT	15	50	6	20	5	16,67	4	13,33

Figure 1

Level of the ACRA Test Acquisition Scale

According to Figure 1, 43.33% have a low level, 30% have a basic level, 16.67% have a high level and only 10% have a higher level. These results show the difficulty that the sample analyzed has in putting into practice strategies that allow them to acquire knowledge.

Figure 2

Level of the ACRA Test Coding Scale

Figure 2 shows that 16.67% of the sample obtained a low level, 40% a basic level, 23.33% a high level and 20% a higher level. According to the results, it can be seen that in this scale a significant percentage of the students put into practice strategies that enable them to code the information being studied information.

Figure 3
Level of the Recovery Scale of the ACRA Test

RECUPERACION

030	033	010	027
Bajo	Básico	Alto	Superior

With regard to the ACRA Recovery scale, it was found that 30% obtained a low level, 33.33% a basic level, 10% a high level and 26.67% a higher level. These results show that a high percentage of the sample does not use learning strategies, as the low and basic levels exceed by far the high and superior levels.

Figure 4
Level of Support Scale of the ACRA Test

APOYO

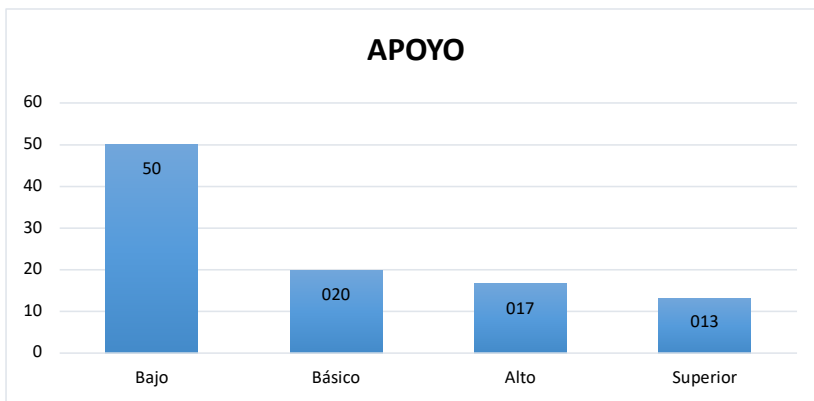|			
50	020	017	013
Bajo	Básico	Alto	Superior

Figure 4 shows that 50% of the sample obtained a low level, 20% a basic level, 16.67% a high level and 13.33% a superior level. According to the results, it is evident that most of the students have a low level of application of strategies to retrieve information.
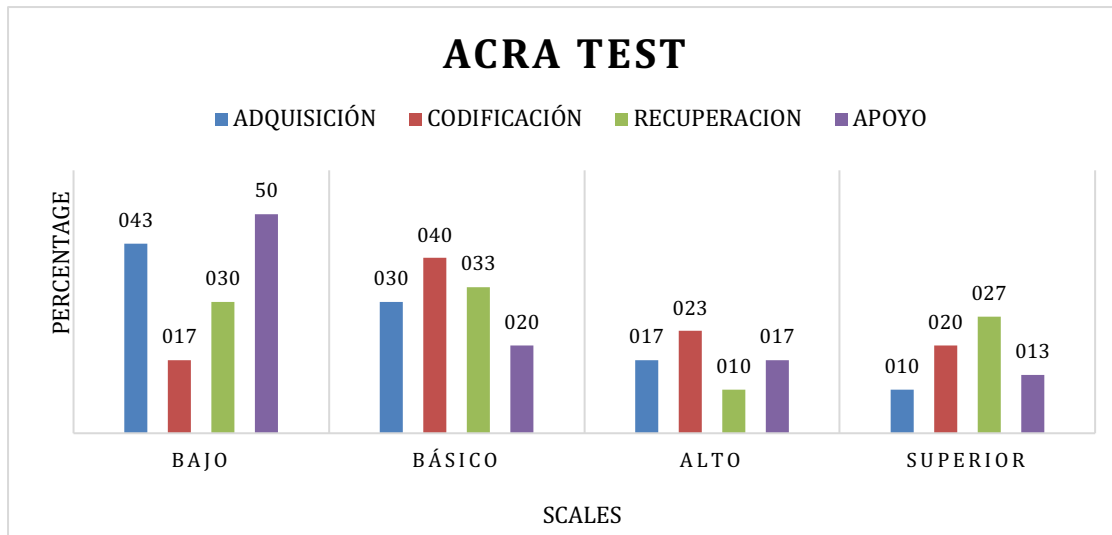
Figure 5
General Level of the ACRA Test.

Figure 5, which shows the general results of the test, shows that the highest percentages of schools are in the Low and Basic levels, standing out in the Acquisition and Support scales. With respect to the high and superior levels, the highest percentages were obtained in the Recovery and Coding scales.

From the above it can be deduced that, in general terms, students do not put learning strategies into practice.

Descriptive analysis of the variable: Critical Reading

It is the reading performed in analytical mode. This means that in addition to understanding what is said in a given text, an attempt will be made to analyze what is expressed in order to verify its correctness, its errors and the way in which the information is presented.

Herrera (2017), points to the development of four cognitive skills which are clarity, conciseness, precision and appropriateness.

a)   These skills provide the tools to be able to move within a text, although without leaving the literal level, and promote the development of a critical reading.

b)   For this author, determining the relevant information such as the main idea of a text, the secondary ideas, the author's intention and the theme it develops is vital to be able to speak of critical reading. In the case in question, we have been working on this type of guidelines with the population under study, in the interpretation of texts to reach a higher level of comprehension.

The Bateria para la Evaluación de los procesos Lectores en Secundaria y Bachillerato - Revisada Autor (Battery for the Evaluation of Reading Processes in Secondary and Baccalaureate - Revised Author) was chosen for its measurement: Cuetos, Arribas and Ramos (2016) "PROLEC-SE-R", which consists of thirteen tests to assess and detect reading difficulties in adolescents aged 12 to 18 years. Its application allows obtaining information on the three main processes of reading at these ages: lexical, syntactic and semantic processes.

For the evaluation of these processes, the battery uses the following tasks:

Lexical processes

Word reading: composed of a word list made up of 40 words, 20 frequently used and 20 infrequently used. In each case half of the words are of short length (two syllables) and the other half of long length (4 and 5 syllables). The time spent reading the 40 words is measured.

Reading of pseudowords: composed of 40 pseudowords, i.e. words that do not mean anything, separated into two groups of 20, one formed by simple syllables (with CV structure) and the other formed by syllables with complex structure (CCV, CCVC and CVVC). Half are long pseudowords and half are short. The time spent reading the 40 pseudo-words is measured.

Syntactic processes

The test is comprised of 24 items, four sentences of each type, and each item is made up of three sentences and a drawing, one of which is the answer indicated in the drawing. Drawing-prayer matching: The grammatical structures used are: passive sentences, object sentences, split subject sentences, split object sentences, relative subject sentences and relative object sentences.

Punctuation marks: the intention is to corroborate whether punctuation marks are being respected, which is represented through a text. There are a total of 24 signs (9 periods, 7 commas, 3 question marks, 3 exclamation marks, and 2 periods).

Semantic processes

Text comprehension: Reading of two expository texts followed by 10 questions for each text, half of the questions are literal and the other half inferential.

Text structure: Reading of a text followed by an outline already started, but in which 22 gaps to be filled in must be completed.

Reading speed: Time spent reading a text and time spent reading lists of words and pseudowords.
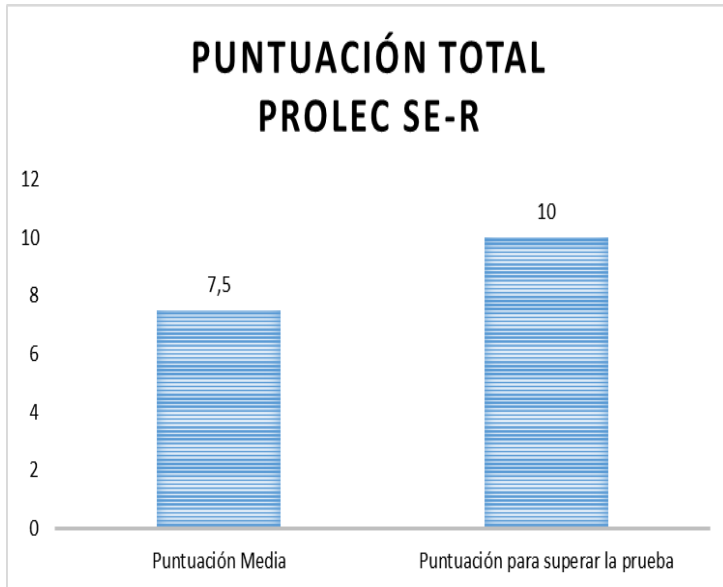
Table 3

Total Score Prolec Se R

Reading level	Average score	Standard deviation
Literal	5,2	1,9
Inferential	2,3	1,2

Total Score	7,5

Source: Prolec Se-R Test

Figure 6

Total score of the Prolec Se-R test (Comprehension of texts)

According to the results of the Prolec Se-R test in the test referring to text comprehension, the sample did not exceed the expected centile, it can be evidenced in Graph 6 that they only reached an average score of 7.5 in the literal and inferential levels, reflected in Table 3 as follows: Literal Level with a score of 5.2 and the Inferential Level with 2.3.

Correlation between Learning Strategies and Critical Reading

Acquisition and critical reading

To establish the correlation between the variable Acquisition and critical reading it is necessary to establish the type of variables. Both acquisition and critical reading variables are quantitative. Table 1 shows the descriptive data of the variables.
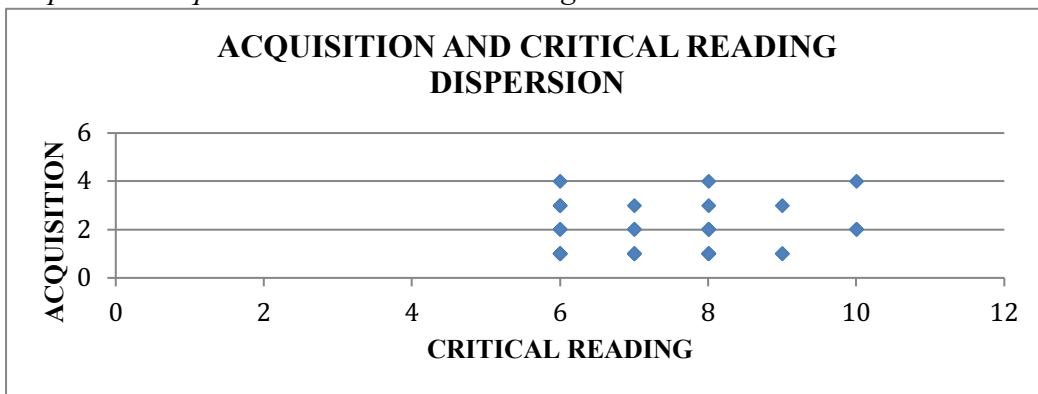
Table 4

Correlation coefficient between the variables Acquisition and critical reading critical reading.

		ACQUISITION	**CRITICAL READING**
ACQUISITION	*Pearson correlation (r)*		0,104
	P		0,584
	Pearson correlation (r)	0,104	.

CRITICAL READING	*P*	0,584	

Table 4 shows that the correlation coefficient between the variables is positive, so the relationship between the variables in the group is direct, and weak, since the r value is 0.104. As the acquisition variable increases, the critical reading increases with a weak intensity, as will be seen in Figure 6. The significance value obtained is 0.584, which means that there is no relationship between the variables Acquisition and Critical Reading, since it is not significant at the 0.05 level.

Figure 6
Dispersion Acquisition and Critical Reading.

Coding and critical reading

To establish the correlation between the variable Coding and critical reading it is necessary to establish the type of variables. Both variables Coding and critical reading are quantitative. Table 2 shows the descriptive data of the variables.
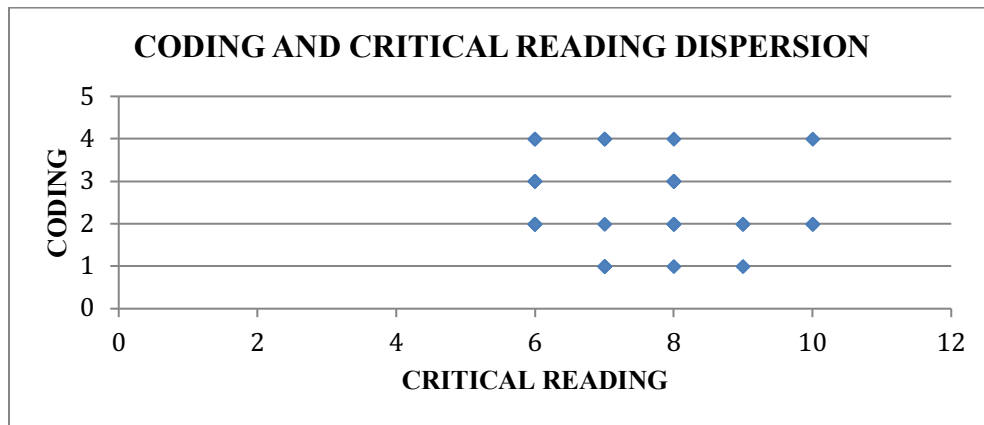
Table 5

Correlation coefficient between the variables Coding and critical reading.

		CODING	CRITICAL READING
CODING	*Pearson correlation*	.	-0,131
	P		0,490
CRITICAL READING	*Pearson correlation*	-0,131	.
	P	0,490	

Table 5 shows that the correlation coefficient between the variables is negative, so the relationship between the variables in the group is inverse, and weak, since the value of r is -0.131. As the coding variable increases, the critical reading decreases with a weak intensity, as will be seen in Figure 7. The significance value obtained is 0.490, which means that there is no relationship between the variables Coding and Critical Reading, since it is not significant at the 0.05 level.

Figure 7

Dispersion Coding and Critical Reading.

Recovery and critical reading

To establish the correlation between the variable Retrieval and critical reading it is necessary to establish the type of variables. Both variables Retrieval and critical reading are quantitative. Table 3 shows the descriptive data of the variables.
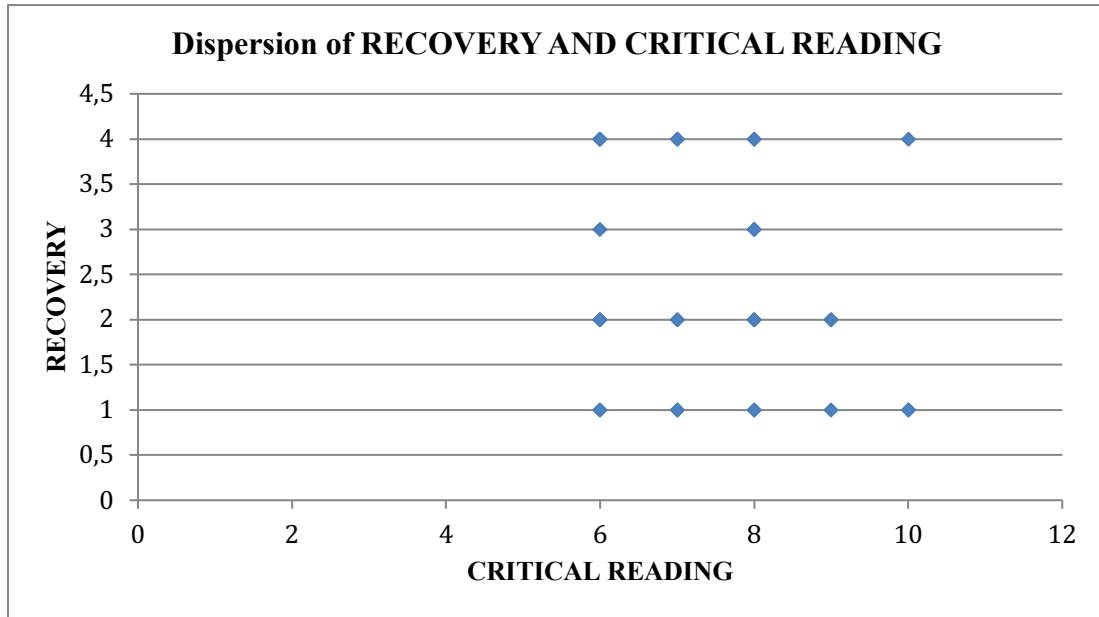
Table 6

Correlation coefficient between the variables Retrieval and critical reading.

		RECOVERY	CRITICAL READING
RECOVERY	*Pearson correlation*		-0,178
	P		0,346
CRITICAL READING	*Pearson correlation*	-0,178	.
	P	0,346	

Table 6 shows that the correlation coefficient between the variables is negative, so the relationship between the variables in the group is inverse, and weak, since the value of r is -0.178. As the Recovery variable increases, the critical reading decreases with a weak intensity, as will be seen in Figure 8. The significance value obtained is 0.346, which means that there is no relationship between the variables Retrieval and Critical Reading, since it is not significant at the 0.05 level.

Figure 8

Dispersion Recovery and Critical Reading.

Dispersion of RECOVERY AND CRITICAL READING

Support and critical reading

To establish the correlation between the variable Support and critical reading it is necessary to establish the type of variables. Both variables Support and critical reading are quantitative. Table 4 shows the descriptive data of the variables.
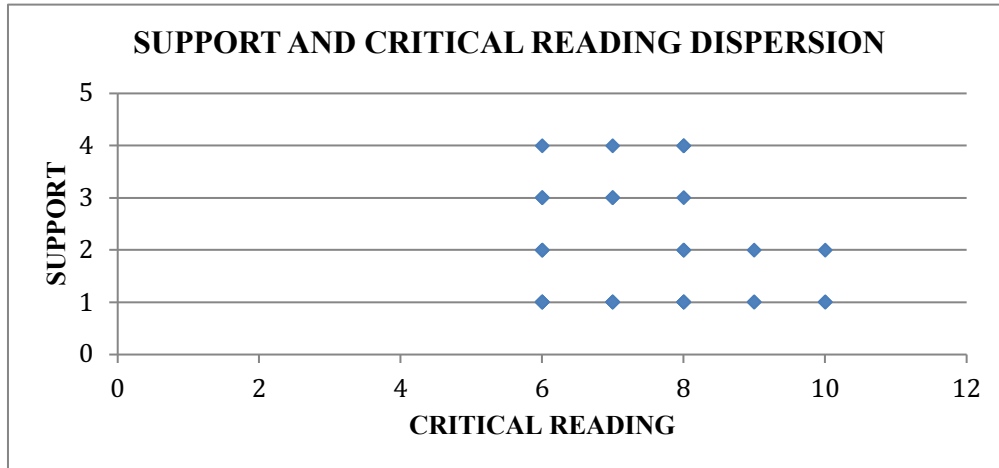
Table 7

Correlation coefficient between the variables Support and critical reading.

		SUPPORT	*CRITICAL READING*
SUPPORT	*Pearson correlation*		-0,190
	P		0,315
CRITICAL READING	*Pearson correlation*	-0,190	.
	P	0,315	

Table 7 shows that the correlation coefficient between the variables is negative, so the relationship between the variables in the group is inverse, and weak, since the r value is -0.190. As the Support variable increases, the critical reading decreases with a weak intensity, as will be seen in Figure 9. The significance value obtained is 0.315, which means that there is no relationship between the variables Support and Critical Reading, since it is not significant at the 0.05 level.

Figure 9

Dispersion Support and Critical Reading

SUPPORT AND CRITICAL READING DISPERSION

(Dispersion chart with SUPPORT on the y-axis ranging from 0 to 5 and CRITICAL READING on the x-axis ranging from 0 to 12.)

Discussion and conclusions

After performing the descriptive analysis of the variables "learning strategies" and "critical reading" and making the corresponding correlation between them, it can be inferred that the first hypothesis: "There is a relationship between Learning Strategies and Critical Reading", is not very significant, since the results do not show correlation in most of the ACRA scales, only in the Acquisition scale, since it is observed that the correlation coefficient between the variables is positive, therefore, this hypothesis is not accepted, since there is not enough evidence of correlation between the two variables. This shows that the application of learning strategies by students is not a determining factor in achieving reading levels.

There are other factors that affect text comprehension, such as the social context in which the student finds him/herself and even the disposition he/she has towards academic processes.

The wealth of the student's background (measured as socioeconomic status) has positive effects on the student's academic performance. This result confirms that the sociocultural richness of the context (correlated with socioeconomic level, but not limited to it) has a positive influence on students' school performance. This underscores the importance of shared responsibility between the family, the community and the school in the educational process. (Piñeros and Rodriguez, 1998)

According to the above, it can be considered that the progress of the reading process is of a multifactorial nature, that is to say, for the present research work, other factors that influence the development of critical reading were not taken into account.

Considering the importance of learning strategies as a cognitive resource in academic processes, especially in the reading process, there should be a relationship between the variables, as expressed by Roman (2004), who refers to self-regulated learning as the way in which the student manages to become independent, emphasizing critical reading that will allow him to have a good academic performance and also to apply it to his future needs. The use of such strategies (cognitive, metacognitive, and affective), influence the development of critical and creative thinking skills, as well as teaching strategies critical reading and problem-based learning (Sarmiento, 2017).

With respect to the second hypothesis: "The greater the appropriation of learning strategies, the greater the improvement in critical reading processes", the results show no

correlation between the two variables, therefore, the hypothesis is not accepted. As was evidenced in the research work of Alegre (2009) between the variables Learning Strategies and Reading Comprehension, where it was found that there is no relationship between these variables, contrasting these results with the work of Gonzalez and Quesada (1997) in which the failure of students to comprehend texts can be appreciated.

Likewise, the third hypothesis: "The greater the appropriation of critical reading, the greater the improvement in Learning Strategies", could not be accepted because no correlation between the variables was observed. With the absence of correlation, it could be affirmed that this is due to the fact that the results in learning strategies are better in relation to those of critical reading, hence it could be thought that, if there is equity between the results of both variables, there could be the expected correlation.

After analyzing and interpreting the results obtained from the instruments and research techniques applied, it can be concluded that:

The general objective of this research study was achieved, since the variables "Learning strategies" and "critical reading" applied to 9th grade students of the Eucharistic School of La Merced in the city of Barranquilla, Colombia, were analyzed, and it was found that they rarely use learning strategies for the reading process, making it difficult to achieve reading levels appropriate to the academic cycle in which they are, which is reflected in academic performance, not only in the subject of Spanish language, but also in other areas of knowledge, taking into account the transversality of reading.

Therefore, it is necessary to implement an intervention plan that strengthens the application of learning strategies and enhances reading levels in order to obtain better academic results.

Among the limitations found in this study, we can identify, firstly, the sample size is small, since only 30 students were analyzed, therefore the results cannot be generalized to all 9th grade students, so it is necessary to expand it for future research.

Likewise, the variables analyzed do not allow for reliable results, considering that the selected topic is of a multifactorial nature, as mentioned in the correlation between variables.

Another limitation that could be identified in the research was of a temporal nature, since, due to the short time for the development of the research, it was not possible to implement the intervention plan, preventing the results of the plan from being evidenced and thus verifying its reliability.

For future research, it is suggested to take into account the aforementioned limitations in order to guarantee reliable results that allow an approach to the educational reality, thus designing ideal intervention plans to improve the existing deficiencies.

Similarly, it is important to continue the search for neuropsychological factors that are related to the reading processes to achieve positive results to be correlated, finding in these training experiences, significant experiences of great help, demonstrating a high degree of sustainability, sustainability, systematization and sustained results over time, as well as recognition and influence in other areas other than that of its origin.

References

Álvarez Pérez, L., & González Castro, M. P. (1996). Dificultades en la adquisición del proceso lector. *Psicothema, 8 (3)*.

Ausubel, D., Novak, J. y Hanesian, H. (1983). *Psicología educativa: Un punto de vista cognoscitivo*. Trillas.

Beltrán, J. A., Pérez, L. F., & Ortega, M. I. (2006). *Cuestionario de Estrategias de Aprendizaje* (CEA). TEA.

Beltrán, J. y Bueno, J. (1995). *Psicología de la educación. Alianza*, 307-329.

Calzadilla, O. (2017). La Integración de las neurociencias en la malla curricular de la formación inicial de docentes para las carreras de la educación inicial y básica. *Revista Redalyc, Caso Cuba*, (17).

Cassany, D. (2003). Aproximaciones a la lectura crítica: Teoría, ejemplos y reflexiones. *Tarbiya: Revista de investigación e innovación educativa.* (32) 113 – 132.

Cassany, D. (2006). *Tras las líneas. Sobre la lectura contemporánea*. Anagrama.

Castronovo, A. (1993). Promoción de la lectura: desde la librería hacia nuevos lectores.

Collins, A. y Smith, E. (1980). Teaching the process of reading comprehension. Technical Report n. 182. Urbana, Illinois: Center for che Snidy of Reading.

Córdova, A. (2010) Evaluación de la educación. Congreso Iberoamericano de Educación. Metas 2021. http://www.chubut.edu.ar/descargas/secundaria/congreso/EVALUACION/R0009_Cordova.pdf

Elder, L. y Elder, R. (2003). La mini-guía para el Pensamiento crítico. Conceptos y herramientas. *Fundación para el Pensamiento Crítico.* https://www.criticalthinking.org/resources/PDF/SP-ConceptsandTools.pdf

Elosúa, M. R., & García, E. (1993). *Estrategias para enseñar y aprender a pensar*. Narcea.

Facione, P. (2007). Pensamiento Crítico: ¿Qué es y por qué es importante? *Eduteka*. http://eduteka.icesi.edu.co/pdfdir/PensamientoCriticoFacione.pdf

Garrido, F. (1999). *El buen lector se hace, no nace*. Ariel.

Genovard Roselló, C., & Beltrán Llera, J. A. (1999). *Psicología de la instrucción*. Síntesis.

Girón, S., Jiménez, C. y Lizcano, C. (2007). *¿Cómo hacer lectura crítica? Universidad Sergio Arboleda: colección programa de lectura y escritura*. Fondo de publicaciones.

González-Tinoco, N. E., Fernández-Díaz, O. R., & Padilla-Escorcia, I. A. (2022). Modelo estadístico para estimar la influencia de la lectura crítica en las competencias evaluadas en las pruebas Saber 11°. *Trilogía Ciencia Tecnología Sociedad*, *14*(26), 1-26.

Hernández S., R, Fernández C., C. & Baptista L., P. (2014). Metodología de la Investigación 5ta Edición.. F, Mc Graw Hill.

Herrera, M.A. (2017). Leer Críticamente en el Primer Nivel de Comprensión. Primera Edición. Ed. Medios Interactivos.

Jiménez, Y. y García, M. (2009). Diagnóstico de los estilos de aprendizaje en los Estudiantes: Estrategia docente para elevar la calidad educativa. *Revista de Investigación educativa. Instituto de Investigaciones en Educación. Universidad Veracruzana*, ISSN 1870-5308.

Jurado, F. (2008) La Formación de Lectores críticos desde el aula. *Revista Iberoamericana de Educación.* (46), 89-105. http://www.educando.edu.do/Userfiles/P0001%5CFile%5CLa_formaci%C3%B3n_de_lectores_cr%C3%ADticos_desde_el_aula.pdf

Mediocres niveles de lectura y escritura entre los jóvenes colombianos (2016) *Revista Semana:*

Educación. https://www.semana.com/educacion/articulo/bajos-niveles-de-lectura-en-universidades-de-colombia/506165

Ministerio de Educación Nacional, MEN (1998). Lineamientos Curriculares. Magisterio.

Ministerio de Educación Nacional, MEN (2006). Estándares Básicos en Competencias del Lenguaje. Magisterio.

Ministerio de Educación Nacional, MEN (2009). Decreto 1290.

Monereo, C. (1995). Estrategias para aprender a pensar bien. *Cuadernos de pedagogía*, *237*(1).

Monereo, C. (2000). Estilos de Aprendizaje, El asesoramiento en el ámbito de las estrategias de aprendizaje. *Estrategias de aprendizaje.* Visor. 15-62.

Monereo, C. (2010). Enseñar a aprender en la educación secundaria: las estrategias de aprendizaje. *Desarrollo, aprendizaje y enseñanza en la educación secundaria*, 85-104.

Moreno, J. A., Ayala, R. Vásquez, C. A. y Díaz, J. C. (2010a). Evaluación de niveles de lectura en el contexto de la educación superior. http://contextosacademicos.org/spanish/files/1_Ponencia%20para%20baranquilla.pdf

Moreno, J. A., Ayala, R. Vásquez, C. A. y Díaz, J. C. (2010b). Prácticas lectoras: Comprensión y evaluación. Tendencias, estado y proyecciones. *Forma y Función*, *23*(1), 145-175. Versión en línea http://contextosacademicos.org/spanish/files/FORMA%20Y%20FUNCION_%20REDYLAC.pdf

Picó, A. (2014). El papel de las estrategias de aprendizaje, la memoria y los movimientos sacádicos en el rendimiento académico.

Piñero, L.J. & Rodríguez, A. (1998). Los insumos escolares en la educación secundaria y su efecto sobre el rendimiento académico de los estudiantes. Human Development Department. LCSHD Paper series No. 36. The World Bank. Latin America the Caribbean regional Office.

Printrich, P. R., Smith, D., & McKeachie, W. (1989). Motivated strategies for learning questionnaire (MSLQ). *Ann Arbor: University of Michigan*.

Ramos, JL., y Cuetos, F. (2016). *Batería de evaluación de los procesos lectores en alumnos de tercer ciclo de primaria y secundaria*. TEA Ediciones.

Ríos P. (1991). *Metacognición y comprensión de la lectura*. Pablo Puente (Comp.) Comprensión de la lectura y acción docente.: Pirámide.

Román, J. M., & Gallego, S. (1994). *ACRA: Escalas de estrategias de aprendizaje.* TEA ediciones.

Román, J.M. & Gallego, S. (2001). ACRA, Escalas de Estrategias de Aprendizaje. TEA.

Sarmiento, J. A. (2017). Desarrollo del pensamiento crítico y creativo mediante estrategias interconectadas: estrategias de aprendizaje, lectura crítica, y ABP. *Gestión Competitividad E Innovación*, *5*(2), 145-162.

Solé, I. (1998). Estrategias de lectura, Grao.

Valle Arias, A., Barca Lozano, A., González Cabanach, R., & Núñez Pérez, J. C. (1999). Las estrategias de aprendizaje revisión teórica y conceptual. *Revista latinoamericana de Psicología*, *31*(3).

Villalba, A. (2011). Modelo pedagógico Social Cognitivo: De la teoría a la práctica. *Revista Ciencias Básicas Bolivarianas* (12), 42–47. http://publicaciones.unisimonbolivar.edu.co/rdigital/revcienciasbas/index.php/ revcienciasbas/article/viewFile/161/162

Weinstein, C. E., & Mayer, R. E. (1983). The Teaching of Learning Strategies. In *Innovation abstracts*, *5*(32), 32.